The skin seen from the anthroposophical point of view

Lüder Jachens

The main methods used in modern medicine based on natural science are differentiation and causal analysis (1), with reduction a further method where highly complex issues are reduced to simple processes. This has yielded a vast body of knowledge concerning the physical basis of the natural world and the human being. The approach has also been of undoubted benefit in modern dermatology. There are, however, also drawbacks, three of which are the following.

1. The connection is lost between the skin, its diseases and coincident functional disorders of internal organs. It is known that the causes of some (usually less common) skin conditions are disorders of internal organs, e.g. enzyme deficiency in the liver in the case of porphyria cutanea tarda. Yet dermatologists are not familiar with the role of internal organs in the genesis of common conditions such as rosacea, where it is often necessary to treat the liver.

2. The connection between skin and psyche, skin conditions and biography, is not open to rational evaluation. The answer to the patient’s question: “Why have I got this skin eruption just now?” usually is: “Every skin disease has to start sometime.” Connections between specific personality traits to particular skin types (e.g. atopic skin diathesis) cannot be explained by experts in psychosomatic medicine nor by dermatologists.

3. The connection between skin disease and nutrition cannot be understood. Why do patients with neurodermatitis often not tolerate certain proteins (e.g. cow’s milk, gluten in wheat, eggs, fish)? Statistical methods do not contribute much to clarify the connection between skin change and food intolerance. These “side effects” to the use of natural-scientific methods in medical research suggest that we must look for ideas at the point where the skin organ is connected, forming a whole, with the rest of the human being as a living organism and a soul endowed with spirit, from which an individual biography arises. Here the anthroposophical view of the human being proves a source of ideas which we can always draw on and which will never run dry.

In this approach it is a further development of Goethe’s principle that “Nothing happens in living nature that is not part of the whole.” In dermatology this means that every process in healthy and diseased skin...
relates to the organism as a whole and to the nature of the individual which reflects his soul and spirit.

Below, this principle will be applied, with the human skin considered from the following aspects:
- skin and threefold organism,
- the skin between hardening and dissolution,
- the skin and the four levels of human existence,
- I and astral body between inside and outside,
- the threefold skin and the four levels of existence,
- the skin between forces of matter and of form.

**Skin and threefold organism**

The idea of the threefold human organism was presented in detail by Rudolf Steiner in 1917 (2). The neurosensory system has its main localization at the upper pole of the human form. It makes it possible for human beings to develop powers of thought in waking consciousness. At the organic level it is bound up with processes of degradation; matter which the blood makes available from metabolic processes is broken down. The degradation may go as far as cell death; regeneration of nerve cells in the brain is not possible. The individual aspect of the human being (his I) forms out the physical body with the help of form principles which the neurosensory system brings into the organism from the surroundings, and the individual can thus be recognized by his face. The human being is thus most formed out and differentiated at the upper pole of his form. The form principles do, however, also take effect in the rest of the organism, here at a more subtle level and from above downwards, resulting in the individual ridges on the fingertips on the outside, for instance, and the immunocompetence of the humoral and cellular defence system on the inside.

The polar opposite of the neurosensory system is the system of metabolism and limbs. It provides the basis for unfolding the will which is at the sleep level of consciousness. (Impulsive actions can prove embarrassing because in the light of full conscious awareness they may prove not to have been what we feel is right.) Organically the metabolism lives in constructive processes. Dead matter is taken hold of, given life, endowed with soul and made the vehicle for the I. Whereas processes in the neurosensory human being are largely connected with rest, we have here the active flow of matter (internal motion) and the movement of muscle (external motion). The organic configuration of limbs and metabolism produces round, convex forms that are not formed out to a great degree.

**Summing up, we have the following polarity:**

<table>
<thead>
<tr>
<th>Neurosensory system</th>
<th>Metabolism and limbs</th>
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<tr>
<td>degradation</td>
<td>construction, synthesis</td>
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<td>form principle: configuration, differentiation</td>
<td>force of matter-round forms, dedifferentiation</td>
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<td>rest</td>
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<td>death</td>
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<td>waking consciousness</td>
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A middle system which enables these polar opposites to coexist shows the basic phenomenon of all life—rhythm. Differences balance out as pulse and respiration rhythmically interrelate the impulses of the nervous system with those of metabolism. Balance and harmony are established between the poles above and below. The rhythmical system is the basis for our feeling, which is at a dream level of consciousness.

When we apply the idea of a threefold organism to the skin, the following questions arise:
- Where does the neurosensory system have its main emphasis in the skin,
- where does metabolism mainly develop,
- where does the rhythmical system have its main site of action?

To answer these questions, let us first consider the uppermost layer of the skin, the epidermis. Cell division and the synthesis of matter are dominant in its basal cell layer, though in the epidermis the only goal as keratinocytes migrate from below upwards (inside to outside) is to take them to cell death and differentiation of intracellular keratin and intercellular lipid lamellae (for epidermal lipids, see ref. 3). Biochemical synthesis of matter thus meets with destructive tendencies paired with processes of dying which differentiate the stream of matter and fix matter in keratin and lipids, letting it “coagulate” in a form not capable of further change. With this, the epidermis fulfils its barrier function—water, acids, alkaline solutions, salts and other compounds meet a boundary with limited permeability from both inside and outside.

The epidermis contains numerous free nerve ends extending as far as the basal cell layer. Here the nuclei of keratinocytes dissolve. Vitality receding in the vicinity of free nerve ends suggests a relationship between the two; we are able to perceive the main site of neurosensory activity. This is where the waking consciousness arises which makes it possible for us, for instance, to have conscious awareness of any part of the body surface at any moment when awake. If the epidermis of someone with atopic skin diathesis lacks in vitality and biochemical anabolism (above all in the sphere of intercellular lipid lamellae), this also means increased neural activity. Pruritus may reach a point of being excessively awake, of emphasis on the head, and the tendency to one-sided thinking in cases of neurodermatitis (4, 5). If on the other hand the epidermis is flooded with metabolic impulses from the capillary circulation of the upper corium, as in the case of psoriasis vulgaris, keratinocytopenesis “runs riot” with incomplete cell maturation and the appearance of cell nuclei in the keratinocytes of the cornified layer. Powers of the head are accordingly often underrepresented in the personality of individuals with psoriasis (6).

Looking for the areas in the skin where metabolism is most intensive, we come to the lower corium and subcutis. Sebaceous and sweat glands, hair roots in their follicles and the organ for nail growth are located in the subcutis. All four derive from the epidermis which
inverts downwards from the skin surface and develops the relevant organ in the region of the lower corium. There anabolism takes hold of the organ so that sebum, sweat, hair or nail may develop. The structures in the lower corium thus receive their form principles from the epidermis, their anabolism from the deeper skin layers. They relate to the microcosm of internal organs—the sebaceous gland to the liver, the sweat gland to the kidneys, hair and nails to the intestines. Sebaceous glands give out fat to the outside, the liver lets bile flow into the intestine for fat digestion. Hair and nails grow brittle if insufficient matter is taken up from the food stream via the intestine. All these connections between structures in the lower corium and internal organs emphasize the metabolic character of their activity. Skin conditions arising from the lower corium (e.g. folliculitis with acne and rosacea, hidradenitis and paronychia) must therefore always be primarily treated via the metabolism.

The subcutis is highly undifferentiated and monotonous morphologically; it consists almost exclusively of round fat cells. Metabolism on the other hand is highly active. Fat stored in the fat cells is continuously synthesized and broken down, and thus subject to permanent restructuring. Fats serve to generate warmth in the whole organism and in individual organs. The subcutis is thus connected with the organism as a whole and all internal organs through fat metabolism. The characteristics shown above for subcutis and lower corium reflect the relationship between them—the lower corium is the site for a specific metabolic process which is comparable to metabolism in the internal organs; the subcutis with its fat metabolism on the other hand is part of the general metabolism which connects everything.

The localization of zones with low and high fat content in the subcutis of the human form is interesting. The subcutis of eyelids, nose, ears and lips is low in fat; here the katabolic activity of the major sense organs pushes anabolic metabolism in the skin aside. The soles of the feet, hips, buttocks, flexor aspects of limbs, abdominal wall and female breast, on the other hand, are rich in subcutaneous fat. In the latter, the subcutis actually develops an organ, the female mammary gland. This organ emphasizes the nourishing character of the subcutis.  

Looking for the site where the rhythmical system is most intense in its actions, all we need is to look reflectively at a histological section through the skin layers. The rhythmical up and down movement of the basal membrane which separates the papillae (papillary layer of corium) from the reticular elements (germinative layer of epidermis between papillae) is rhythm “frozen” in form. As the swell, the rhythmical wave movement, leaves a wave pattern in the sand at low tide, so does the rhythmical pulsation of the blood in the capillaries of the upper corium leave an imprint in the undulating boundary to the epidermis. Apart from the influences of the circulation, which has its centre in the heart, respiration, with its centre in the lung, is also represented in the skin. On the one hand we may speak of an imponderable breathing in the senses, in so far as the skin, being a sense organ, takes up or rejects countless stimuli. On the other hand, the breathing is at ponderable level, for just a fraction of external breathing exists in the skin just as it does on the large scale in the lung, with a little oxygen taken in, and a little carbon dioxide given off. In everyday life our clothing must therefore be such that it must allow the skin to breathe as it gives off warmth, sweat, “vapour”, and also takes up oxygen and gives off carbon dioxide.

All processes on the metabolic side of our skin in lower corium and subcutis are wrapped in the darkness of sleep consciousness, so that we are not conscious, for instance, of producing pungent sweat under stress. Processes in the upper corium are half conscious, at the dream level of consciousness. Thus we notice that we blush a little when something comes up in a conversation that embarrasses us—but only half, as though in a dream. Feeling better after taking a shower at variable temperatures is something else we perceive at dream level; circulation in the papillary layer has been stimulated in the corium, stimulating the skin organ as a whole, and “somehow” we feel better.

In looking for the threefold human being in the skin we have followed the Goethean principle

To take delight in the whole
You must perceive the whole also in its least part.

We have found the whole in its part and related the skin to the organism as a whole. The idea of the threefold organism thus allows a genuinely holistic medicine.

The skin between hardening and dissolution

The human organism is connected with its environment in the sphere of all four elements—with warmth and light via the sense organs, with the air via the lung, with the watery and solid, earthy elements via the digestive tract. Any element entering into the organism must first be digested, its foreign nature transformed into our own. A foreign substance can only be taken into the body’s own synthesis when it has been fully broken down, with anything of foreign etheric and astral nature stripped away completely. If this degradation is incomplete, the organism can deal with foreign matter and processes in two ways. (8)

The foreign element is taken hold of by the neurosensory system’s form principles and centripetally condensed. Foreign matter is deposited; in rheumatic processes, for instance, metabolic waste is deposited in bradytrophic joint tissue. As condensation proceeds, hardening may develop around the foreign matter and a capsule develop, e.g. when a piece of shrapnel becomes encapsulated. Examples in the skin are lichenification with neurodermatitis, or hyperkeratotic rhagadiform eczema of the hands, both arising through highly chronic inflammatory processes changing to hardening, cornification with pruritus or pain.

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The foreign matter is taken hold of by the moved-matter powers in the system of metabolism and limbs and eliminated centrifugally via the skin. This process of dissolution often involves the development of pus, with an abscess, for instance. Skin eruptions also involve dissolution and elimination. The foreign matter moves centrifugally. The exanthemata of typical childhood diseases, pityriasis rosea or drug eruptions are examples of this.

Capsule and pus development may replace one another in time. Examples are common psoriasis with joint involvement and herpes zoster with neuralgia. With psoriasis, the skin condition may improve as joint problems increase, and vice versa. With herpes zoster, acute, abundant vesiculation indicates that the cause is being eliminated via the skin; marked neuralgic pain signifies that the disease process moves inwards, usually for many months. The neuralgia improves when vesicles appear again after the first bout.

The skin and the four levels of human existence

In a lecture course given in Prague in 1911, Rudolf Steiner clearly identified the activity of the four bodies in the skin (9). Each represents an “energy system” and comes to its own conclusion in the skin. The human I thus lives in the blood; the blood system delimits itself towards the outside in the papillary layer of the corium. In the blood, the I is able to influence the physical directly. With fear and shock, the I withdraws from the world in and with the blood, and we grow pale. Embarrassment makes us blush; the I pushes the blood outwards into the skin and wants to hide behind it. The astral body lies in the nerve; the nerve endings in the epidermis are the outermost boundary of the nervous system. This makes us conscious of our bodily limits. Pruritus signifies too much neural activity and too much conscious awareness. When we get goose bumps, particular feelings (dim fear, “the creeps”) lead to skin nerve stimulation and hence contraction of the arrectores pilorum muscle fibres, so that the fine hairs come upright together with the epidermis around the hair follicle. The ether body is above all active in developing secretions in the glands. It creates its outer limits in the skin in the sweat and sebaceous glands. People with great vitality will usually sweat well and produce sufficient sebum. The activity of these glands is reduced, on the other hand, in people with atopic skin conditions. The physical body, finally, lives in nutritional processes with the transport of matter. With atopic skin diathesis and ichthyosis, these functions are more or less reduced and fixed through hereditary tendencies.

“In human beings, the organs in the periphery are most penetrated and configured by the I.”(10) The I’s activity in the skin may according to this be seen not only in the blood system but also as leaving its mark on the astral body’s activity in the nerve, the ether body’s in the glands, and the physical body’s in the transport of matter. The typically human skin characteristics of nakedness, subcutaneous fatty tissue well developed compared to animals, and the high value human beings put on to how their skin feels in everyday life thus arise from the activity of the I. The skin is an organ of conscious awareness, an organ of the I-organization (11).

I and astral body between inside and outside

Ultimately it is the two higher bodies, I and astral body, which mediate between processes within and without the human organism, between what goes on above and below, and in doing so make the organism a whole. The right to speak of holistic medicine is really only given if we have insight into the I and astral body and their activities in the human organism. Rudolf Steiner and Itha Wegman showed how “inflammatory changes in the skin” go hand in hand with “abnormal” I-organization and astral-body activity in the skin (12). This “abnormal” activity is one where the higher bodies go beyond the normal level of activity in the skin. Their activity in the internal organs is then reduced, and reciprocal sensitivity between those organs decreases.

Examples given are “abnormal states in liver function” and an influence on digestion. Enteral candidiasis, which has a higher incidence with four common skin conditions (neurodermatitis, urticaria, psoriasis vulgaris, seborrhoeic eczema) is no doubt due to this shift from central to peripheral in higher-body involvement (13). The same shift means that digestive powers are weak in someone with neurodermatitis, where the emphasis is on nerves and senses, and he cannot break down proteins (4). Protein carries most of the foreign principles from the vegetable or animal organism it has come from (14). Rudolf Steiner and Itha Wegman pointed out that diagnosis means establishing the “direction of pathological actions”(12). For the above shift this means that the primary process must be seen to be on the outside, in the skin inflammation (“cause”), and the secondary process inside, in reduced liver function (“effect”). The direction of pathological actions is polar to this when functional weakness of an organ provides an obstacle in the physical/etheric sphere and pushes the activity of the higher bodies to the skin; this is then overburdened, there being too much, and produces symptoms. Here the primary process in inside (“cause”); the resulting dermatitis is secondary (“effect”). Examples are acne in adults and rosacea resulting from reduced liver function which improves when the liver is treated (15) (Table 1).

The threefold skin and the four levels of existence

If we want to enquire into the different functions of the bodies in neurosensory processes, metabolism and rhythmical processes in the skin, Rudolf Steiner’s and Itha Wegman’s discussion of blood and nerve provide an answer (16). In the lower skin layers where the emphasis is more on metabolism (lower corium, subcutis), autonomic nerve fibres form a dense net around blood vessels, hair follicles, sebaceous, sweat and scent glands. The ether body is mainly active in these nerves; their function is to keep metabolic processes away from the blood, thus keeping the human being unaware of the activity immanent in substances (17). The I-organization is predomin-
nantly active in the blood in the lower corium and subcutis. Thus we have the I-organization acting out of the blood and the ether body out of the nerve in their interaction in the deeper skin layers.

Acre in puberty is a dermatitis arising from the sebaceous glands in the lower corium. Here blood substance has not (yet) been properly taken hold of by the I. The form principles arising from the autonomous nerves around the sebaceous gland are not strong enough to hold back the blood’s overweening, ungainly powers of movement. The result is foreign bacterial life in the sebaceous glands, inflammatory changes in the surrounding papule, with the sebaceous gland liquefying in the pustule (18).

In the middle layer of the skin (upper corium) nerves in which the astral body is active work together with blood processes which also depend on the astral body and in their upper parts on the ether body. This helps us to understand urticaria, bouts of which are often triggered by emotional reactions of the astral body. The irritated astral body then allows blood and nerve to work together so that the blood vessels can no longer contain the serum and wheals arise.

In the uppermost layer of the skin, the epidermis, the “inwardly organizing” powers of the I are present in the nerves. Blood impulses arriving here are under the influence of the purely physical, having “a marked tendency to turn lifeless, mineral.” Examples of skin conditions with the epidermis much involved in the pathological process are neurodermatitis and psoriasis vulgaris. In the case of neurodermatitis, nerve impulses are too strong, so that the tendency of blood substances to become lifeless goes beyond the healthy level (4). With psoriasis vulgaris, on the other hand, the blood substances’ tendency to become lifeless is too weak, and the substance-moving powers of the blood are too strong. The epidermis is flooded with proteins and leukocytes. The I-organization is not sufficiently active in the nerve, so that development and differentiation of keratinocytes is inadequate (6) (Table 2).

### The skin between principles of matter and of form

The polarity between matter and form was known even to Aristotle. Rudolf Steiner spoke in detail of the organism’s own form principles in the lectures he gave in Prague (17). Those powers come to an end in the boundary of the human form, the skin, and do not take effect beyond this. Nor are foreign form principles in the surrounding world permitted to cross the skin boundary. Sunlight as the vehicle for form principles from the cosmos may only be taken in through the eye or with light-filled air. At all other boundaries, the sun’s radiation is absorbed by the pigment of melanocytes in the basal epidermis and thus rejected in the outer boundaries. The skin thus sets an absolute limit, both from inside to outside and from outside to inside. The stream of matter reaching the skin is refashioned in the skin’s organs (sebaceous and sweat glands, hair, nails, keratinocytosis), and is eliminated or flows back to the inner body (venous system). If we also consider Steiner’s descriptions of the differentiated way in which ether-principles act in the human organism (19), it becomes clear that form principles act mainly through the light and warmth ether, and matter principles with the chemical and life ether.

Light and warmth ether live in light, air and warmth, reaching the human being from the environment and ultimately the cosmos. This centripetal movement is directed towards the upper pole of the human form. An outer sign of this are the lines in light-damaged skin. Sunlight draws lines in human skin. The sense organs, the lung and also the skin as a whole take light and warmth ether into the organism. Inside it is taken from above downwards. In the lower human being these ethers connect with chemical and life ether, two types of ether based on the elements water and earth that enter into the organism with the food. Chemical and life ether move from below upwards in the human organism, and from inside to outside. Matter enlivened by the chemical and life ethers moves from the internal organs via the blood to the skin in a centrifugal movement.

The interaction between matter and form principles in the skin (and any organic form) can be seen in an analogous way in the work of a sculptor. The artist’s ideas of form are centripetally applied to the clay as the hand models it; form principles are involved. The clay, on the other hand, is a vehicle for matter principles. The material must be obtained and prepared; it needs space and has weight. Matter is then configured by the application of form principles.
With this we conclude this introductory study of the essential nature of the skin as seen from the anthroposophical point of view. It has, of course, only been possible to consider some and not all aspects, but these are fundamental and important. Beyond this, the skin may be considered in the aspect of the three principles Sal, Mercury and Sulphur,(20) and also of the seven planetary processes, or the twelve signs of the zodiac. This would take us beyond the limits of an introduction and will be left for future occasions.

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Oak—medicinal agent for allergic and dermatological conditions

Ulrich Meyer

The oak — a remedy for allergies and skin diseases

Abstract

The young bark (Cortex Quercus) from the species Quercus robur (common oak) and Quercus petraea (sessile oak) contains large amounts of tannins. Decocts of the bark and preparations made from it, like ointments and suppositories are traditionally used for inflammatory-pruritic skin diseases, eczema and haemorrhoids. For the specifically anthroposophical preparation Calcium Quercus, oak bark is reduced to ashes, the ash is washed with water to obtain pure calcium oxide (CaO). It combines with the carbon dioxide of the air to form calcium carbonate (CaCO₃). The oak bark decoct is potentised to the 6th decimal using the saturated solution of calcium carbonate prepared from the ash. The preparation Calcium Quercus is available in 1 and 10 ml ampoules as well as coated pillules. The 10 ml ampoules are for the control of acute allergic reactions. The 1 ml ampoules and the coated pillules are suitable for the continuation of the acute treatment and for chronic conditions. The coated pillules are also a welcome addition in the paediatric therapy.

Keywords

Oak Bark
Cortex Quercus
Tannins
Skin diseases
Calcium Quercus
Allergy

An old tree is a bit of life. It calms. It reminds. It slows down the heedless rush of a life in which we stay where we are, making much noise.

Kurt Tucholsky (1890 – 1935)

Tree and human being

When we look at a herb, a shrub or a bush, it is the flowers which draw attention and delight the beholder. This is different with a tree. Here it is the mighty and often unmistakable configuration of the shoot, especially in winter. In the Central European flora this becomes possible only by forgoing an abundant flowering which would feed on the vital energies of the tree.

Trees command a degree of veneration. They occupy a space that goes far beyond the dimensions of the human body and extend through periods of time that are usually many times the length of human life. It is not for nothing that large free-standing trees are protected as “natural monuments”; like man-made monuments, they go far back in time. The life cycle of an annual can make us aware of mortality; a tree reminds us of the time limit to our own existence. Adults exploring family history will characteristically arrange their forebears in a “family tree”. Children, much less conscious of time, seek to conquer a tree’s world of space by climbing among its branches—sometimes at some risk. Childhood dream and triumph is to have one’s own tree house, high up in the crown, safe from adult intrusion.

Goethe described the development of a “typical” herbaceous plant in his Metamorphosis of Plants (1). He was well aware of the special position held by trees. In his On Morphology, he wrote in the chapter “The purpose set forth”:

“Plants and animals in their least perfect state are scarcely to be differentiated. Hardly perceptible to our senses, they are a pinpoint of life, mutable or semimutable. Are these beginnings—determinable in either direction—destined to be transformed by light into plant, or by darkness into animal? This is a question we would not trust ourselves to answer no matter how well we are supplied with relevant observations and analogies. We can say, however, that the creatures which gradually
emerge from this barely differentiated relationship of plant and animal pursue diametrically opposite paths in their development toward perfection. Thus plants attain their final glory in the tree, enduring and rigid, while the animal does so in man by achieving the highest degree of mobility and freedom.” (2)

The tree is thus a high point in plant evolution—we do with good reason speak of it bearing a "crown”.

**Oak**

The two closely related species of oak used in pharmacy, *Quercus robur* (common or pedunculate oak) and *Quercus petraea* (durmast or sessile oak), belong to the Fagaceae (beech family). Together with the birch family and others they are members of the order Fagales (beech-like trees), the native woodland trees of Central Europe (3) (Figs 1 & 2).

Below we will consider how the oak deals with the mineral world, develops its life as a plant, is occupied by many animals and finally also used by human beings.

Once the plant has germinated, the tremendous roots rapidly (4) penetrate the soil to a great depth. The tap root is said to go down as deep as the crown extends skywards. Lightning often strikes oaks, probably because of the connection with ground water.

Pliny (23/24 – 79 AD) claimed in his reports on German lands to have observed a particularly striking fact: “Oaks are growing with great vigour on the banks. Washed away by floods or blown down by gales they take vast islands with them in their enormous root systems, and thus balanced float along under the rigging of their mighty branches, often causing terror in our ships when driven, as though by purpose, against their foreparts when lying at anchor at night. Knowing no other means, the ships would then start a maritime battle against trees.”

Oaks thrive on lime and avoid very acid soils. They do not deplete the soil at all but tend to improve it, with other plants benefiting from this in mixed oak woodland. Oaks do, however, need a certain quality and maturity of soil before they’ll grow; they are not pioneering trees like birch, for example. After the Ice Age, oak followed birch, always in danger of being displaced both above and below ground by fast-growing beeches (5).

The genus *Quercus* certainly likes warmth, as evident especially in cork oaks (*Quercus suber*) growing in the Mediterranean region. Sensitivity to frost limits the northward spread of the two species used in pharmacy (*robur* and *petraea*).

The trunk soon branches in a way that the main shoot is not always easily identified. Under special circumstances the stem may split at ground level; two trees thus developed over centuries in the case of the Ravens Oak in Erle near Dorsten, Germany, estimated to be 1,500 years old. The lateral branches of the tree often take a sharp turn, like a knee, and then regain secondary uprightness. They seem rigid, resisting the wind—"he’s like an oak", as the popular saying goes. Oak has always been seen as a male tree (*robur* = robust, mighty), therefore, and related to Mars. Oak leaves were awarded for victory, as well as the laurel of antiquity. The war-like aspect also shows through in Pliny’s description above. Oak was and continues to be used as a symbol of government power and was frequently misused by NS fascists for their emblems.

Oak leaves are coarsely lobed, their tips looking flattened. They often curl slightly inwards in the margins. It is very dark under an oak. New leaves appear relatively late in the year, but the foliage persists for longer than with many other trees. Some leaves often remain throughout winter on branches in the inner crown. *Quercus robur* and *Quercus petraea* can be distinguished, among other things, by their leaves and fruit—*robur* has...
sessile leaves and stalked fruit, *petraea* stalked leaves and sessile fruit.

Oak is wind-pollinated and produces vast amounts of pollen, though—compared to birch—the pollen hardly plays a role as an allergen.

After pollination, heavy fruits develop from the inconspicuous flowers. They hit the ground with a thud in autumn and provide food for deer, squirrels, dormice, mice and jays. Burying acorns in the ground in autumn and forgetting them means that the animals also help to spread the tree; its advances following the Ice Age are said to have been partly due to this. People have traditionally roasted acorns in ersatz for coffee, and in times of need even added acorn flour to bread dough. Before potatoes were introduced, farmers liked to drive their pigs into the woods to fatten them. Hieronymus Bosch (1498 – 1554) showed a swineherd and his lively flock beside an oak in his herbal (1546) (Fig. 3).

The acorn yield thus played a considerable role in the valuation of a piece of woodland, and it was said that the best hams “grew” on oaks. Acorns are found only in mature woodlands, for the trees only bear fruit when more than 50 or 60 years old.

Oaks provide habitat even when dying—the middle spotted woodpecker is wholly dependent on the rotten trunks (6).

The affinity between insects and oak is remarkable. More than 200 species depend on the tree. Oaks cope well with oak-moths eating all the leaves, producing numerous new leaves around St John’s Tide. Processional spinner moths have toxic hairs that may trigger dermatitis. In the case of the gypsy moth, symbiosis goes so far that oak tannins (from *Quercus rubra*) protect it from virus infections. Finally the kermes insect living on scarlet or grey oak can be used to obtain carmine dye.

The pinnacle of symbiosis is with wasps. These lay their eggs in oak shoots, leaves or flowers. The tree reacts to the developing maggot by creating a spherical gall. Here the oak abandons the archetypal planar ether principle of plants—“forward or back, the plant is always but leaf” (Goethe)—and opens up to the sphere’s principle of creating an interior space under influence of the animal astrality brought in by the insect. In the plant world, we generally find the creation of an interior space only in fruit—characteristically the gall is coloured a fruity reddish yellow, which is why it is also called an ‘oak-apple’. On the one hand the gall is a proliferation, on the other it shows that the tree is able to set structured limits to the foreign life (Figs 4 & 5).

The kindest of hosts to the animal world, the oak shows reserve when it comes to certain plants. Broadleaf grown mistletoe (*Viscum album*) is extremely rare on oaks. Only ten per cent of acorns from mistletoe-receptive trees grow into young trees which in their turn are receptive to mistletoe. Clearly the plant which shuns the earth and “earthy” oak can only harmonize within limits (7).

Oak provides excellent wood for parts of a house subject to mechanical stresses, with at least the door and stairs made of it to advantage. Oak wood incubated with dry rot (*Serpula lacrymans*) loses only 1.8 % in weight over 18 weeks, compared to 51 % lost by beech. Oak is
also much used for railway sleepers, in shipbuilding and for barrels. The special aroma developed in fluids matured in oak casks is greatly appreciated. Oak wood does not merely resist water without rotting but in fact tends to get even harder and more firm under its influence. Oak pianos with excellent sound qualities are said to have been built from submerged Roman bridges.

Finally there is the use of cork from **Quercus suber**. This Mediterranean species develops a bark 10 cm in thickness to protect it from fire and limit evaporation. Cork is taken off in a ten-year rhythm and put to various uses. Cork oaks and the olive have left their mark on cultivated Mediterranean landscapes as much as orchard trees of the rose family have in our parts. Increasing use of plastic and metal stoppers poses a threat to traditional cork harvesting in Mediterranean regions (8).

**Use of oak in medicine and pharmacy**

Oak bark from young branches (smooth bark) and even more so the galls have a high tannin content (fig. 6). An idea of these may best be gained by making a concentrated decoction of the bark and rinsing the mouth with it for some time. Soon the mucous membranes register a furry, possibly a bit numb, and markedly astringent effect, not “pointed” and “bright” as in the case of lemon, for instance, but “blunt” and “dark”. It is important not to be misled by the term “tannic acid”, which is correct in terms of the chemical structure and was also used by Rudolf Steiner.

Tannins are widely used to this day (9) to prevent animal skins from rotting and keep them supple, i. e. to make them into leather (vegetable tanning). Tannins form more or less stable complexes with proteins. This gives them their anti-inflammatory, astringent, mildly local-anaesthetic and drying actions on mucous membranes and skins (10). They stabilize the always unstable human “boundary surface” which is too permeable in the case of eczema, for instance, becoming metabolism-like in producing secretions. Physiologically, skin cells are subject to a process of dying and drying out as they migrate from the basal to the cornified layer. This alone gives them the ability to create a boundary, a function performed by the bark in perennial, woody plants. Goethe realized that peripheral dying processes were the condition for life on the inside.

“When we consider this miraculous structure and become familiar with how it rises upward, we will once become familiar with how it rises upward, we will once more meet an important principle of structure: life is unable to work at the surface or express its generative powers there. The whole activity of life requires a covering which protects it against the raw elements of its environment, be they water or air or light, a covering which preserves its delicate nature so that it may fulfill the specific purpose for which it is inwardly destined. Whether the covering takes the form of bark, skin, or shell, anything that works in a living way must be covered over. And thus everything turned toward the external world gradually falls victim to an early death and decay. The bark of trees, the air and feathers of animals, even the epidermis of man, are coverings forever being shed, cast off, given over to non-life. New coverings are constantly forming beneath the old, whilst still further down, close to this surface or more deeply hidden, life brings forth its web of creation.” (11)

Wala produce oak preparations with tannin content as **Quercus-Essence** (for compresses and (sitz) baths, e. g. for anal eczema), **Quercus haemorrhoid supposito-ries** and **Quercus ointment**. The last of these serves not only to treat haemorrhoids but also varicosities and eczema (12).

The boundary-setting “signature” might suggest the use of tannins also for allergic conditions, but so far this has not been done to any extent in herbal medicine or homoeopathy (13). It appears, however, that after the Second World War tannin (a special form of it) was given by i. v. injection to treat urticaria and allergic oedema with “good results” in Hungary, the results largely reminiscent of the actions of antihistamine preparations” (14).

Apart from tannins, oak bark contains calcium, and this will be discussed below.

**Pharmacology of calcium**

Calcium compounds have been used from 1896 to treat allergic conditions (15). The discovery is above all connected with the introduction of diphtheria serum treatment which would cause exanthematia, especially in the early years when other proteins were still present (16). The English bacteriologist Almroth Wright (1861 – 1947)(17) was the first to treat such patients with oral doses of calcium chloride.
The treatment was soon also adopted on the Continent, with the initially small dose getting larger and larger. Intravenous exhibition was used especially to treat severe allergic reactions, including anaphylactic shock or Quincke’s oedema. Calcium was given intramuscularly in addition to achieve a certain depot effect and raise blood calcium levels more permanently.

The capillaries were thought to be the point of attack for calcium, and this led to the term, still in use though not satisfactory for modern pharmacologists, of a "capillary-sealing" action of calcium. It is interesting to note that early users of calcium would speak of a "distant astringent action", so that even the terminology drew a parallel to the astringent quality of tannins. Calcium also played an important role in the treatment of haemorrhages; certainly a plausible indication if one considers the central significance of calcium in the coagulation cascade. Exhibition of calcium in increasing-ly massive doses led to signs of irritation with parenteral application, and interest thus focused for years on the search for calcium compounds that were better tolerated.

One man only, Hugo Schulz (1853 – 1932), professor at Greifswald University (18), also the only German pharmacist who openly sympathized with (low-potency) homoeopathy and even tried to give it a scientific basis, pleaded for caution, even considering high doses to be counterproductive. "As I said before, gentlemen, you must use calcium in low doses if you want to see a deep-reaching effect." Schulz still had a real notion of the "boundary-building" action of calcium, and this made him sceptical about the endeavours to increase the "boundary-building" action of calcium, and this made him sceptical about the endeavours to increase the dosage more and more.

"We also meet calcium under quite different conditions, namely as a kind of protection against tissue irritation, especially in highly vascularized tissues. As you know from pathology, chronically inflamed tissues have in themselves the peculiar and highly interesting tendency to deposit calcium in their walls, often in considerable amounts. We also see such calcium deposits elsewhere. Let me just remind you of the "calcification" of old tubercle nodes, calcium deposits in chronically inflamed lymph glands and in the walls of old abscesses. The position of calcium is also very evident in the process which takes place when Trichinella larvae have reached muscle tissue and established themselves there. They are said to 'encapsulate' themselves. In reality, however, encapsulation is due to a peculiar reflex action to their presence in muscle tissue." (19)

Composition of Calcium Quercus

The preparation was developed by Margarethe Hauschka, MD (1896 – 1980) and her staff, the aim being to make the active principles of calcium and tannin into a new whole. Oak bark is boiled until the less easily soluble tannins are part of the solute. Bark is also calcined to obtain pure calcium oxide (CaO). This combines with carbon dioxide in the air to calcium carbonate (CaCO₃). The tannin extract is potentized to the 6th decimal in the calcium carbonate solution as this is rapidly saturated because of the low solubility.

The idea for the preparation probably came from the fifth lecture in Rudolf Steiner’s Agriculture course, where he spoke of oak bark as one of the six compost preparations. He stressed that the calcium must remain in the sphere of life to have healing properties. One could “not to anything with ordinary calcium carbonate”. The source he gave for this “living calcium” was oak bark. This does, in fact, contain calcium oxalate crystals which appear as large clusters under the light microscope (20).

Steiner also touched on the Goethean concept of the incipient death process in the bark.

"In particular the bark of oak trees is a kind of intermediate product between vegetation and living soil, wholly in the style of my description of the relationship of living soil quality to earth or soil. With regard to the properties shown by calcium, the calcium structure found in oak bark is the most ideal." The skull of a domestic animal was to be used for making the compost preparation. With the other preparations, Steiner gave explicit directions concerning the choice of animal (e.g. red deer bladder for the yarrow preparation, clearly not easily obtainable), here he simply said that it was “more or less inmaterial which of our domestic animals”. Evidently it is the "skull principle" which matters, i.e. exoskeleton as a solid container.

The skull filled with oak bark must then be buried in soil heavily soaked in rainwater for the winter. Rudolf Steiner added that one might “add vegetable matter that would cause vegetable sludge to be present throughout” (21). The transition from living to dead matter characteristic of oak bark is thus recreated around the buried skull. The "composting" and hence partial mineralization of oak bark is in pharmacy copied and enhanced in the calcination process. If one lives for some time with the idea of a skull overwintering in damp, "sludgy" soil, the counter image of the allergic patient who "flows apart" under the many sensory stimuli summer provides.

Calcium Quercus is available in ampoules à 1 and 10 ml (Calcium Quercus inject) and pilules. Wholly in accord with experience gained in conventional calcium treatment, the 10 ml ampoules in particular prove effective in controlling acute allergic reactions. Positive results have also been seen with non-allergic pruritus, e.g. in pregnancy. Efficacy is so good that patients tolerate even frequent injections well. Calcium Quercus is also used to treat acute hayfever episodes where Citrus/Cydonia or Gencydo® on their own do not meet the case.

The action of the 10-ml ampoules can be objectively demonstrated against placebo on histamine wheals even under double-blind conditions (22). The 1-ml ampoules and pilules are above all suitable for continuing on after acute treatment and for more chronic evolutions. The pilules are also widely used in paediatric practice.

More recently, Calcium Quercus ampoules have been used for inhalation by asthma patients, possibly also...
combined with other preparations such as Levico D3 (3x).
This merits further attention, especially against the background of current antinflammatory basic treatment for asthma in conventional medicine. It needs to be systematically developed, as does the whole of inhalation treatment using anthroposophical medicines (23).

A relatively new use is also for restless legs syndrome. This indication, first found on a purely empirical basis at the Paracelsus Hospital in Richterswil (Switzerland) (24) has since been confirmed by others (25).

The use of Calcium Quercus 10-ml ampoules for haemorrhages needs further clarification, with aspects of differential treatment (e.g. as an alternative to or supplement with Stibium metallicum prep. D6) established.

It is interesting to note that the styptic action of calc-ium was at the latest established by the end of the 19th century, whilst the discovery of the antiallergic action by Wright came 100 years later. Apart from the “outer” occasion of serum exhibition, there is no doubt also a deeper reason. It seems that allergies began to be a real problem around the turn of that century.

Today’s German association for allergies and asthma was established on Heligoland as a “hayfever association” in 1997. In 1902, Charles Richet (1850 – 1935) and Paul Portier (1866 – 1962) coined the term “anaphylaxis”. The Viennese paediatrician Clemens von Pirquet (1874 – 1929) introduced the term “allergy” in 1906, having interpreted the serum disease as an antigen-antibody reaction the year before. Finally Henry Dale (1875 – 1968) and Patrick Laidlaw (1881 – 1940) at Wellcome Laboratories in Britain established the pharmacology of histamine and the similarity between histamine-induced and anaphylactic shock in 1910 (26). Reading what Rudolf Steiner had to say on the composition of Citrus/Cydonia (Gencydo®) in 1923 merits further attention, especially against the background of current antiinflammatory basic treatment using anthroposophical medicines (23).

References
11. Loc. cit. ref. 1.
Neurodermatitis in childhood

Georg Soldner


Neurodermatitis in childhood

Abstract

The marked increase in neurodermatitis over the last 40 years reflects the changes in the parent-child relationship and changing conditions for childhood development in western-type industrialized countries. Genetic dispositions cannot explain the increase. The key factor is the quality of symbiosis which the child is able to develop in the sphere of life—with his mother, his parents, his food, the natural world and other people. A different level is that of psychological relationships where anxiety, ambivalence, loss of contact are as important as lack of delimitation and inappropriate expectations facing a child. Prevention and treatment can develop out of insight into these situations. Anthroposophical medicines make it possible to stimulate and regulate development in the child’s organism without resorting to suppression.

Keywords

Neurodermitis
Childhood
Prevention
Anthroposophical life style
Rhythm of night and day
Oak Bark
Birchcream
Amnion
Pancreas
Ferns
Equisetum
Lycopodium

Inner attitude of those affected

Job was honest, true to his faith, and rich. God, however, allowed the “hinderer” to test him, who came forth from the countenance of God and smote Job with dreadful eruptions from the soles of his feet to the top of his head. Job lost his family, all his riches, and sat in the ashes scraping himself down with a shard from a broken vessel, cast out and alone. Three friends came to analyse his sins. Job himself bemoaned his fate before God: “Oh that there were someone there, so that God might hear me!” He thought that honest men merited health and that God had dealt with him unjustly, depriving him of the rewards he had earned. His friends meanwhile saw his eczema as an undoubted indication of his having sinned. Then another friend, Elihu, spoke to Job of God as his true creator who owed nothing to Job, and to whom Job owed everything he was and which he thought he owed to himself. Job saw that he could not create his own existence, that even among the ashes he could approach God only in gratitude and not uttering complaints. He ceased to lament and now heard the voice of God—he regained his health, was blessed with new riches greater than the old and finally died an old man who had lived life to the full.

One of the children most severely affected by neurodermatitis who was brought to see me was a Bolivian boy about a year old who had been found abandoned by the roadside as an infant. We can only guess what may have happened before and during pregnancy, birth and afterwards in this child's life. He had been taken to a home for such infants in Bolivia where he developed severe generalized neurodermatitis which did not satisfactorily respond even to corticosteroids. He had been adopted by a couple from Milan. When the parents first brought him, they were utterly exhausted from the difficult care and sleepless nights, but something was different in their case compared to most parents whose biological child suffers from eczema.

That Milanese couple was simply grateful for the child who had come to them. His eczema was not their fault, their sin, and did not go against their expectations. I have never known a severe eczema to heal as quickly as in this case.
The incidence of neurodermatitis is three times greater in western industrialized countries today than it was 30 or 40 years ago. Asthma and also diabetes and coeliac disease have shown a similar increase. A genetic origin for type 1 childhood diabetes has since been clearly refuted (1). On the other hand, early contact with cow’s milk and short breast-feeding times are considered to favour the development of both type 1 diabetes and neurodermatitis. Marked differences in the prevalence of neurodermatitis and asthma between the former German Democratic Republic and the German Federal Republic (in populations of genetic similarity), the worldwide increase in allergies parallel to rising standards of living, parent’s educational status and the decrease in family size also confirm that the noticeable increase in atopic and autoaggressive diseases is essentially due to changes in lifestyle and not genetic causes. It also means that the growing incidence of neurodermatitis is not an unavoidable destiny.

In Sweden, Jackie Swartz, an anthroposophical physician took the initiative and did a study which in 1999 showed that there is the possibility of having lasting protection against neurodermatitis (and asthma). Schoolchildren who had grown up in an anthroposophical lifestyle (including anthroposophical medicine, bio-dynamic food and Waldorf education) only developed atopic conditions half as many times as the comparable group of children living in the same town who had eaten conventional food, had conventional paediatric care and immunizations and had gone to conventional schools (2). Notable differences were found particularly in the frequency of antibiotic treatment, the exhibition of febrile diseases (3). The conclusion to be drawn is that children with an anthroposophical lifestyle had had the measles, compared to 4 % in the control group. More of them (60 %) had eaten lactic-acid preserved vegetables compared to 4 % in the control group. (The conclusion to be drawn is that children with an anthroposophical lifestyle had had more acute inflammatory diseases but developed fewer chronic allergic conditions. Their diet contained lactic-acid bacteria which play an important role in developing the intestinal flora. It has since been established that giving lactic acid bacteria to pregnant women and subsequently to breast-fed infants can markedly reduce the incidence of neurodermatitis (4)). The mother’s natural bacterial flora is swallowed by the infant on going through the birth passage and serves as a “starter” for the child’s intestinal flora (in an intestine which has been sterile until then). Young elephants feed on maternal eliminations as they are being weaned, to stimulate the bacterial flora which is vital for their digestive functions.) In the light of this, a Caesarean section always has a negative effect on the future endosymbiosis in the child’s digestive tract. It has been found in recent years that children growing up on farms who have early contact with unpasteurized (l) milk, their mothers working in byres also during pregnancy, develop far fewer atopic diseases than comparable children of the same village. This form of allergy prevention is only available to a small percentage of the population today. In Germany, the proportion of the population working in agriculture has gone down by 90 % over the last 50 years.

The quality of symbiosis in early infancy

Many studies have a common message to give: the quality of symbiosis with the mother and with the living natural world plays a significant role in a child’s healthy immunological development. This includes pregnancy and birth, breast-feeding, and the quality of the milk the infant drinks, and the development of the child’s intestinal flora, which continues for about the first three years after birth.

Every living organism needs to delimit itself from and be in symbiosis with the natural world. In the human organism, boundary surfaces such as skin, lung and intestine serve both these functions. In anthroposophy, access is consciously sought to the level and laws of life.

We cannot do without this in medicine, for growth, development and all healing processes in the human organism have their roots in the sphere of life, in the ether body. Symbiosis, a necessity for every living organism, has its symbol in the relationship between the green leaf and the sun—life is the active relationship between life on earth and cosmic powers. All life forms are connected with one another because they interact with and share the layer of water, air and warmth surrounding the earth, which they also help to create. Life cannot be privatized, nor can it be reduced to sharing information. It only succeeds if there is real contact and sharing with other life forms. Within this symbiosis every life form must learn to delimit itself, and to control or destroy all foreign life within its boundaries.

Every child creates his own independent life organization in the first six or seven years of life, more or less overcoming the life organization inherited from his parents. Febrile diseases support, accelerate and intensify the process. The anthroposophical lifestyle is based on recognition of this. Acute inflammatory diseases are therefore consciously permitted to develop, suppressing them as little as possible. Nursing care and suitable medicines help the child to break down bacterial and viral organisms and gain his own immunity.

This means not only immune defences against the outside but also active identification with and hence immunotolerance for one’s own body. With this “medical and educational” concept, the anthroposophical lifestyle fits the knowledge gained in modern allergology, and
the Waldorf school system meets the requirements established through the PISA study. According to present knowledge, allergic diseases do not merely reflect a genetic problem (comparable to different levels of giftedness) but with their growing incidence point to failure in "immuno-education" that may lead to lasting disorders in immunoregulation and chronic illness for the child. In principle this also applies to the marked increase in autoaggressive diseases today.

The general development of the conscious mind and the conditions pertaining to Western industrialized society do, however, progressively affect all children, even those in Waldorf kindergartens and on farms, endangering healthy symbiosis and the development of autonomy.

**Infantile skin change and neurodermatitis**

Pregnancy is the most intense experience of live symbiosis, birth one of developing autonomy: Until a child is born, his skin is not his own. The amnion created by the embryo performs this function, and protected by the amnion even skin defects such as gastroschisis and open meningomyelocele do not represent a danger to life. The amniotic fluid protects the child's future body from drying out, and probably also plays a role in transmitting warmth from mother to child. Before birth, the foetus produces little warmth on its own, with production doubling on the day of birth. Amniotic fluid also fills the lungs, directly influencing their growth and volume. Residual functional lung capacity before birth corresponds to the volume of amniotic fluid (which is why oligohydramnion can lead to persistent pulmonary hypoplasia). The foetal gastrointestinal tract is also filled with amniotic fluid. The amnion, the silica-rich, transparent caul of the unborn child, thus envelopes skin, intestine and lung, making the relationship of these boundary organs evident. According to Rudolf Steiner's research, the amnion is the central organ of the ether body during pregnancy (4). Boundary surface organs are vital to any life form, and loss of the amnion at birth there-fore signifies great danger for the newborn life. With placenta, umbilical cord and amnion the newborn loses organs created by himself. At this critical moment, skin, lung and intestine assume their vital functions. Warmth and function of the maternal boundary surface organs have an influence on the development of the child's organs. Until the child is weaned, the maternal intestine is also a boundary surface for the child where the food supply is concerned! This explains why antibiotics given to the mother during pregnancy can have a negative effect (e.g. when used to treat a urinary tract infection), because of their effect on the maternal intestinal flora.

There is also scientific evidence that shocks experienced by the mother may lead to premature birth and labour, and in consequence also the exhibition of conventional drugs, immature boundary surfaces at birth, more frequent separation from the mother, and antibiotics given in hospital, etc. Steiner had pointed out in his day that shock or upsets "repeated at irregular intervals" during pregnancy (5) may affect the development of the child's boundary surfaces, especially in the lung. He considered this an important causal factor in asthma. Paediatric epidemiologists have spoken of a similar impression in personal talks.

This takes us to an important field: What kind of basis is given for mother-child symbiosis in today's Western industrialized societies? The instability of many parental relationships, economic pressures and the stresses of modern life are a threat to this firm basis which any developing life organization needs as such, and modern medicine with the prevailing emphasis on cultivating technological perfectionism now also makes its mark on every prenatal check-up. Parents' anxieties and expectations go hand in hand with well-meaning medical efforts to do things in the best possible way, so that the physician cannot be accused of making any kind of mistake. In China and India this may even mean that he makes no error in determining the sex of the unborn child; in Germany and the USA the important question is if the future child may perhaps have a disability or develop a rare disease which might be treated by intrauterine intervention. Leaving aside the dynamics in the souls of the adults involved, we have to say that nothing probably is a greater danger to unborn life today than medicine. Suspicion that the child will be a girl, have Down's syndrome, be microcephalic or have some other connected with maintaining skin moisture levels. With neurodermatitis, the maturation of these functions is affected, the skin is too dry due to transepidermal water loss, and warmth flows out in an unregulated way in the affected areas. The distal extremities, on the other hand, tend to be cool in severe neurodermatitis.

**Pregnancy and development of the protective membranes**

The question arises as to in how far environmental factors in pregnancy may endanger or also help matura-
tion of the future boundary surface organs skin, lung and intestine. The above-mentioned study, where lacto-bacilli were used to stimulate the intestinal flora of expectant mothers and their infants then showed a lower incidence of neurodermatitis, suggests that the integrity and function of the maternal boundary surface organs have an influence on the development of the child's organs. Until the child is weaned, the maternal intestine is also a boundary surface for the child where the food supply is concerned! This explains why antibiotics given to the mother during pregnancy can have a negative effect (e.g. when used to treat a urinary tract infection), because of their effect on the maternal intestinal flora.

Notes
2) The distinction made between supportive basis and care and attention relates to bonding research, as stimulated by Largo (6).
3) The fact that in India, determining the sex of the unborn for the purpose of gender selection is officially illegal unfortunately does not change the way this is done in practice.

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abnormality can already cause parents to distance themselves from their child. “We only want you if you’re perfect and meet our expectations, for we do everything for you”—is the subliminal message conveyed to the foetus when an ultrasound scan is done in the middle third of a pregnancy. In modern paediatrics, intensive efforts are made for the life of every child, and with equal intensity parents and the medical profession are getting caught up in selection of the unborn. The uterus has become a stage on which the bright, investigative light of medical, parental and society’s judgement is cast increasingly early.

From there it is but a short step to amniocentesis. Here the protective membrane is deliberately penetrated—to gain clarity!—accepting the risk of foetal death. (Would anyone be permitted to take a purely diagnostic measure with a similar rate of complications with an infant after birth?)

As soon as “something is not right”, expectant mothers going through these procedures can experience deep feelings of ambivalence; the relationship to their child will have a different quality for life. In society and private life, that living symbiosis, the boundary surfaces of mother and unborn child, are not respected and supported today but made subject to anxieties and inner expectations. Anxious concern, worry and unconscious expectations will repeatedly interrupt sleep in pregnancy, and instead of lack of support there may sometimes be obtrusive attentiveness. The symptoms and dynamics of neurodermatitis, affecting everyone concerned, reflect something of this spirit of the age which leaves no one untouched.

Possibilities for treatment

Detailed considerations from the point of view of anthroposophical medicine have been published by Jachens (7), Kummer (8), Stellman and Soldner (9), and others. Some key points and medicaments will be discussed below.

It is good to distinguish between supportive basis and care and attention. An example may illustrate this for physician and parents. When a sailing ship is caught in a gale, it does not necessarily reassure passengers if the captain joins their table to talk to them, perhaps even asking them which they think would be the best course for the ship to take now. A sound supportive basis comes from someone who accepts his responsibilities and is capable of deciding on his own course, at the same time also being aware of the needs of those who need his support and taking these into account. Neurodermatitis “flourishes” when there is no supportive basis, with the uncertainty, exhaustion and tiredness experienced by parents and child leading to escalation.

In medicine, support is provided through diagnosis and prognosis, i. e. insight. It is important to take a full history and examine the child thoroughly (touch offers support). Parents of a child with neurodermatitis often find it difficult to listen if the child is present, scratching, is restless or hungry. If at all possible, the diagnosis should be given in a talk with the parents, with a third person looking after the child and perhaps also siblings. Do not use the term neurodermatitis if the skin is dry and/or eczema is local and limited in area. The prognosis is usually good if physician and parents work together consistently, acute inflammatory conditions are allowed to develop, and views on guiding the child as regards nutrition, life rhythm, providing a protective social environment and mobility are developed and implemented in concert. This includes the necessary treatments in acute situations. One of the most effective preventive measures against allergy is probably to leave aside suppressants as far as possible, working “probiotically” instead, with medicines that stimulate and give direction, like those used in anthroposophical medicine and homeopathy. Concerning the time required for treatment, it must, however, be stressed from the beginning that it generally takes 2 (~4) years and that teething, for example, generally brings an aggravation. This avoids unnecessary frustration and creates a basis of trust. The prognosis must be realistic. For most children with neurodermatitis it is that they will overcome the condition in 2–4 years. The question as to whether asthma or pollen allergy will develop can only be answered in the course of evolution.

The cause of neurodermatitis is not always the same and often complex. Parents will ask about the cause but it is not always possible to give a definite answer. This applies particularly in the case of neurodermatitis. Causal thinking is a particular obstacle: event A happened and has led to B, and C will cause it to go away. In reality it is more likely that the disorder has developed due to a number of events and dispositions and begins to perpetuate itself (v. s.). It is therefore important to perceive and change the dynamics in body and soul and to pursue a common vision of health and recovery. One possible vision is of a skin forming between parents and child, so that both sides can feel good in their skin again and have the feeling that their boundaries are respected by other family members.

Rhythm of night and day and external applications

It is remarkable how parents will call limited, circumscribed eruptions “terrible” and “very bad”. This does not help the children when said in their presence. The degree of a child’s sleep disorder, on the other hand, provides a relatively objective criterion for the severity of neurodermatitis. This is the point where treatment must start, with everything possible done to achieve a normal night-and-day rhythm for child and parents. This rhythm only develops after a child is born, with the child’s soul and life intervening deeply in the bodily processes. Functionally, the key level is the human warmth organization. The child interiorizes warmth in the morning, gets warmed through with physical activity, and goes to sleep most easily if he succeeds in being warm through. In sleep, the child is more like a plant, with warmth flowing to the outside (and into endothermic synthesis) or being bound in matter. The child’s soul and I excarna-
te slightly, to flow in more strongly again before and during the waking-up process, warming the body up. The skin is an important regulatory organ in creating this rhythm. With neurodermatitis this warmth-regulatory function of the skin is abnormal proportionally to the extent and severity of the condition. On the one hand, intolerance to external heat and the warmth of the bed develops; on the other hand the child can no longer regulate heat loss via the skin and inwardly cool down continually with large-area eczema (often also apparent in the coldness of these children’s distal extremities).

It is not surprising then that the night-and-day rhythm is also more seriously disrupted than with any other atopic condition.

This is where external applications have an important role to play. They do not cure, but can temporarily relieve the skin of functions that are too demanding or go beyond its capacity. Moist compresses with

- *Equisetum tea*,
  - if pruritus is marked, *Viola tea* and a small amount of

- *oak bark tea or Quercus essence added* can be left in place over night with weeping eczema.

Of all our native plants, *Equisetum* has the greatest power to organize silica and is able to bind silica in opal form in relatively high concentration in its own stalky structure. Silica is indispensable for the organism’s boundary surfaces, at the same time making emancipation from external natural forces possible—rather like the windows of one’s home.

Oak, on the other hand, intensively organizes calcium carbonate in its bark, creating a particularly firm boundary against the environment. In both cases it is recommended to put the drug in cold water over night and only make the decoction after this.

Using suitable dressings, including tubular ones in the head region, and overalls, a child can be given a kind of artificial skin for the night which soothes, makes sleep possible and prevents scratching. As already said, skin tends to be dry with neurodermatitis, due to increased transepidermal loss of water. With weeping eczema it has proved effective to use greasy/moist dressings as soon as exudation decreases. I have found Birch Cream Natural particularly helpful with this (10).

It is reliably effective against superinfection (and also against incipient superinfection) and has no allergenic-causing constituents, since finely dispersed birch cork functions as the cream’s own emulsifier. Rudolf Steiner referred to the relationship which birch bark has to disorders affecting the epidermis (11). With its cork, birch develops a “tree skin” which is particularly resistant to frost, water loss and microbial decomposition. Its brilliant white colour speaks of high levels of light and structural powers.

With dry eczema,

- **Birch Cream with Beeswax** is a good basic external application, though it does not provide sufficient fat if the skin is very dry.

If the skin is very dry and itching, a decoction of *Equisetum* or *Equisetum Oleum* 10% can be worked into a fatty ointment base such as Eucerinum anhydricum, Asche Basis ointment, or similar. Jojoba oil (2%) makes a good addition, and 1 drop of rose oil provides a more pleasant scent.

Skin superinfections with staphylococci are largely due to failure of epidermal barrier function. It is therefore not very surprising that here, too, fatty applications have a positive, protective effect. Again Birch Cream is highly recommended. Fatty lotions may be used to treat acute superinfection. During the day, bran packs (oat or wheat bran with Calendula essence diluted 1 : 10 to give a spreadable consistency, adding 1/2–1 teaspoon of honey)

- and during the night, an ointment containing sulphur

**Sulphur precip 3.0**
**Camillosan 12.0**
**Ol. jecoris 30.0**
**Zinc oxide 30.0**
**Birch Cream with Beeswax 25.0**
**ad 100.0 M. f. ungt.**

External application of skin care preparations should be in a rhythm established by the parents which becomes part of the night-and-day rhythm. Clinically it is important to present the child with a rhythm to which he can adapt, which he is able to take up. Parents are thus able to provide care and the strong support of a rhythm that has firmness. The child finds that his parents know what needs to be done and are able to give relief and protection in what they do.

I only use corticosteroids in exceptionally acute situations (hydrocortisone creams externally), e.g. massive protein loss. Tacrolimus and Pimecrolimus continue to be suspected of having severe undesirable side effects, including carcinogenicity, and thus do not necessarily present less of a risk than corticosteroids; both groups of substances are disappointing as regards curative actions. In either case one may get the impression that more long-term external applications (for more than 2 or 3 weeks) reduce the prospect of long-term recovery.

**Relieving the child of eczema-causing factors**

Further treatment may be in three steps:

- relieving the child of eczema-causing factors
- establishing inner balance in the child’s organism
- harmoniously integrating him in the childhood life situation.

The steps overlap yet present a sequence. Thus it is not possible to start effective neurodermatitis treatment if the child is taking foods of the wrong kind (e.g. nut and chocolate cream spread) or foods that are not tolerated individually (gluten-containing cereals for one child, cows and soya milk for another). Without going into detail, the recommendation is to ask parents to keep a detailed food diary for some days. Again and again it is surprising what food and drink children are given, things which one would never have thought of. Diagnosis of
food intolerances and dietary advice may thus be individual and give correspondingly better results. Diet is all the more important the younger the child is. Advice should be summed up in a written diet plan and recorded. Many food intolerance tests are available, but must always be used in conjunction with experience gained in omitting and if indicated re-introducing the foods concerned.

In addition, special attention needs to be paid to
- aspects of living room and bedroom (mattress, pillow, fitted carpets, underfloor heating, pets to which the child reacts on contact; environmental-medical stresses, e.g. open roof spaces with toxic wood protections, mother’s amalgam fillings)
- family tensions, stress due to siblings, beginning separation from parents, anxieties and depression above all of the mother, absence of father, e.g. due to work, economic problems threatening existence.

Some of these cannot be completely removed, but it should be possible to create awareness. In a second step, it is then possible to relieve such situations for the child, e.g. by treating the mother’s depression, changing the father’s working hours so that he is at home during the critical evening hours, and much else.

Establishing inner balance in the child’s organism

This is of fundamental importance. It may need highly individual measures and means. In many cases, however, good results are seen if typical medicaments are used to help the child with neurodermatitis to let the functions and integrity of his boundary surface organs—intestine, skin and lung—mature fully and increasingly take over stabilization of his physiological balance himself. The physician then also gains the time needed to get to know the individual nature of the child and then use highly individualized treatment, if necessary, to take the healing process forward.

When starting treatment, it is important, especially in severe cases, to see if the child needs substitution treatment. An eczema covering large areas and equally also the frequently associated intestinal symbiosis and absorption disorder can lead to severe trace-element deficiency (mainly zinc and selenium, but also iron, vitamin B12 and folic acid, calcium and magnesium). Substitution for the child and if indicated the nursing mother can be helpful in this case. Total protein must, of course, be watched, and care be taken that the diet is adequate. On the other hand one finds again and again that a very simple elementary diet reduced to basic foods can give excellent laboratory results. Mare’s milk can fully replace mother’s milk if tolerated and enriched with oil and starch according to age. It has been noted that with mare’s milk susceptibility to infection are markedly reduced and iron/ferritin levels are very stable. Lamb and poultry of Demeter quality is almost always tolerated extremely well and make it possible to have a diet of adequate quality from about the 9th month (teething, weaning) even if food intolerances are multiple.

Finally guided symbiosis, a method now in general use, offers a substitutive approach. Having done one’s own investigations, including diagnosis/ecogram of stools, it can be helpful to encourage the development of the intestinal flora in the terminal ileum and colon by giving lactobacilli and E. coli preparations (e.g. Paidoflor and Mutafior). Massive candidiasis may on occasion demand suppression, though in many cases it is enough to stimulate a healthy bacterial flora and stimulate intestinal function with an individually adapted diet and medical measures.

This puts the emphasis once again on intestinal function. One fundamental aspect of this is to take note of the organism’s activity at soul level. Being an actively moving, secreting hollow organ, the intestine is a typical development in ensouled organisms. At an original level it serves to interiorize and break down substances from outside nature and thus to stimulate and maintain inner processes of life and growth. The rate of intestinal growth correlates with that of brain growth, the mass of the autonomous nervous system in the intestinal tract correspond to that of the central nervous system. These facts substantiate the view held in anthroposophical medicine that healthy digestive function depends on the psychic organization, on the intervention of the astral body.

Neurodermatitis generally means that the activity of the child’s soul is one-sidedly drawn off upwards and out. Eczemas tend to have their focus in the upper half of the body; pruritus and inflammation indicate psychic processes being bound in the body surface. Hyperactivity in this region correspondingly means lack of intervention below and inside, in the digestion. Many children with neurodermatitis have disorders of the intestinal flora, bacterial dysbiosis and mycosis, irregular frequency, colour and consistency of stools, and their appetite, their food preferences, can also be very one-sided. Above all, however, food tolerance is almost always limited.

Treatment aims to get the child to activate his digestive and metabolic organs adequately at soul level, and also know adequate periods of rest, so that catabolism in the digestive tract can progress harmoniously to anaerobic synthesis of the body’s own substance. A cow chewing the cud is an image for what is meant here. R. Stein- ner emphasized that this rhythm between ingesting food and resting to digest the food strengthens spenic function (12), that is, delimitation of the internal environment from incoming foreign matter, the regulation and strengthening of the body’s own immune processes, and internal clearance of potential antigens (13).

Ferns, horsetail and clubmoss—primary flora of new coastal land and medicinal agents for neurodermatitis in early childhood

A medicament designed to “support ‘astralization’ of the whole gastrointestinal tract” (14) is
- Aquilinum comp. glob. Wala
- Aqueous extracts of a number of ferns treated with light and warmth rhythms are the core element. Rhyth-
mical processing guides an acidification process mediated by bacteria which results in stable mother tinctures. This pharmaceutical (Wala) method seems particularly suitable for the vital growth and development processes in early childhood. Ferns are the earliest land plants on earth. The ferns used are the evergreen hart’s tongue, with undivided fronds, growing in dark, damp places; the familiar male fern; and bracken, with pinnately divided fronds that may grow to a height of 3 metres and follow the seasons of the year, also growing in sites exposed to light that grow dry [15].

The flowering process is still held back completely, but the above series of ferns does show metamorphosis in a leaf which is progressively opening up to the light-filled air space. Correspondingly, the intestinal mucosa, an organ of ensouled life close to its origin, shows a differentiation into villi and microvilli which is lost in coeliac disease, for instance (the incidence of coeliac disease is increasing at a rate similar to that of atopic conditions and diabetes). Low potencies of Chelidonium and Taraxacum complement the fern extracts. These two medicinal plants stimulate hepatic and biliary function which is fundamental to healthy catabolism in the duodenum, the breaking down of fats, and motility in the whole lower intestinal tract. Solidago finally stimulates eliminatory renal functions.

Aquilinum comp. is an ideal basic medicament for many children with neurodermatitis. It anchors the soul organization’s activity in the digestive tract. The effect, which can be observed on giving it three times a day (3–7 pilules/dose), is harmonization of the frequency of stools, reduction in flatulence and the tendency to diarrhea and chronic constipation. The colour of stools becomes normal, and concurrently the skin condition improves, especially with eczema located mainly around the mouth and close to the wrists.

Horsetail and Lycopodium are phylogenetically at the same level as the ferns. They bring the move from sea to land to realization for the plant world, with the plant formations and gas tensions which are of fundamental importance for the human soul organization and renal function which is now going the other way round (air as environment rather than salt water) provides for stabilization of the internal environment, salt concentrations and gas tensions which are of fundamental importance for the human soul organization and at the same time permit the fluid organization to be under control. In view of this, the significance can be seen of

- *Equisetum arvense (3x – 6x)*
  
as basic medication for neurodermatitis, also if given internally. Horsetail drains the surrounding soil; 9/10 of the plant are underground, a network of drainage elements, and only 1/10 appears above ground, differentiated into the fertile spring shoot and the familiar sterile green summer shoot (field or common horsetail). The plant is used in herbal medicine and homoeopathy to stimulate and give rhythm to renal function in cases of urinary infection or also bed-wetting.

Horsetail is wholly reduced to the stem principle (whereas the leaf is greatly dominant in ferns), developing an impressive uprightness. This structure is achieved by actively incorporating and controlling silica, which is deposited in form of opal (similar to bamboo), and provides for the impressive firmness of horsetail. The plant evidently needs sulphur for this silica metabolism, and this, too, is found in relatively high concentration in the ash [16]. Rudolf Steiner and Ita Wegman wrote of the significance which silica metabolism has for human beings: “It keeps out effects purely belonging to the natural world from the inner organism, so that this does not have to continue those effects within its own sphere but develop its own.” (17) At the boundaries where the organism is exposed to the natural world, the highest body of the human being, the I-organization, can influence the configuration of the organism by managing silica in such a way that a stable internal environment develops, with natural influences reduced to conscious sensory impressions or unconscious digestion of food. The high silica content of the—wholly transparent—ammonium points to the significance of this substance for delimiting the internal human environment. According to Steiner and Wegman, the proper distribution of silica in the periphery and in the inner organism depends on adequate intake on the one hand, and sulphur-dependent processes on the other. Giving *Equisetum arvense*, e.g. in the rhythmized Wala preparation in the 3x, one may find that weeping eczemas improve. The quality of the nails and hair should also be observed. Eliminations (and detoxication) in the child’s organism are stimulated, inner unrest and hypersensitivity may grow less (relieving I and astral body with regard to renal function). The action is gentle and slow to develop. Like Aquilinum comp. the preparation needs to be given for 6–12 weeks, 3–7 pilules twice daily, e.g. in the mornings and afternoons.

The effect may be enhanced, mainly if the skin is transparent and nails are brittle and thin, by following on with

- *Solutio Siliceae D3–6 (3–6x) dil. Weleda, 5–7 drops b.d.,*

a mineral composition modelled on horsetail and produced in such a way as to create a complex, an instable equilibrium, of potassium carbonate, calcium carbonate in form of marble, sodium carbonate, sulphur and quartz. Taking in this “model” and digesting it, the organism is stimulated to manage silica in particular itself; we might speak here of a “Cardiodoron of silica metabolism”.

The third original land-pioneering plant is the clubmoss *lycopodium clavatum*, stag’s-horn clubmoss. Today it is a small, insignificant creeping plant to be found in mountain moors and heathlands. In the far distant past, these plants grew to tremendous dimensions.
Lycopodium has high levels of alumina, with the ash of the spores containing up to 15% of aluminium. Alumina enables the soil to store moisture and salts, which corresponds to the problem which a child with neurodermatitis has in maintaining moisture in the skin. The clubmoss seedling lives in symbiosis with fungi, and the prothallus, too, depends on saprophytic food resources. The development of the plant takes 10 to 15 years (18). Slowness, a vitality depending on assistance and decreasing in the course of evolution, are characteristic of clubmoss. Yet as a green, non-flowering original pioneering plant it represents vegetable life in its pure form. Lycopodium is indicated for all children with neurodermatitis whose vitality shows primary weakness. They tend to be overweight, with dry eczema causing a lot of pruritus; hepatic and biliary function is weak, they incline towards constipation which turns to diarrhoea with any food they do not tolerate; the abdomen is meteoritic (indicating weak biliary and pancreatic function and intestinal mycosis). Icterus is common after birth, and may persist for some time. Appetite is for easily digested foods and fades rapidly during a meal. Lycopodium may be given in low potencies, and with the relevant constitution in rising and high potencies. With the right constitution, healing processes can be highly effective.

An important medicinal composition for children with neurodermatitis who suffer from hepatic and biliary hypofunction due to toxins affecting the liver (antibiotics, environmental pollutants) and whose stools vary in colour, with chronic constipation, moodiness and nausea, is

- **Lycopodium comp. glob. Wala, 3 – 5 pilules t.d.s.**

  The Lycopodium action is supported by warm applications in the liver region, e.g. rhythmical application of mallow oil, or yarrow tea compresses for older children.

  The actions of both Equisetum and Lycopodium can be intensified by preliminary sulphur treatment. This calls for caution, however, with neurodermatitis; it is specifically indicated when the child is worse in summer—sulphur treatment (19), but it has become an indispensable part of anthroposophical medical treatment today.

  The only organ preparation mentioned in *Extending Practical Medicine* by R. Steiner and I. Wegman is Pancreas ("pancreas juice"): "We countered a possible withdrawal of the ether body from its normal, habitual digestive activity by giving pancreas juice." (20) To infants, young children, digestive functions capable of breaking down all food components to "zero point" are always "unfamiliar" to a point. Mother’s milk has its own lipases, so that pancreatic inadequacy may go undiagnosed in breast-fed infants, for example. In the treatment of neurodermatitis, stimulation of pancreatic function is of vital importance in many cases, for—in conjunction with biliary function—it provides for complete degradation of foods and their antigenic foreign quality as well as the breaking-down of fats, which are substance-bound warmth in foods. In the inner organism, the pancreas regulates the metabolism of sugar and therefore consciousness; we can see why the pancreas is said to be the centre of activity for the human I-organization. Auto-aggressive destruction of endocrine pancreatic function—environmentally determined—is evidently on the increase. The pancreas is the organ where the human I-organization is or can be most involved in overcoming and breaking up food substance from the outside if this function is stimulated and challenged in the right way in cases involving malabsorption. For children with coeliac disease, oral exhibition of

- **Pancreas Gl D4 (4x) amp. Wala, 0.5 ml daily, before main meal**

  is most effective.

  For badly weeping eczema,

- **Pancreas/Equisetum amp. Wala**

  is recommended, in the same dosage. For universal stimulation of epigastric organs—stomach, liver and gallbladder, spleen and pancreas, use

- **Cichorium/Pancreas glob. Wala, 3 – 7 pilules 1 – 3 times daily**.

  This is an important basic medicament if food is not adequately broken down, there is a tendency to diarrhoea and there are inflammatory changes in the gastrointestinal tract. It is possible that strengthening the vital organization and stimulating the child’s powers of will in the pancreatic region also helps to protect from autoimmune processes.

  Pancreas and Amnion organ preparations relate to each other like point and periphery, with Pancreas stimulating the child’s powers of will, powers the child uses to gain its own warmth and which are directed towards the future. The organ preparation

- **Amnion Gl D30 (30x) amp. Wala**

  0.5 ml by mouth at night daily or every second day

  stimulates the vital powers that played a key role in developing the body during pregnancy (21) giving it a...
living protective covering and boundary. The amnion as the original ectoderm relates directly to the epidermis and the sense organs, making their development possible in the embryo. As an organ preparation it can stimulate the final ripening of the skin. Markus Sommer introduced this medicament for the treatment of neurodermatitis in children who lost their amnion too early, whose life was repeatedly threatened by diagnostic interventions during the pregnancy, whose mothers had suffered shocks during pregnancy, and whose parents separated early, and the results have been impressive. The skin is often dry and hypersensitive, susceptible to infection and hypoplastic in appearance. Exhibition of Amnion will very often change the children’s sleeping behaviour. An impressive, thorough healing effect in severe, generalized neurodermatitis by giving Amnion (for more than two years) is described in the book Individuelle Paediatrie (22).

If it proves possible to establish a stable day and-night rhythm for parents and children, to free powers of soul from being one-sidedly caught up in the skin and at the same time becoming involved in metabolism and developing the child’s own body, relieving the child of allergy-inducing influences, and to make it possible for its boundary organs to mature fully, a first, decisive step has been taken towards lasting health. The goal continues to be full reintegration into the normal life situation of a child. Care must be taken to take children who had neurodermatitis gradually out of special diets, integrate them in same-age groups, and thus also loosen symbiosis with the parents step by step. Eurythmy therapy, and for older children also art therapies, play an important role in the process.

The skin of a child with neurodermatitis will only gain integrity once it is no longer the focus of attention, and dryness and pruritus have been forgotten in a positive way, with full participation in life taking their place.

I am much indebted to Michael Stellmann and Markus Sommer for important aspects which they added.

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Malignant melanoma from the anthroposophical point of view

Lueder Jachens

The incidence of malignant melanoma has shown a steep increase in the white population worldwide over the last 40 years; it is the tumour with the highest rate of increase (1). Even on its own this fact makes melanoma a disease of our time. A closer look at the characteristics of this skin condition suggests that it has something to do with our modern lifestyle, and indeed with the spirit of our age. Below, the physiology of epidermal symbionts (melanocytes and Langerhans’ cells), characteristics of melanoma and the character of the melanoma patient will be considered in some detail to arrive at the essential image of malignant melanoma and at treatment.

Physiology of epidermal symbionts

With melanoma the malignant tumour of pigment cells (melanocytes), it is helpful to make a closer study of their origin and physiology. Melanocytes are of neuroectodermal origin; from the 8th week of pregnancy, their precursors (melanoblasts) migrate through the mesenchyme dorsoventrally from the neural crest. Their route corresponds to the Blaschko lines, the particular form of which is partly determined by longitudinal growth of the embryo. In about the 12th week, the melanoblasts have reached the dermis and now colonize the basal layer in the epidermis. Here they live in community with the keratinocytes, hence the term “epidermal melanin unit”. The fully differentiated melanocytes are positioned directly on the basal membrane and thus below the cell nuclei of the lowest keratinocyte layer in the basal layer. Seen from above, the isolated melanocytes are in approximately hexagonal relative positions, one melanocyte providing pigment for 36 keratinocytes (functional epidermal melanin unit). Being a symbiotic dendritic cell, the melanocyte has numerous branches (dendrites) for “filling up” its keratinocytes with melanin. The keratinocytes put the melanin on the side that faces the light, to act like a sunscreen in protecting the nucleus from UV radiation (1).

1,000–2,000 melanocytes thus come to lie in a square millimetre of skin. The weight of all melanocytes together in a human being is c. 1.5 g. What we see here is a powerful and penetrating ordering form principle. On the other hand, matter principles take hold of the mela-
Melanocyte once melanin production starts; "the melanocyte must be seen as a unicellular gland, as it were" (2; this graphic description is not to be found in later editions). Summing up, we may say that the boundary function which the organism as a whole assigns to melanocytes in the skin consists in responding to bright sunlight from without with material substance from within (the blackness of melanin). Light, on the other hand, is a vehicle for cosmic form principles. The situation is immediately apparent in the wrinkles caused by chronic light damage—the form principles of sunlight draw lines and furrows in the skin. Form principle from without thus activates matter within.

With melanoma it is important to look at Langerhans' cells as well as melanocytes, as immunological processes play an important role in that condition (1). Langerhans' cells are also epidermal symbionts; from the 4th embryonic month they reach the epidermis via the blood, forming the most peripheral outpost of the immune system in the prickle cell layer. Following contact with an antigen from outside, they leave the epidermis and migrate via the afferent lymph to a lymph node where they initiate the specific immune response (1).

With Langerhans' cells, the boundary function of the organism thus consists in responding to a substance from outside (e.g. viral or bacterial antigens, contact allergens) by passing on information (light) to the inner organism. It is only secondarily and later in time that matter is set in motion from inside in the T cell-mediated immune response (e.g. contact eczema as an allergic reaction of the delayed type).

Comparison of melanocytes and Langerhans' cells in terms of threefoldness in the organism as a whole shows that by origin the melanocyte is a nerve cell which as a "unicellular gland" is given metabolic function. Langerhans' cells derive from bone marrow and are blood cells given sensory function in the skin. The polar opposite characteristics can be summarized as follows:

<table>
<thead>
<tr>
<th>Melanocyte</th>
<th>Langerhans' cell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migration in 3rd embryonic month from neural crest to basal layer</td>
<td>Migration from 4th embryonic month from bone marrow to prickle cell layer</td>
</tr>
<tr>
<td>Nerve cell becomes unicellular gland</td>
<td>Blood cell becomes cell with sensory function</td>
</tr>
<tr>
<td>Light from outside ➔ matter from inside</td>
<td>Matter from outside ➔ light (information) to inside</td>
</tr>
</tbody>
</table>

Delimitation by crossing

Ontogenesis and function of melanocyte and Langerhans' cell repeatedly show the phenomenon of crossing. The direction of migration at the embryonic stage is parallel to the embryo's surface and from dorsal to ventral for melanocytes. It is crossed by the precursors of Langerhans' cells moving centrifugally from bone marrow to prickle cell layer. A second crossing comes because of the difference in change of origin and function. The melanocyte was a nerve cell and is then involved in anabolism; the Langerhans' cell was a blood cell—blood is representative of metabolism—and gains sensory function. Finally the difference in the way the two kinds of cells perform their delimiting function may also be seen imaginatively as a cross—the melanocyte responds to light from without with matter from inside; the Langerhans' cell responds to matter from outside with light directed inwards.

The crossing phenomenon is well known in neuroanatomy and neurophysiology. With sensations in the body, in the eyes and inner ear projected contralaterally in the cerebrum, the relevant nerve tracts must cross. What do such crossings signify? "Due to them, sensations enter into a sphere which is separate from their area of origin. It is a sphere of higher consciousness ... With the crossing, sensations connect with the human life of thought and ideas at the fields of projection, a life which on its part relates to these projections, but is not part of them"(3). The crossing of nerve tracts must thus be seen in conjunction with the human potential for rising from conscious awareness to self awareness.

Another aspect to the significance of the crossing is found if we consider the E (German E, sounds like "ay") in eurythmy therapy. "The E fixes the I in the ether body" (4). "We create the E by crossing the limbs, a point of contact arises. This contact makes us perceive our own body. In the E, the arms cross, you close yourself off from the surrounding world. The sensation is: The world has done something to me. Touching myself in this gesture, I can keep myself upright in the face of this."(5) In sensory perception, the soul is given up to the outside world; with the E, one faces it in self awareness. "We must make left and right intersect if we are to have an I."(6) Crossing the limbs when doing the eurythmy-therapy E we strengthen the basis for experience of self. For the human form, the crossing is a specific form of movement, in the central nervous system we have the "E gesture in organic fixation"(5), a neuroanatomical fact as those nerve tracts cross. With the epidermal symbionts, on the other hand, the crossing phenomena are at a purely functional level, and thus deep down in the unconscious, in the sphere where astral body and ether body work together. They are connected with the I-organization and are ultimately created by it. The I effects the integrity of the human body; it watches over foreign and native. This function of the I has failed in the case of malignant melanoma, and the crossing situations we mentioned effect decompensation.

Characteristics of malignant melanoma

Below, characteristic phenomena of malignant melanoma will be described which we consider to be important pointers to the nature of this form of neoplasia. The aim is not to present the full picture; this may be found in textbooks (1, 2, 7).

First let us consider the kind of individual who tends to develop melanoma. The tumour is seen mainly in white-skinned people. In a talk with workmen, Rudolf Steiner spoke of white skin as reflecting the light and heat of the sun from the body surface, rather like a snow-clad surface does in winter. Light and heat are not taken in from outside but have to be generated inside (8). As a re-
The body surface of white-skinned people shows a dynamic balance in the skin between external sunlight and light generated by the inner body itself (Fig. 1).

A disposition to develop melanoma means that this balance is endangered. It is interesting to note that black Africans and Asians rarely develop melanoma; Africans do, on the other hand, have a high incidence of hepatocellular carcinoma (9). The dark body surface of black Africans absorbs sunlight and heat intensively, and these are processed internally. The powers of the universe thus have an influence all over the human being and this makes metabolism lively, “as if the sun itself were doing the cooking inside him” (8). For black Africans, the tumor risk arises wholly in the inner body, in the liver as “an enclave of outside world in the human organization, the polar opposite of the risk which exists on the body surface of white-skinned people (10, 11).

Human skin pigmentation also has two different effects which, considered superficially, may seem paradoxical. It has the capacity to protect the skin from the harmful effects of intense solar irradiation. In this case we can say that tanned, dark skin lets little UV radiation penetrate. On the other hand white skin deflects the qualities of sunlight, whilst black skin absorbs it to an increased degree. This does not refer to the physical actions of UV light but to etheric light quality. With regard to the whole organism this means that dark skin intensively absorbs the ether of sunlight. Skin pigmentation thus has a double aspect. On the one hand it provides physical protection for the skin itself, on the other it connects the organism as a whole with its environment where etheric qualities are concerned.

Melanoma development and sunlight

The most important characteristic of a melanoma disposition in whites is a light skin type. Blue-eyed, light-skinned people with blond or even red hair (Celtic type) are most at risk. World-wide, the incidence has been steadily increasing over the last 40 years, doubling in the last 10–15 years. It is subject to marked geographical variation, being highest in Australia and the USA's southern states. This is due to the high proportion of inhabitants of European origin with low-level skin pigmentation under high exposure to the sun. In Europe the incidence is lowest in Greece and Portugal and highest in Sweden, Denmark and Ireland (12, 13).

In another talk with workmen, Rudolf Steiner described the constitutional background to light and dark European skin types (14). People with great energy in the blood take food substances as far as the iris and into the hair; they have brown eyes and black hair. The blue-eyed individual has less energy in his juices.

In most cases (not always!), brown eyes and dark hair go hand in hand with a skin well able to tan in the sun. Form principles in sunlight stimulate the melanocytes to produce pigment; this is the final step in providing for the skin's needs through blood as the vehicle for matter set in motion. Matter manifests outwardly in earthly density as “blackness” (melanin).

The delimiting function of the skin relating to sunlight thus lives in balance between form principle from outside and the matter principle from within (Fig. 2).

It is interesting to see that in the above-mentioned talk with workmen, Rudolf Steiner mentioned that because of “earth's weakness in old age”, the whole of humanity has grown “weaker in its power to push foods through the body”. Blond peoples with their lower energy in this respect therefore die out sooner than dark-haired ones (14). Demographic data do not (so far) demonstrate this (15).

A disposition to melanoma may be aggravated by sunburn in childhood and youth (up to age 21) (16). In adulthood, too, sudden intense solar radiation (intermittent acute irradiation) is not good for skin that is not used to the sun. The increase in incidence of melanoma is therefore seen as related to changed leisure time habits (12). In around 1900, the middle and upper social levels in central Europe considered “noble” pale skin desirable; on Farms, people would wear long-sleeved shirts, straw hats and bonnets for field work, keeping the whole facial region in the shade. Today an “all-over tan” is desired at all social levels; farmers' wives may be weaning a bikini when haymaking. The profound change in beauty ideal and leisure-time behaviour over the last 100 years emphasizes the role of sunlight as the “most important external risk factor” for melanoma (16).
Numerous other factors of many different kinds in the human environment do, of course, also play a role.

If we consider the nature of the relationship between the development of melanoma and exposure to the sun, one has to say that UV radiation most probably promotes melanoma development indirectly (12). Immunosuppression is partly responsible for this. If the abdominal skin of mice is exposed to UVB radiation on four consecutive days, even powerful allergens will no longer provoke contact sensitization in the area. It is also known that the number of Langerhans’ cells shows negative correlation to UVB exposure of the skin area in question. “UVB radiation below the minimum dose for erythema will still damage Langerhans’ cells” (17). On contact with an allergen the damaged cells are then no longer in a position to trigger a specific immune response; “cells degenerated into malignancy are no longer identified and therefore also not rejected” (17). UVB and probably also UVA radiation can trigger immunosuppression with systemic effect (12, 17). This has been shown in animal experiments. If a mouse is exposed to UVB radiation on the skin of the abdomen but not the dorsum, an allergen applied to the dorsum will no longer provoke sensitization. It is also known that keratinocytes release cytokins under UV radiation which effect systemic immunosuppression via the blood (17). The discoveries are particularly important in melanoma development, melanoma being an “immunogenic” tumour (8). Immune resistance is more marked with melanoma than with most malignant tumours (1).

Examples of immunological processes in melanoma and melanocytes are:
- partial regression in 20 % of melanomas
- poor prognosis if there is immune deficiency (e.g., immunosuppression following organ transplantation, lymphoma, renal failure and HIV infection)
- association between melanoma and vitiligo and halo naevi (1).

A literature search for the role of Langerhans’ cells in malignant melanoma, for which the author is indebted to Mr Christoph M. Schempp, shows that Langerhans’ cells only decrease with melanoma growth and are not depleted before that. The number of cells in the epidermis was normal over early invasive melanomas, naevi and cutaneous melanoma metastases, but greatly reduced over deeply invasive melanomas (18, 19, 20). This also emphasizes the importance of the immune system with melanoma. A paradox seems to exist in so far as partial regression of a primary melanoma is usually connected with a less good prognosis. The contradiction resolves itself if one considers that a merely partial death of melanoma cells (generally in the central part of a superficially spreading melanoma) indicates that other melanoma cells have identified and overcome the defence mechanisms.

Another indirect effect of UV radiation on melanoma development comes from solar-determined stimulation of growth factors and mitogen-associated protein kinases. These factors are responsible for the homeostatic balance between melanocytes, keratinocytes and fibroblasts. Exogenous stimuli such as trauma, burns or UV radiation can change their expression. UVB radiation acts superficially and can influence keratinocytes in the epidermis; UVA radiation with its more deep-reaching action can affect fibroblasts in the corium, with melanocytes activated by the paracrine route. The first, critical step in naevus and melanoma development is melanocyte proliferation; growth factors can also be involved in the second step of melanocyte transformation (12).

Studies using statistical methods to establish risk factors do, however, also suggest an indirect connection between UV exposure and melanoma (16). An association was found between greater numbers of ordinary melanocytic naevi and the occurrence of atypical melanocytic naevi and the male gender, people of younger age, and a history of sunburn before the age of 19. Actinic lentigines were associated with an older age group, freckles in childhood and youth and sunburn after the age of 19 (16). A Canadian study in 1990 had shown that schoolchildren with the greatest number of sunburn episodes had twice as many naevi than those who had been less exposed to the sun. The tendency was more marked in children with light skin colour and less so in dark-skinned ones (21, quoted from 23). A West Australian study in 1984 demonstrated that people who had moved to Australia before the age of 9 or who had been born there had a higher proportion of naevi than people who had come to Australia after the age of 9 (22, quoted from 23).

These findings suggest an indirect connection as they show that intermittent intensive solar radiation (sunburn being an indicator for this) before the age of 19 increases the number of naevi. The number of atypical (dysplastic) naevi is also increased. The tendency is more marked in puberty when the number of naevi increases anyway. On the other hand at least 70 % of melanomas develop on naevi. Excessive exposure to the sun thus increases the number of naevi, with chaotization of their architecture leading to melanoma. We emphasize that the connection between melanoma and sunlight is indirect, for this indicates that the light acts at the functional level. If it were to act on the physical body, a direct connection would be demonstrable.

To gain further insight, let us briefly review the most important benign phenomena of skin pigmentation. Normal tanning happens through a healthy, protective screen of homogenously distributed individual melanocytes. A form principle of tremendous power shows itself in this infinitely thin, fine layer. Pigment is normally also deposited regularly in keratinocytes, resulting in homogenous tanning of the skin areas exposed to light. Ephelids (= freckles) arise due to discontinuous deposition of more melanin, usually in fair-skinned individuals with blond or even red hair. With lentigo simplex, isolated melanocytes increase in patches; this may be from birth or develop in early childhood. Actinic lentigines or lentigo senilis develop due to UV-radiation induced multiplication of isolated melanocytes on top of actinic elas-
A disposition for melanoma may also be partly genetic in origin, with c. 10% of all melanomas showing increased incidence in families (12). Rudolf Steiner and Ita Wegman generally ascribed hereditary dispositions to the I-organization being unable to integrate normally in the organism as a whole (24). Another characteristic melanoma phenomenon is association with other tumours. It is not uncommon for melanoma patients to develop further primary melanomas. “Multiple melanomas are particularly frequent in patients with dysplastic naevus cell naevi” (25). The incidence of non-melanocytic tumours in melanoma patients does not go beyond the general level, though breast cancer is the most frequent second tumour in other organ systems. 651 women among 9034 melanoma patients developed a second tumour, in 104 of them breast cancer. This is interesting if we consider that the mammary gland is an organ of the subcutis and breast cancer therefore a tumour of the skin in the wider sense. Malignant melanoma and breast cancer are both tumours of the skin as an organ, except that the latter derives from the skin’s deepest and the former from its uppermost layer. Melanoma and breast cancer have other things in common, too. Late metastases to or more years after surgical removal of the primary tumour...
is one of these, and the specific personality of patients also shows similarities.

A patient’s observation that a naevus has grown has been statistically identified as a sign of risk (16). Even the vague statement that a blemish has changed or is itching, or that “something is not right” with it, should be taken seriously. The skin as organ of the I-organization and of conscious awareness makes it possible for a tumour process to rise from the darkness of subconscious organic life into the twilight of dream-like bodily sensation, metaphorically knocking on the door of daytime consciousness.

The natural location of melanocytes determines the site where the melanoma begins to grow. This is the basal layer, the vital stratum in the epidermis. A special feature seen only with melanoma and no other tumour is that growth is exclusively planar for years, spreading horizontally and only intraepidermally (60–75 % of melanomas). This reflects the form principle to which they adhere, causing a nodule to develop. Significantly, primary dermis. Growth in the vertical direction is secondary, being a feature seen only with melanoma and no other tumour (5). This reflects the form principle to which they adhere, causing a nodule to develop. Significantly, primary melanomas may also occur in other organs with surface boundaries—the mucosa, the chorion in the eye and the meninges.

Finally let us consider the special features of metastasis with melanoma. Progressive metastasis goes from skin metastases in the immediate vicinity of the primary tumour (satellite metastases) via skin metastases (usually subcutaneous) along the route from primary tumour to the nearest lymph node (transit metastases) to regional lymph node metastases and finally haematogenic metastasization. The latter does remarkably often affect regions where the organism is in contact with the outside world—skin, lungs, liver, brain. Organs with boundary surfaces may also be affected—heart, lung, tonsils, duodenum, small intestine, kidneys. It is interesting to note that melanoma metastases are always melanotic in the neurosensory system and often amelanotic in metabolism and limbs.

The melanoma patient’s personality

Following the evolution of cancer in different patients, the physician will again and again come to the burning question: Are there particular features which one sees more frequently in cancer patients? Do certain personality and biographical characteristics suggest such a thing as a “cancer psyche”? Is there a specific melanoma-patient personality? In the author’s opinion, the words of Rudolf Steiner in two lectures he gave provide a definite answer to this. In Prague in 1911 he challenged his audience to look “everywhere in the organism for material processes which correspond to everything that happens in the soul”. It is a matter of really finding “such correspondences between psychic processes and physiological processes in the organism” (26). He went on to say that in this sense, thinking goes hand in hand with salts forming, feeling with the modification of swollen conditions, and the unconscious will with the generation of heat. Steiner’s challenge to look at both psychic and physiological aspects can be transformed and extended into looking for the way a pathological organic process correlates with processes in the psyche. A start has been made with neurodermatitis and psoriasis (27, 28). The question arose as to how it is possible to find markedly polar and relatively reliable correspondences between the physical situation with two skin conditions and the inner life of the people who have those conditions. The reason is that the skin is near and dear to us in mind and spirit. Following Aristotle, Thomas Aquinas said that the soul is the “principle for existence” and the “ground and basis for life”, its “configuring form” and “reality”. According to him, the form principle comes from the soul sphere, and “the more noble a form, the more is it able to govern bodily matter” (29). Every physician can see the noble nature of the human skin; we can conclude from this that it is particularly closely connected with the soul. Rudolf Steiner gave a detailed description of how the human spirit, the I, lives in the soul. Referring to the skin, he said: “In human beings, it is particularly the organs in the periphery which the I penetrates fully, giving them their configuration” (30). We may thus call the skin an organ of the I or self. This is the reason why pathological processes in the skin can be specifically and reliably found also at the level of soul and spirit.

From a lecture Rudolf Steiner gave in 1924 (10), describing the interaction between astral body and ether body in man, we gain further insight for our question. The astral body has the tendency to make human beings ill. The ether body develops life in them; the astral body reduces it. Human feeling is based on the constant to and fro in an unstable equilibrium between etheric and astral. Inflammatory changes occur when the astral body is too powerful; proliferation results when the ether body is too powerful. Considering the above-mentioned connection between feeling on the one hand and interaction of astral body and ether body on the other, Rudolf Steiner said: “The human life of feeling is simply mirroring the life of the disease in the soul.—An unstable equilibrium exists all the time in our perfectly normal life of feeling between proliferations and inflammatory processes.” This insight can provide a rational basis for perceiving the melanoma patient’s personality. Human beings only perceive things for which they are conceptually prepared. Such work to gain insight must therefore be done. A physician who does not think that there is a “cancer psyche” and melanoma personality will also be unable to see these in his patients. Rudolf Steiner concluded: “This makes it possible that in the human life of feeling we are able altogether to see extraordinarily much of what disease processes represent. If one can observe such things a long time before physical diagnosis of the disease is possible, it is possible to establish the future illness from the fact that the life of feeling is no longer functioning properly. The illness is but an abnormal life of feeling... And essentially it is simply not possible to develop a feeling for making a diagnosis unless one has a good eye for the inner life of human beings.”
The basic situation of melanoma patients, in body and soul, is characterized as the danger of losing the balance between outer light and inner light. The boundary between inner and outer cannot be maintained in body and soul, and ultimately foreign principles enter into the organism. It is not surprising, then, to find the following personality traits with marked frequency in melanoma patients. They are pleasant, correct in behaviour, adapted and over adapted to the social environment, and easily guided by their physician. In a dermatological unit, physicians and nurses will often remember melanoma patients for a long time because they were so pleasant. Following the death of a melanoma patient, the author repeatedly heard nurses say: "It always strikes the wrong people." Other characteristics are being emotionally thin-skinned, sensitive, with a rich inner life. These patients do not use their elbows, psychologically speaking; one will even find a tendency to proverbially “blue-eyed” on occasion. Above, we considered the constellation of powers behind blue eyes in the physical sense—the blood having less impulse power to drive “blackness” to the periphery and as far as the eyes. This physical and ethereal situation is easily “translated” into soul terms in that the proverbially blue-eyed tend to protect themselves less, are less likely to reflect much on measures they’ll take on entering into a particular situation. In this sense, it is quite alien to these patients to “plot and scheme” to the detriment of others. The pigmented skin might be the physical correlate of “putting up a screen”. Being open to the world means that melanoma patients are often prepared to listen to the concerns voiced by others, and also have a heart for the problems of other nations. They will sometimes be intensely involved socially and even take on more honorary positions than they are able to cope with.

The story of Thomas A. Dooley (born 1927) who died of malignant melanoma in 1961 may serve as an example for the specific inner leanings of melanoma patients. Dooley was a citizen of the United States of Irish origin. In 1954 (at the age of 27!) the physician in the US Navy was sent to supervise the evacuation of refugees from communist North Vietnam to Free South Vietnam, and prevent epidemics from developing. He set up a tented camp for 15,000 refugees, with all sanitary installations and the necessary administrative arrangements; later on there were 3 camps for a total of 30,000 refugees. He worked 14 or 15 hours a day, seeing patients and operating. When on leave he went on lecture tours of North America, collecting money for MEDICO, an organization he had established in 1958. This became one of the most significant humanitarian aid organizations in the 20th century. Dooley wrote a detailed report on his work in Indochina (31). Details of his personal experiences taken from this are given below.

His constant fear was that he might be suddenly posted elsewhere and that his successor, however able, might not feel for the refugees and their troubles as he did. He and his colleagues always suffered the torment of feeling inadequate, unable to smooth things over even superficially. There was nowhere for them to go to escape from the unimaginable misery around them. A free afternoon would bring a kind of guilt feeling, spoiling their pleasure in the brief respite. Between the end of August 1954 and mid-May 1955 he lost a third of his body weight. Daily routine went on uninterruptedly, in spite of several bouts of malaria, infection with four different kinds of worms, and a very unpleasant skin eruption. The constant drain on his energies and nerves did not worry him. The moral conflicts were much harder to bear. His conscience drove him to do more and more to prevent himself from falling into doubt and despair. A kind of being-at-school complex of never doing enough tormented him. They were always taken from one extreme to another. Now and then they would feel relaxed and well for a few hours, but then they would realize, with sudden shock and pain, that they were living on the edge of hell. A colleague called Peter kept telling him not to take things to heart so much. Dooley was often torn between going to see a patient in the mountains whom no one else was able to treat, or leaving that man to himself and performing his duties in the hospital. Peter would tell him to stay where he belonged, and that he could not be everywhere at once. He would reply that he could not let the man die; it was a moral responsibility.

In the late summer of 1959, Dooley fell off his bicycle and lacerated the right chest wall. Soon after this, a malignant melanoma with regional lymph node involvement developed in that side. It was surgically removed in September 1959. Dooley died 17 months later from the sequel of metastazation.

In dermatological practice you will again and again see patients who are capable of great empathy. This is particularly evident in the above example. The empathy must, however, be encompassed by the I. It must be given order and form, a clearly defined place in the individual’s personality and biography, so that it does not lead to giving oneself up completely. With melanoma patients there is a danger of excessive empathy endangering the boundaries of the psyche. Foreign principles can then break in.

The essential nature of malignant melanoma

The whole periphery of the human organism is predestined to be sense organ. The great variety of sense organ is due to the fact that each particular sense organ serves perception of a particular sensory quality. “The skin really makes the human being as a whole into a sense organ” (32). The skin is, however, only made to perceive a particular sensory quality and far from all of them, e.g. not light. It is the eye which is made for the light. Rudolf Steiner used the eye, the “most radical sensory organization”, as an example for describing the development of a sense organ. “It is really created half from outside; it is integrated into the organism. The organism on its part ... leaves free the eye cavity. The eye is placed in this. This indicates that the development of the eye mainly involves processes from outside the human being. The human being merely receives it. With a sense
organ as striking as the eye we can say that a foreign body is integrated into the human organism”(33). Rudolf Steiner made a blackboard sketch of this (Fig. 5).

He then considered the way the four bodies relate to each other in the eye. “Everything placed in there, and in the case of the eye it actually is still partly etheric and not merely physical, is encompassed by the astral body and the I-organization which in the eye are actually as far as possible emancipated from the physical and the etheric.” In the central human being, e.g. in the internal organs or in muscle, the four bodies are intimately brought together. “With the eye, the situation is that I and astral body are closely bound together, and in the same way the other two are intensively bound up with each other. A loose affinity exists between ether body and astral body. This situation exists only in the eye”(33). Rudolf Steiner also sketched this (Fig. 6).

In another lecture, given to members of the medical profession, Rudolf Steiner described how sense organs can “only develop in the right way through the warmth and air organism in that the fluid organism and the solid organism act against it, and we have a resultant of components. This means that it is necessary for us to look at the relationship between physical organism, in so far as it comes to repression in metabolism, for instance, and the sculpting organism, in so far as this comes to expression in the neurosensory system. We must consider, as it were, how metabolism lets something ray out, with matter taken in a radial direction, and how the matter is the sculpted in the organs by the principle brought to it from the neurosensory system”(34). This can be shown in schematic form (Fig. 7).

It should be noted in this context that sunlight belongs at the top in Fig. 7 as it moves etherically through the air organism. The “resultant of components” we are here concerned with has been described elsewhere by Rudolf Steiner as “cross-over relationship” and “relationship in the growth of powers” (35). When melanoma develops, the relationship of component powers is changed due to excessive sunlight and other impressions from the human environment.

In his lectures, Rudolf Steiner would often speak of a tumour being a sense organ developing in the wrong place. In the case of malignant melanoma and the role which sunlight plays in its genesis, one immediately thinks of a relationship to the eye. Using Steiner’s idea of the tumour as a dislocated sensory process we can thus say that malignant melanoma is a pathological tendency in the organism to create an eye in the skin. Pathologist Peter Ries of Hamelin, Germany, pointed out that there is a morphological similarity between the pupil of the eye with its surrounding iris and the superficially spreading melanoma with central regression (36). In both cases, pigmented cellular structures lie radially around a hole!

For greater understanding of the processes which in the case of malignant melanoma lead to a sense organ developing in the wrong place, let us take a closer look at some aspects of the organism’s way of dealing with light. Rudolf Steiner spoke of human beings being able to produce “original light” in their organism (37). “This inner light production goes to meet the influence of external light. With regard to the upper human being we are made in such a way that external light and inner light act against each other in interplay, and the very essence of our organization rests on the fact that where these two, external light and inner light, are meant to work together, we are able to prevent them from merging, keeping them apart, so that they only act on one another but do not unite. As we face external light, be it through the eye, be it through the skin, a screen is set up everywhere in the human being between the inner, original
light in us and the light that influences us from outside." (Figures 1 and 2 reflect this.)

We may therefore sum up and round off. The eye is the specific sense organ for light; here external light is permitted to overcome the body's boundary and, though outside world, continue on into the organism from the outside world (39, see Fig. 5). The human skin reacts to light by producing pigment; as we have seen, it takes in light only in the qualitative sense and not in the physical sense, which the eye does. In the light metabolism of the human organism, the generation of inner light is stimulated by external light (37). Inner light, being light ether, is content of the ether body (40). The light ether lives in the air organism and it is through this that the astral body incarnates (41, 42). A stream of light pours into the inner human being via the upper human being (40), when external light (= light ether) has been taken in as quality by the sense organs and the skin. In the upper human being, light creates thought: "Thought arises from light. Thought weaves in the light." (43). In the lower human being the form principle active in the light ether lets boundaries develop, fully forming out the whole human being down to the level of individual organs (44).

Considering the relationship between light and human existence in the physical body as well as in soul and spirit, and the role which sunlight plays in melanoma development, the question arises if people relate to light in a particular way today. An answer may be found from anthroposophy as a whole in so far as it makes it clear to modern people that it is now necessary for human beings to oppose the centripetal stream of incoming sensory impressions, of light, with inner activity and the will to gain insight, which move centrifugally. Rudolf Steiner: "We must grow aware of a much more subtle relationship to the outside world, which means that with regard to our ether body, something is happening which must come more and more to conscious awareness, similar to the breathing process. In breathing, we inhale fresh oxygen and exhale useless carbon dioxide air. A similar process exists in our sensory perceptions. —We . . . must develop the subtle aspects in dealing with the world so that we take that world in we have not only sensory perception but also something which is of the spirit. —World thoughts influence us from without, and the human will acts from inside to outside. —We must come to feel how the will acts through the eyes, and how the activity of the senses does indeed merge into our passivity, so that world thoughts cross with human will. —We must … if we make light the general representative of sensory perception, rise to the thought that light has soul" (45). Everything coming to us, to our senses, from the human environment is light. Rudolf Steiner spoke of a "light-soul process" characteristic of the Michaelic age, with the soul passing through cosmic space on the wings of light.

There seems to be an evident connection between the crossing of world thoughts and human will which Rudolf Steiner said was the mission of our present civilization, and the crossing phenomenon seen with epidermal symbionts. The connection may be considered to lie in the fact that a wisdom reveals itself in the phenomena of those symbionts which lies dormant deep down in the unconscious human organism, waiting to be brought to light of day in that process of civilization. The words Rudolf Steiner gave as spoken by Michael, the spirit of our age, about modern humanity point to this: "The power of the spirit sun shines on their souls; the Christ is at work; but they are not yet able to heed this. Power of the spiritual soul is active in the body; it does not yet want to come to the soul" (46). This power of the spiritual soul unfolds in the light-soul process as human beings compel their will towards perception, to deliver the world thought from the sense-perceptible world. One example of the many such efforts being made in our present civilization is Goethean natural science. If people fail, however, to connect the will with sensory perception, so that the power of the spiritual soul is not elevated in the body, then that soul will cause morbidity. We are thus able to see a light-soul process not brought to realization as a possible cause for development of malignant tumours and especially melanomas.

Feeling plays an important role when world thoughts cross with the human will consciously brought into play on the soul's boundary. From the midst of feeling comes the individual relationship between thoughts from without and will from within, a relationship which is different for everyone. Developing a feeling for both spheres we develop the ability to find always the right measure. In the case of Thomas A. Dooley it is evident that a feeling for his own needs and the necessity for protecting himself were not adequately met. The needs of others around him touched him too deeply, on the other hand.

Rudolf Steiner described the conditions for life in soul and spirit in the present Michaelic age in more detail, saying that anything which has developed in the past, God's work, must only influence the human I from the environment (47). Freedom in human inner life must be developed in our time but is only guaranteed if the impulse from the human environment, from nature, the work of divine spirits, extends to the I and does not influence the ether body and the physical body. Sunlight is the influence of something evolved in the past; a tendency for melanoma develops if we allow it to act on our physical body and ether body and not at all or too little on the I. The world thought in sunlight must only influence the conscious human will; this is a condition with the light-soul process, a process which demands freedom in human inner life.

In the lecture where he described the crossing of the world thought with the human will in the light-soul process (45), Rudolf Steiner gave an example for will activity. This is the fading after-image when the eye has perceived something. This after-image is an objective fact in the world ether. It is interesting to note that patients undergoing chemotherapy lose the ability to see com-
The bay (Fig. 8), a dynamic fact, fills up with melanoma cells and can now be measured as a vertical tumour diameter (Breslow index). (The etheric bay will, however, always be greater in dimension that the tumour itself, comparable to a crystal and the lustre around it.)

Interestingly, Dr Dooley had a laceration preceding the melanoma. In dermatological practice, one hears patients say again and again that the melanoma was preceded by a mechanical trauma. Rudolf Steiner also gave “mechanical insult”, “prolonged exposure to high temperatures or a burn” as examples of triggers for a “tendency to develop a sense organ” in the wrong place and thus tumour development (33). He spoke of a breast being struck as the origin of breast cancer. This means a centripetal action from outside towards the inner organism, “which makes the astral body appear most powerfully in the site, whereas it is normally absorbed by the ether body. When the astral body suddenly shows itself in the site, it appears … in a glow of light, as if burning. When it shows itself like this we have a tendency to develop a sensory effect in the site, a carcinoma develops” (33).

Hyperergic phenomena such as rhinitis and allergic conjunctivitis, urticaria, polymorphic light dermatitis, eosinophilia, penicillin and iodine allergy are common in the history leading up to melanoma. When a member of the audience in Rudolf Steiner’s discussions with workmen asked him about hayfever, being a sufferer, the answer was: “No one whose whole body has a disposition from the beginning to develop hardening of the arteries is likely to get hayfever, for hayfever is the very opposite of hardening of the arteries. ... Your hayfever is a kind of valve to prevent sclerosis” (49). Sclerosis and tumour are cold conditions; hyperergia is a warm, inflammatory process with emphasis on blood impulses and may therefore be considered an attempt at self healing if there is a tumour disposition. This is what Rudolf Steiner meant by “valve”.

The author is aware that many aspects of malignant melanoma (e.g. personality, developing a sense organ in the wrong place) also apply to any other tumour process. Unlike practically all other tumours, melanoma has the special feature that the phenomena are superficial in the truest sense of the word and therefore apparent. Melanoma truly is “no marginal phenomenon in oncology, nor a special case, however interesting medically, but in many respects absolutely exemplary for cancer growth in general” (50), in the terms of both natural science and the anthroposophical philosophy of man. With any tumour you have patients who have none of the relevant risk factors. Melanoma patients who have avoided the sun all their life, being fair-skinned, may also have no stress in their occupational or private lives. Patients like these may make physicians think that one does not get the number of melanoma patients among the part of the Central European population who are exposed to intensive UV radiation on the shores of the Mediterranean or even in Far Eastern countries which one would expect. On the other hand a relatively high
proportion of melanoma cases (with regard e. g. to absence of UV exposure) are found in parts of the population who handle themselves and their environment with great awareness; placed outside the risk group in compensation, as it were. Rudolf Steiner spoke of “certain disease potentials covering whole broad territories” (53); considering it possible that a disease may manifest if not in one place then in another within a large population if the times demand it. The question is, therefore, if there are perhaps melanoma patients who, being sensitive and having fine minds, take on the tumour tendency of an age on behalf of others, as it were. Considering that Rudolf Steiner asked us to grasp carcinoma as a sense organ in the wrong place, Christa-Johanna Bub-Jachens posed the question in this journal two years ago. What does a carcinoma as a sense organ sense? Her answer: “Might it not be the case that the carcinoma perceives the materialistic outside world, the materialistic emergency state of today? As the eye is created by the light for the light, so carcinoma as catastrophe of form may be created by materialism as a spiritual catastrophe. In that case, carcinoma would be a kind of image of humanity’s spiritual need, its function being to perceive this need”(11). Surely this applies particularly in the case of malignant melanoma.

**Prevention and treatment**

If there is a melanoma disposition, one preventive measure is to avoid too much sunlight (52). A watchful eye must also be kept on all other influences and demands coming from outside in everyday life and the biography, lest the right measure be exceeded. Sunscreen preparations are generally assumed to prevent epithelial skin tumours; but a number of epidemiological studies in recent years have cast some doubt on this. According to them, the fact that the epidermis can no longer produce natural photoprotection when sunscreen has been applied is a negative aspect (12). Patients should therefore be advised to use textiles to keep off the sun and common sense in gaining a tan, observing the right measure and necessary time.

Endogenous protection can consist in efforts to do justice to the light, the sensory impressions and all demands that life brings. Ralph Waldo Emerson said that heaven is the eyes’ daily bread. We may add the words of Angelus Silesius: “Bread alone does not feed us; what feeds us in the bread is God’s eternal word, is life and is spirit.” This spirit which confers life is the “world thin-ke action with a tendency to flower and fruit development and this addresses itself directly to the “bay”. The plant is therefore in a position to compensate the inadequate activity of the higher bodies in the warmth, light and air organism directed towards the fluid and solid organism. The many unusual characteristics of mistletoe, which emancipates itself from the normal laws of plant life, also make it medicinal. The rhythm of its life through the seasons is the inverse of that of other plants. It flowers and fruits in winter when (at least on broad-leaved trees) it is exposed to the winter sun once the leaves have dropped in autumn. On the other hand the foliage protects mistletoe from the summer sun (54). Pine has an inner connection with light and warmth qualities. Mistletoe grown on it (Viscum pini) is suitable for treating melanoma. The best results in mistletoe therapy for melanoma have been seen with pine-grown mistletoe.

If there is a disposition (numerous naevi, dysplastic naevi, family history), it is advisable to give a prophylactic course of Iscador P in spring and autumn. Prescribe Series 0, one ampoule s. c. under the abdominal skin every second day in the morning, with 14 days interval after the first series. If surgery is required or a primary melanoma has been removed, inject one ampoule of Iscador P every second day (or 3 times a week), following Series 0 with Series 1 and continuing the latter without interruption. If metastases develop, mistletoe treatment can be intensified by giving it i. v.—Iscador P, 1 mg—20 mg, increasing with caution, in 250 ml of saline once a week over a period of c. 2 hours. Intolerance reactions are uncommon with this slow i. v. infusion.

Mistletoe treatment helps with the evolution of neoplastic disease and also benefits the patient’s general condition. Its comprehensive action, also on the psyche, is illustrated by the words of a patient who seven years after surgical removal of three primary melanomas developed a metastatic breast tumour. Asked what mistle-
toe treatment meant to her she said: “Mistletoe makes me feel positive about life; it stops me from drowning in misery. It maintains my humanity, so that I came well through chemotherapy and radiotherapy. I was able to live a normal life at work and in caring for my family, and overcome the whole crisis of tumour disease using mistletoe preparations from different manufacturers (Iscador, Helixor, Abnoba Viscum, Iscucin)!”

The many good results seen in anthroposophical hospitals and practices have recently been confirmed in a study run as a multicentre, comparative, epidemiological cohort study at Freiburg University Dermatological Hospital (55). 738 patients with malignant melanoma who had a high risk (Breslow index > 1.5 mm and/or regional lymph node involvement) were followed up for at least three years. 381 patients treated with Iscador P were compared with 357 patients who did not have mistletoe treatment. The result is that prophylactic long-term mistletoe treatment following surgical removal of melanomas reduces the risk of dying of melanoma and improves the chances of tumour-free survival.

Metal therapy given in addition to mistletoe treatment can be helpful. Aurum met. prep. D10 (10x) trit. is recommended to mediate between inner and outer, above and below. Antimony in form of Stibium met. prep. D6 (6x) trit. or i. v. (e. g. 10 ml once a week) stimulates boundary development and makes the organism “more compact”. Ferrum met. prep. D6 (6x) trit. strengthens the powers people need to face impressions coming from outside. Other medicines may complement the treatment. Quartz will on the one hand act to set limits, to configure, and on the other clear the organism’s periphery for the reception of sensory stimuli. It is given by mouth in medium-high potency or s. c. (Quartz D60 = 60x) every 6–8 weeks if one wants the emphasis on configuration. Formica gives the power to bring back everything which threatens to drop out of the sphere of life as a whole. Red ant (formica rufa) can be used by mouth in low dilution or as Formica D3 Formica D15 aa given s. c.

The liver as an internal organ is filled with principles taken wholly from the foreign world outside man. Exaggerating, we may call it a tumour in the physiological sphere (11). The liver of every melanoma patient therefore needs treatment to generally strengthen its function, using Hepatodoron tablets or Vitis comp. tablets. External applications to help the I-organization to intervene in the organism’s periphery are Solum oil massage or rubs (Wala) and oil-dispersion baths.

Eurythmy therapy is a great help in gradually transforming the melanoma patient’s special and one-sided aspects of the inner life, which are usually almost at conscious level, and his special constitutional nature. As we have seen above, E is the most important vowel. As to consonants, B helps to create boundary and inner space, G to practise resistance. To conclude this paper on malignant melanoma let us consider a verse given by Rudolf Steiner which can be a guide for melanoma patients, their physicians, therapists and nurses.

Light of the sun shines on darkness of matter; thus the spirit’s all-healing nature shines on soul’s darkness in my human existence. When I reflect on its great power in real warmth of heart, its lustre fills me with its spirit-noontide-power.

Rudolf Steiner

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Nutrition for patients with skin conditions

Ute Gruhn

There are three possible approaches to the dietary treatment of the many different skin problems in existence.

- The skin, being a clearly visible organ on the outside of the body, provides early indications of malnutrition or dietary errors (in Central Europe the problem exists with anorexia nervosa patients, for example).
- A different category are skin conditions where certain foods or food constituents must be omitted for treatment and/or diagnosis.
- The skin mirrors more deeply seated and comprehensive disorders e.g. in the region of liver and intestine that also have a mental component. If too much work is demanded of these organs, they try to pass the problem on to the lungs, the joints, or indeed the skin.

With most skin conditions, the primary pathogenetic causes do not lie in nutrition. It is therefore the role of nutrition to support medical and other treatment. Interaction between liver and skin via the blood is intense. Thus changes in the liver due to alcohol consumption also cause typical skin changes (1). It seems obvious, therefore, to strengthen and relieve metabolic organs nutritionally.

Great demands are made on the liver today because of our diet, numerous medicaments and the rest of environmental problems. It may not be painful, nor show pathological enzyme levels, but its function may well be impaired (2).

How can we give such relief nutritionally? Nutrition has effects on the physical, etheric and astral level and on the conscious mind. It must be effective at all four levels to have healing qualities.

1 Physical level

Here substances taken in with the food have an effect, i.e. fats, protein, carbohydrates, vitamins, etc. It is simply the right dosage which here determines benefit or harm.

1.1 Gamma-linolenic acid and omega-3 fatty acids

Foods rich in gamma-linolenic acid and certain omega-3 fatty acids (e.g. eicosapentaenoic acid) are recommended for the treatment of neurodermatitis and psoriasis as well as other conditions. These fatty acids have...
antinflammatory actions and reduce the release of arachidonic acid. They also counteract hardening and deposits in fat metabolism.

Relatively high concentrations of eicosapentaenoic acid combined with docosapentaenoic acid and docosahexaenoic acid are only found in the fat of fishes living in cold oceans. Deep water exerts greater pressure on these fishes than animals know on land, and the fish therefore have particularly many long-chain fatty acids which tend to solidify. A large number of double bonds immediately counteracts this tendency, however (3). (In Christian symbolism, fish are often shown as bearers of the Christ impulse, creatures that connect with the earth but overcome its rigidifying tendency.)

This enlivening, warming impulse is utilized above all in treating adult psoriasis patients who tend to develop arteriosclerosis.

The omega-3 fatty acid levels of sea creatures depend markedly on their food. Natural sources of them being absent in fish farms, farm-grown creatures have significantly lower omega-3 fatty acid levels (5). The range of variation is great, which is why the German Society for Nutrition’s recommendations concerning fish consumption are rather vague. It may be assumed, however, that eating such fish once a week is sufficient to cover the omega-3 fatty acid requirement.

Feeding also affects the fatty acid composition of hen’s eggs. The eggs of free-range chickens fed largely on fresh grass and on grain contain about 10 times more omega-3 fatty acids than those of hens kept in cages. It is, of course, possible to modify the fatty acid composition by feeding fish oil, a method not well suited to the needs of the species, but highly marketable.

Vegetable products with omega-3 fatty acids in form of alpha-linolenic acid are above all linseed oil (55 %), walnut oil (14 %), rape oil (11 %), soya oil (8 %) and hemp oil (7 %), and the chloroplasts in green leaf vegetables (6).

Gamma-linolenic acid (an omega-6 fatty acid) is particularly important in the treatment of neurodermatitis.

In the human metabolism, linolic acid can be reduced and its chains lengthened to give gamma-linolenic acid. The key enzyme for this reaction is delta-6-desaturase. The activity of this enzyme appears to be reduced in individuals with atopic skin conditions (6). Gamma-linolenic acid is only found in low concentrations in typical food plants. It is therefore recommended to use seed oils such as evening primrose, borage or black-currant seed oil as a supplement. Evening primrose shows a marked relationship to moon forces in that its flowers open at sundown and stay open through the night. The sunlight stored in the seed needs the darkness of earth to germinate. Gamma-linolenic acid—also present at increased levels in mother’s milk—is therefore particularly important for young people with neurodermatitis (3). Dr. Jachens recommends one teaspoonful a day for children and two a day for adults (7).

1.2 Arachidonic acid

Psoriatic skin shows 20 times the normal level of the polyunsaturated fatty acid arachidonic acid in its free form. Sufficient substrate is thus available for producing inflammation-mediators (5). 300 different biologically active mediators have been found to date (8).

Arachidonic acid derives on the one hand from foods of animal origin. Around 200–400 mg of it are taken in daily with the usual meat-eating diet. A largely vegetarian diet provides only 50–80 mg, which reduces the production of substances that promote inflammation.

On the other hand arachidonic acid is produced from linolic acid in the body. A vegetarian diet rich in linolic and linolenic acid will nevertheless counteract inflammation. This may seem contradictory at first sight. The conversion of linolic into arachidonic acid is at a low level even with sufficient linolic and linolenic acid present (>10 g/day in total), because all polyunsaturated fatty acids compete for delta-6-desaturase, the important enzyme for lengthening chains.

Antioxidants can prevent inflammatory substances being produced from arachidonic acid. In this case, the most important antioxidant is vitamin E.

1.3 Gluten

About two thirds of patients with dermatitis herpetiformis show marked sprue-type changes in the mucosa of the small intestine. These and the skin changes generally show definite regression with a gluten-free diet (5).

Some psoriasis patients with no primary evidence of sprue may also improve on a gluten-free diet (6).

Hagel considers the reason for the increase in gluten intolerance to be 30 years of consistent breeding of wheat with high baking volume (9). The aim is to have loose-textured bread with large, stable fermentation bubbles. Gluten and gliadin are pushed towards increasing firmness in the process. Mediation of vital principles is bound to protein, and it seems probable that this may have a negative effect on wheat tolerance. People who do not tolerate wheaten bread should therefore change to spelt (unfortunately some types of spelt have now also been crossed with wheat) or rye (where the baking quality depends more on carbohydrate linkage), or eat oat flakes in muesli or baked goods.

1.4 Alcohol

Regular alcohol consumption can trigger psoriasis or maintain it. Histamine release is one possible triggering factor in this (6).

1.5 Obesity

Obesity, especially in conjunction with elevated blood fat levels, hypertension and diabetes, causes aggravation of psoriasis. It has also been observed that the condition took a milder course or disappeared for a time in times of famine (5).

2 Level of life

With regard to the needs of our life body, we eat for other reasons as well: “We do not eat in order to have one food or another in us; no, we eat so that we may inward-
ly develop the powers to overcome these foods. We eat to offer resistance to the forces of this earth, and we live on the earth by virtue of offering resistance(10).

When our defensive resources are diminished, e. g. because our diet lacks in quality (lacking not in quantity but in vitality), people get ill in their “weak spots” where resistance is least. The skin, being on the outside and well visible, will then often show changes merely due to a more deep-seated weakness in the liver. Jachens emphasizes that this is a subtle, purely functional liver disorder which is not always demonstrable in laboratory tests (2).

A similar connection is suspected to exist between intestinal health and skin conditions.

### 2.1 Raw food

Plants are the most vital life forms on earth, for they do not have ongoing destructive processes to serve soul and mental development. A raw vegetable diet gives us the intake of vitality in our food, at the same time also demanding the greatest effort in coping with the foreign influence of the earth. If we are able to cope with this influence we strengthen our powers of resistance at etheric level to the highest degree. This may explain the beneficial action on some skin conditions (e.g. acne, psoriasis) of a pure raw-food diet taken for a limited period. An exclusively raw-food diet for an extended period does, however, mean one-sided stimulation at the etheric level, demanding too much of many an intestine because of excessive foreign influences: “One can indeed whip up the body for a time by using only raw food, for the body must then make massive efforts; it will, however, collapse all the more afterwards” (11).

Other authors consider the often spectacular but only short-term success of extreme diets to be due to the non-specific stimulus of change.

Depending on their tolerance, skin patients should seek to have a regular proportion of raw food in their diet. This will be more digestible if taken mainly in the first half of the day, following a plate of hot soup to warm up the gastrointestinal tract and prepare it for the digestive work to follow. If flatulence or similar problems develop in spite of this, reduce the amount of raw food for a time or change the kind of raw food taken. Tender leaf salads are generally very digestible, as are un-ripened fresh fruit and grated carrots.

Root vegetables are particularly recommended for patients with skin conditions, as they put the digestive powers more strongly under the aegis of the order-establishing head principle and “take the building-up substance all the way to the neurosensory system in the periphery” (See in 7). Carrots and beetroot are particularly suitable as the light process has gone right down into the root region with them. They develop their healing properties not only when raw but also cooked, or in juice which may be pure or lactic-acid fermented.

### 2.2 Foods which evoke or promote skin reactions

Patients will again and again say that certain foods trigger or aggravate skin reactions. These are rarely the kind of genuine allergy demonstrable in prick tests or with RAST. Clarity on the actual situation may come with an omission diet followed by provocation. For three days one eats nothing but three “harmless” foods such as rice, carrots and bananas. Further foods are then added one at a time every three days. With many pseudoallergic and intolerance reactions it is, however, difficult to connect the appearance of symptoms with the foods as the reaction may be delayed and dose-dependent.

Many food additives do not have to be declared. The method of preparation (e. g. boiling or acidifying milk) will sometimes change the actions.

Such provocation testing is always time-consuming and expensive, demanding high motivation. If the result is positive, the test should be repeated every 12 months, as some intolerances disappear later in life.

It is often impossible to see a conncetion between diet and skin symptoms under scientific experimental conditions (5). Patients do, however, continue to report aggravation from certain foods.

A food diary enables the patient to see the connections between food intake and symptom and limit or avoid the products concerned. Unfortunately things are not always so evident. Someone who is very anxious, always looking to the world around him for the causes of his problems may become fixated on the “harmful” effects of food, with the result that his diet grows progressively more deficient and one-sided without any appreciable improvement in the symptoms.

Jachens has an interesting thesis. He sees food intolerance as a secondary phenomenon. Patients with neurodermatitis develop digestive problems because astral body and I-organization are onesidedly focussing on the periphery. This means that foods cannot be adequately freed from their foreign qualities before they enter into the blood (7).

Here the art of nutritional advice is to show the individual the road of sensible changes in diet rather than an excessively reduced diet which is apt to weaken him.

#### 2.2.1 Foods from animals

The unfavourable effect of too much arachidonic acid has already been mentioned. Meat is essentially a concentrated food, i.e. eating meat we easily eat too much—too much protein, too many saturated fats. People who eat a lot of protein will easily catch infectious diseases, and are evidently reducing their resistance (12). Protein is also the category of food with the most foreign nature. Neurodermatitis patients are therefore most likely to have problems in digesting proteins (7).

Excess fats not used to generate warmth can cause inflammatory changes in the body’s “weak spots”, creating “foci of a parasitic nature, as it were” (13).

It is therefore often helpful largely to forgo meat and preserved meats.

Dairy produce should only be avoided if there is definite intolerance, i.e. following thorough tests. Soured milk products stabilize the intestinal flora and have a positive influence on immunological processes. Lactic-acid
producing bacteria make digestion easier for people who are weak in this area. “Probiotics” (special products with live cells or metabolites of stabilized autochthonous microorganisms) have not so far been shown to benefit (14).

Neurodermatitis patients will often tolerate sheep’s or goat’s milk better than cow’s milk. Sheep and goats have relatively more form principles compared to matter principles (7).

2.2.2 Spices
Hot spices (mustard, paprika, caraway, horseradish, garlic, pepper) which are strongly “sulphuric” by nature fire the metabolism up unnecessarily, which drives the inflammation to the periphery. It is particularly inadvisable to combine spices with saturated facts as in crisps and other snack foods.

2.2.3 Sugar
Sugar is not an allergen, yet taken in relatively large amounts (average daily consumption per head in Germany is 110 g) it will often aggravate skin conditions, e.g. by making the itching worse. It is easily digested and needs hardly any digestive enzymes for its metabolization. This exactly is also the problem. As a pure crystal, sugar is at mineral level and no longer has the living foreign nature of a food deriving from the plant world. Intestines and liver therefore do not recognize it as foreign and in fact take little notice of it. The organism is therefore not able to develop powers of resistance through it. We thus get the phenomenon of a substance which in itself is nontoxic but will nevertheless weaken intestine and liver and thus have a non-specific deleterious effect on the evolution of diseases. It is also suspected that relatively large amounts of sugar change the intestinal flora and make the intestinal mucosa more permeable (5).

In the short term, something sweet can certainly relieve the liver of its burdens, especially in the afternoons when the organ finds it difficult to produce its own sugar (15). A small portion will be all that is required, however, and it does not, of course, have to be sweetened with crystallized sugar.

Aggravation from chocolate is frequently reported (5). Once again a number of non-beneficial components come together—sugar, saturated fats and milk protein.

2.3 Fungi in the intestine
Fungi, especially Candida albicans, can spread in a weakened intestine. According to current knowledge, this fungus is practically part of the normal intestinal flora. Its identification in the stools therefore does not rate as a threatening mycosis. On the other hand neurodermatitis patients have been found to have particularly high concentrations of fungi in the stools (5). This suggests that fungal infection may be seen as an indicator for weakened resistance.

Fungi grow particularly well where life is withdrawing (16) and there is a shortage of light forces.

Conventional “antifungal” diets cut down on carbohydrates on the assumption that this deprives yeasts of their nutritional basis. All carbohydrates are put in the same category, not taking into account the different light qualities they contain.

Plants take in and transform light through photosynthesis. This light energy in form of biophotons can be measured in every plant and also every human cell (17). Sun-ripened fruit and vegetables are therefore the best “antifungal” diet, whilst sugars and natural produce artificially ripened in cellars and greenhouses have few vital energies in them if any.

Kingma (16) recommends courses of nettle as food cum medicinal plant. With its extremely high levels of chlorophyll, silica and iron, it serves particularly well to stimulate light metabolism and digestive processes. Stinging nettle has a long tradition in medicine and agriculture for its healing properties. It is less customary to make “weeds” part of the diet. Yet this plant, bursting with vital energies, is a true “food supplement” in today’s low-energy standard diet. The fresh plant can be used in cold extracts, teas or as a vegetable. The taste is surprisingly good (Fig. 1).

2.4 Food quality
People are eating fewer and fewer original foods such as fruit, vegetables, cereal grains, milk and meat today. Foods are industrially processed partly because it makes them quick and easy (instant mashed potato, for example) and partly because interesting new taste sensations are produced (in the case of drinks from instant cappuccino to alcopops) and this creates new demand. Apart from the fact that these products alienate people more and more from their healthy intuition and are intended to deceive, they also present problems for skin patients. New auxiliary agents and additives (taste enhancers, synthetic aromas, preservatives) are added all the time, and existing constituents are physically altered without giving it a thought (microparticulate protein, transeste-
rifed fatty acids, modified starch), and this leads to vast numbers of substances capable of triggering pseudoalergic reactions (v. s.).

On the other hand the liver, which has the function of synthesizing body substance out of the nutritional intake, is required to identify all substances foreign to life which are useless or harmful and remove them. The living foreign nature of the actual foods which has arisen from the interaction between sun and earth and gives the liver opportunity to test and develop its strength, is, of course, largely absent from these products. These modern methods are even invading the organic food market. A packet soup is a packet soup, even if a Demeter product, with the modified starch of organic provenance. The words of Max Otto Bruker: “Let your food be as natural as possible” (18) are still much to the point.

Concern over processing and changing foods too much does not apply to careful cooking, for this may be said to be a fast method of completing a ripening process initiated by the sun’s rays.

Frying at high temperatures and ultra heating on the other hand result in undesirable secondary products such as acrylamide and polycyclic aromatic hydrocarbons (PAC) which stress the liver. (Here it must be remembered, as always, that it is not at all a matter of giving convenience foods and crystallized sugar a bad name; it is rather that we must be aware of what we do in using them and how much we are prepared to take on.)

In the present context, the diet of someone with skin disease should be such that it both relieves the liver of stress and strengthens it.

In view of the above, biodynamic farming and gardening is becoming more and more necessary today. The food plants they yield are largely free from pesticides and unnecessary additives and have also developed the greatest possible degree of resistance, i.e. life, because — supported by special preparations that increase their capacity to store light and life — they have had to survive the negative forces in the environment without chemical plant protection or artificial fertilizer.

3 Level of the psyche

In anthroposophical medicine, skin and liver are seen as opposite poles that determine one another (see under 2). This is why the skin often develops problems if the liver does not function well. As a sense organ making conscious perceptions and an organ with metabolic functions, the skin is the opposite of the liver as a metabolic organ with powers of unconscious perception. Skin and lung are also opposites of the liver in its synthesizing quality. In Chinese medicine it is said that 60 % of nutrition is food and 40 % the oxygen we inhale and these combine to create new substance in metabolism.

It is therefore necessary for the organs to act in concert by sensory perception of ingested foods. Without this even the healthiest foods cannot unfold their healing qualities.

When we do not enjoy our food or feel tense and under pressure as we eat, our breathing is also limited automatically, and we do not adequately perceive what we are eating. The digestive impulse is then not sufficiently passed on to stomach, pancreas, small intestine and liver, and digestive function grows weak.

The liver “tastes” and “with its sense organ monitors the whole of intestinal activity”, deciding “if ingested food is beneficial or harmful” (19). When information gained about digestive activity is meagre, the liver will gradually cease its sensory activity and freeze up. The specific use of bitter foods such as dandelion, chicoree, ru cola or grapefruit can make the liver more awake and mobile again. The right choice of foods is important to keep the liver awake in its function, and so is attentive eating with enjoyment. As Buddhist teacher Thich Nhat Hanh put it, when I eat a carrot I am eating a carrot and not my worries, concerns or anxieties (19).

This is not as easy as it sounds; it is a genuine exercise in will and patients often find it harder to implement than a mere change to other food products.

Attentive eating and tasting has consequences all the way to the level of the I. Only by eating with my senses wide awake can I gain conscious awareness of the very things which my liver has known for a long time in its dim consciousness — what truly feeds me and what is harmful to me.

4 Level of the I

Human beings gain sentience in soul and spirit from the etheric through destructive processes. A loss of vitality is the price to pay for this. This is also why foods from animals are less full of life than those from plants, for the animal, too, has gained powers of soul at the cost of the etheric. Someone who eats raw foods only will feed only the ether body, and his thinking loses contact, to a degree, with the other bodies.

Prometheus brought fire to humanity so that conscious awareness might develop. Cooked foods are therefore a necessary part of human nutrition today. The proportions vary according to age, illness, temperament and season of the year, and need to be adapted individually.

4.1 Silica

All over the world, cereal grain is the staple human food. Its composition meets human nutritional needs almost perfectly if the whole grain is used.

The upright form of cereal plants reflects the upright human being on earth in a “telling gesture” (20). The reason for this powerful form principle is the high silica content (up to 90 % in the ash). The I-organization acts through silica to configure the human being even at the physical level. All organs are connected with each other through silica, so that they may mutually perceive each other as a whole, though this is below the level of conscious awareness (13).

In the skin, silica ensures two things, 1) delimitation from the outside world, and 2) being consciously open to that world.

Whole grains are therefore an important element in keeping the skin resistant. Nutrition differs from medicine in that it is immaterial if the cause of the disease lies
in the skin or the liver. The diet merely creates the broad basis on which healing becomes possible. In medicine, silica is potentized and used very specifically in combination with other medicinal agents. Wholemeal bread is progressively less well tolerated today but this should not stop us from looking for ways of making it more digestible. White-flour products will relieve the intestine temporarily but on the other hand also do not increase powers of resistance.

Apart from the consolidation of gluten through plant breeding (v.s.), intolerance is sometimes due to bread-making methods. Artificial sourdough is often used and this does not break the grain down sufficiently. It is worth trying bread of finely ground spelt with natural sourdough or crispbread. Attentive, relaxed chewing and enjoyment contribute a great deal to the digestibility.

Another problem may be the high temperatures on the outside of a loaf. The Maillard reaction produces substances that burden the liver. An alternative equally high in silica but digestive is cooked grain as porridge or part of a dish.

Special diets are no longer recommended for specific diseases today. The right interaction at all four levels is needed if a diet is to have healing qualities. Nutritional counselling is therefore more and more developing into the search for the road an individual is effectively able to take, also considering his preferences, needs and possibilities. The first important step is sometimes the hardest, for one must convince the person that changing his habits will bring benefit and encourage him to find a way where his objective knowledge of nutrition is in harmony with his own perceptions.

Rudolf Steiner: “We must be clear in our minds that humanity will have to be more and more conscious in feeding itself.” A particular error tends to arise, however. “People want to learn too much from what they call ‘nature’; they want to follow nature in every respect. Paracelsus said, on the other hand: ‘We must not be subservient to nature. The physician should pass nature’s examination, but he must be an artist, he must take nature further’” (21).

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