

Osteoporosis from the anthroposophical point of view

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■ Abstract

Osteoporosis is more than a disease of bone that can be described by speaking of changes in bone structure and density. The physical manifestation of pathology reflects changes in the way the non-physical human bodies function together. Insight into changes in the activity of the etheric, astral and I organizations characterizes a more comprehensive perception of the disease, which affects a considerable part of the population, and leads to measures relating to lifestyle as well as therapeutic approaches.

■ Keywords

Osteoporosis
Vitamin B₃
Phosphorus
Quartz

Osteoporosis is one of the common conditions seen in medical practice that affect primarily the skeletal system. Two million women and one million men are estimated to have developed osteoporotic vertebral body fractures in Germany. (1) This has led to preventative and therapeutic measures where patients face long-term medication. The pathophysiology is almost exclusively limited to mechanical aspects, with the stability of bones considered to be dependent on adequate bone mass. Questions as to the inner significance of osteoporosis for the human spirit and soul and the consequences in this regard of conventional treatment are given little consideration. How do the activities of the different human bodies relate to each other in human osteoporosis?

Activities of the different bodies

I-organization

In the first place, the known factors carrying the risk of immobilization point to the importance of movement and thus the will-related activity of the I. It seems that this does not concern just the phenomenon of movement in general, for movement against resistance clearly has special significance. We can therefore understand why weightlessness with its lack of resistance to gravity may favor the development of osteoporosis. It has also been reported that areas of the skeletal system which are subject to high degrees of pressure, traction or rotation are less subject to osteoporotic changes than areas where no such demands are made. (2)

This shows correspondence with the qualities of the upper human being. On the one hand it is processual thinking activity, coming to conscious awareness against the resistance offered by the structuring powers of the nervous system, on the other—in the case of the will being active—the resistance opposed has comparable significance. It is thanks to this quality that congestive and condensation processes arise in movement, which otherwise merely flows without meeting resistance, and functionally these processes precede osteogenesis with its hardening processes. The qualitative hardness in the soul's world of thought has its counterpart in the organic hardness arising with ossification. We recall Rudolf Steiner's reference to osteogenesis as neurogenesis having come to its end. (3)

The first characteristic of osteoporosis is from this point of view a reduced will-type activity of the I-organization in the system of limbs. Pathological conditions with secondary forms of osteoporosis show a similar picture. In the case of diabetes, for instance, extensive reference was made to limitations in the development of will impulses. According to present knowledge, type 1 diabetes, with the impediment which has been described for the incarnation of the human soul and spirit in the organization of metabolism and limbs, is particularly connected with an increased risk of osteoporosis. (4, 5) Hyperthyroidism has also been characterized as a condition where the astral organization separates out of the system of limbs, as apparent in thyrotoxic myopathy, for instance. (6) Hypogonadism presents a comparable picture. Finally Cushing's syndrome also points in the same direction. Ultimately it is therefore a question of the individual spirit incarnating in its body. The metamorphosis of the skull in the course of life (Fig. 1) also throws light on the syndrome. As the non-physical human being incarnates in his body, the organization of limbs develops progressively, and in the skull correspondingly the viscerocranium. With exarnation, this organization goes into involution—the skull of the old person is similar to that of the child again. Bone density in the shaft of the radius goes through analogous changes (Fig. 1). Again we can see the connection with the incarnation and exarnation movements of the human being.

If the I-organization separates prematurely from its activity in the limbs, bone organization regresses and osteoporosis develops. Osteoporosis as a disease of the second half of life (type 1 osteoporosis) or of old people (type 2 osteoporosis) thus relates biographically to rickets in young children. The latter is an abnormal development of the body as the individual spirit incarnates; the former suggests premature exarnation.

The consequence of this premature exarnation movement of the I-organization is not a bone disease due to calcium deficiency. Osteoporosis is a condition affecting bone structure and therefore form. This applies both at the microscopic level (Fig. 2a) and the whole form of the vertebral column for example (Fig. 2b).

Form is a non-physical quality which merely becomes visible on being filled with matter. Plant forms reveal the laws of life, animal forms those of life-forms endowed with souls. The human form relates to I-nature. "The human form reflects I-nature in physical form." (7) This form can imprint itself in the solid mineral part of the organization and also separate from it again. Goethe described these dynamics in a poem that ends as follows:

*What more can human beings gain in life
But that God-nature be reveal'd to them?
How it makes solid form melt into spirit,
How it preserves the spirit's creation in matter.*

Changes in the form of the vertebral column due to osteoporosis will often lead to kyphosis of the thoracic spine, with the quality of uprightness first threatened and finally limited. Verticality reflects the I-organization. If this loosens its connection with the body the power of verticality that determines the human form withdraws.

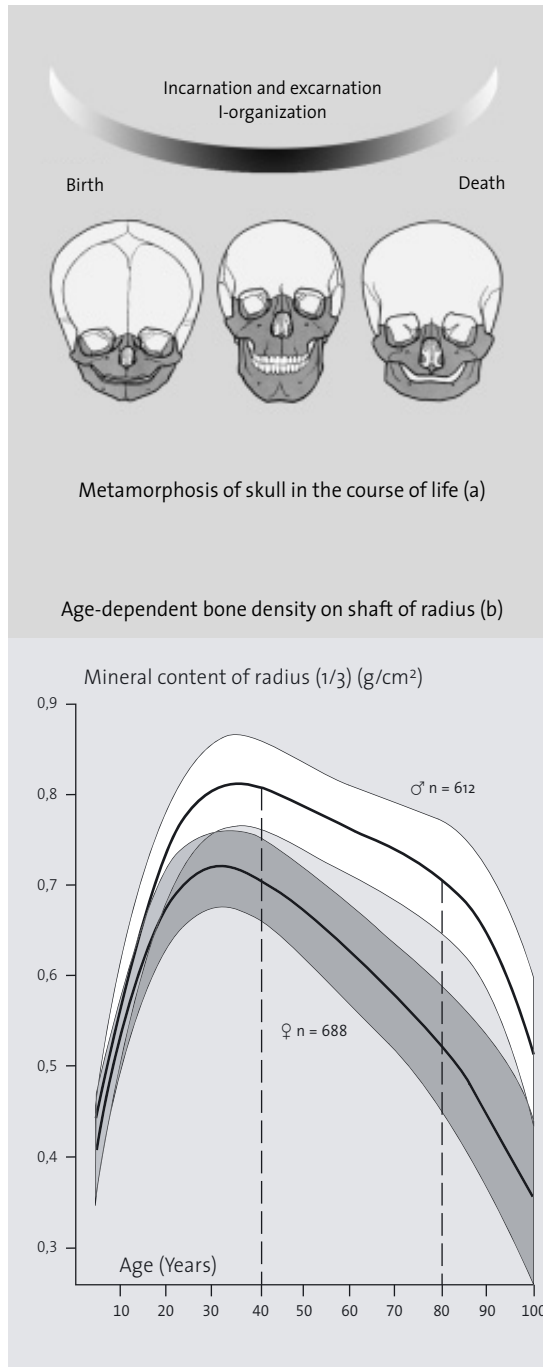
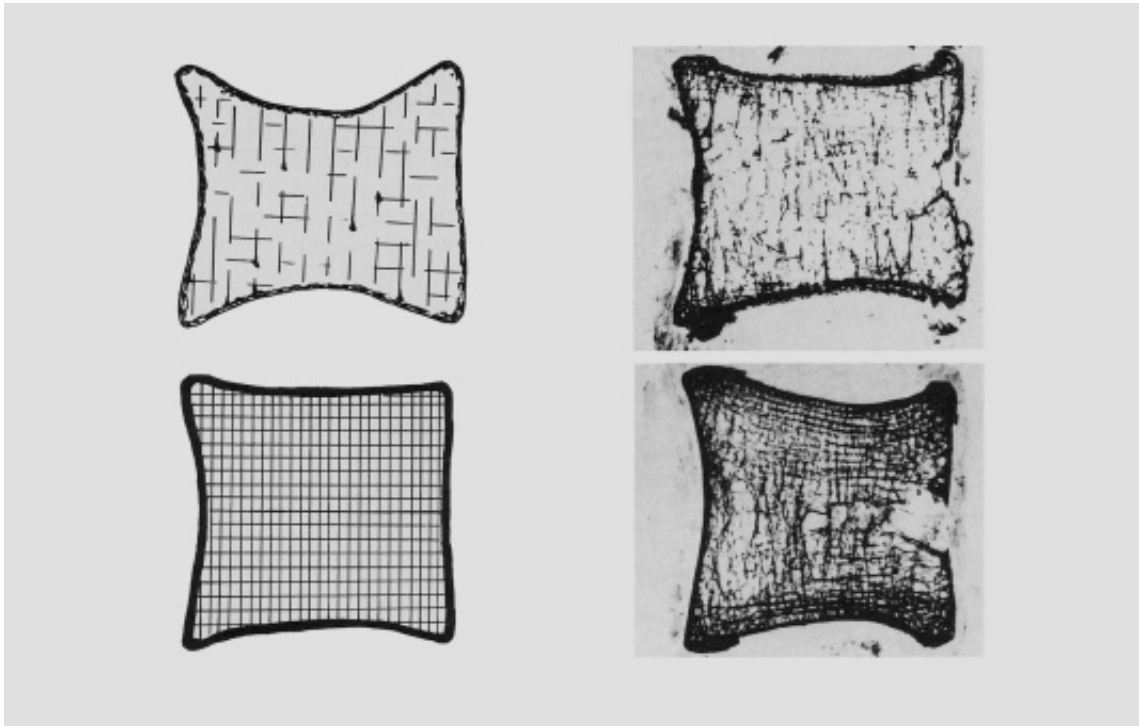


Fig. 1 a and b. Development of organization of limbs and its bone density, reflecting the incarnating and exarnating movements of the I-organization. a) after Waldeyer, Mayet. *Anatomie des Menschen* Bd. 2, 16. Aufl., p. 73. De Gruyter 1993. b) After Ringe JD. *Osteoporose. Pathogenese, Diagnostik und Therapiemöglichkeiten*, p. 98. De Gruyter 1991.

Astral organization

The astral organization shows analogous changes in its activity. Initially it is involved in every human movement, including those directed and intended by the I. Lack of movement will also inhibit its activity in the organization of limbs. The constitution of a slender form which is characteristic of osteoporosis points in a similar direction, with the astral body connecting less with the lower human being and turning more to the neurosensory system. Another observation relating to the constitution is a thin skin, again with the emphasis more on sensitivity of the senses than on its metabolic organization. (8) It has also been reported that female patients with osteoporosis have less muscle mass and power than healthy women of the same age. Remarkably, coin-

Fig. 2a
Osteoporosis.
Changes in form
qualities of spongy
bone structure.



idence of severe osteoarthritis with osteoporosis is low, (9) something we also consider worth noting. The former often develops in connection with unphysiological exposure to forces of gravity; with the latter, gravity is not sufficiently involved, there is too much buoyancy, and we might speak of early onset of excarnation.

In separating from the system of limbs, the astral organization can awaken to a quality of conscious awareness which is evidently largely disregarded. (10) These problems which are more in the psyche no doubt also have a reactive component, but ultimately they are also part of the syndrome. A high proportion of patients say they have grown discouraged, irritable and more sensitive. These symptoms in the psyche go hand in hand with the pain caused by the osteoporotic changes in the vertebral column, pain which reflects an astral body orientated towards awakening. It is possible for someone who has developed osteoporosis to be more sensitive, with a “thinner” skin not only in the physical but also the mental sense.

Osteoporosis and depression

A number of studies suggest a connection between osteoporosis and an individual mental state of depression. It would seem, therefore, that reduced bone density goes hand in hand with depressive symptoms. (11)

Excess of cortisol is often seen as a possible factor in this connection, a condition that is quite common in people with depression. If we consider the nature of cortisol and its actions in the human organism, the connection can be seen.

Cortisol activity results in the organization of limbs being held back. With Cushing’s syndrome one sees adiposity particularly of the trunk, with the slender, sometimes gracile limbs in remarkable contrast. Other phe-

nomena of steroidal myopathy point in the same direction.

The anti-inflammatory action of cortisol also fits in, with inflammation showing itself to be connected with the system of metabolism and locomotion. An astral organization in the process of separating from the system of limbs is—as also described in connection with the metabolic syndrome (12)—urging awakening in the middle and upper human being. The higher bodies abandon their will-related (unconscious) activities in metabolism and limbs, increasingly turning away from this “night” side of their activity and towards the “day” side with its orientation towards conscious awareness.

Increased release of cortisol in conjunction with stress reactions may also throw light on the situation. Vital energies metamorphose into powers of conscious awareness and can here lead to special qualities in the patient’s inner life.

Coming back to osteoporosis, we once again see the astral and I-organization withdrawing from the system of limbs, resulting in form and structural changes in the skeletal system. With depression, the power of holding one’s own in soul and spirit is reduced, and with osteoporosis the power to be upright is also threatened at the physical level—like an outward image for the state of soul.

At this point it is worth considering a study to investigate the relationship between mental development (cognitive performance) and bone density in 362 female senior citizens. (13) One fifth with high bone density performed well more than three times more frequently than the one fifth who were shown to have low bone density. It seems that mental development as an inner light quality and bone development are connected in this respect.

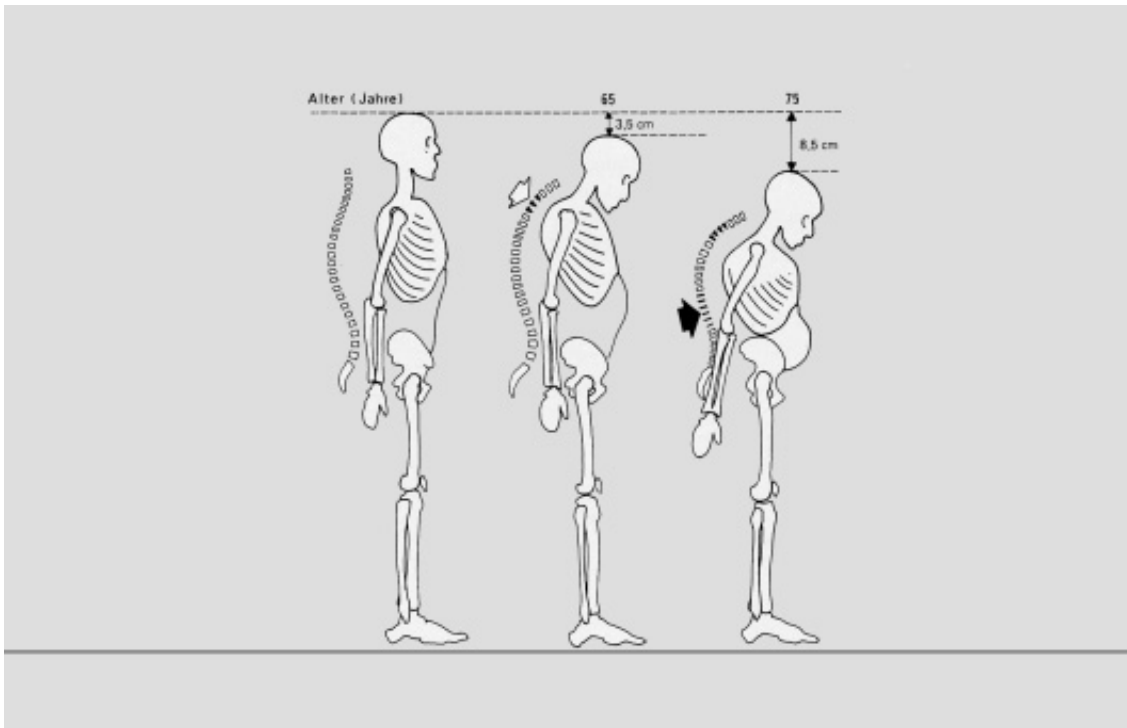


Fig. 2b
Osteoporosis. Limitation of power to be upright in vertebral column subject to pathology (Fig. 2a and b) after Ringe J.D. Osteoporose. Pathogenese, Diagnostik und Therapiemöglichkeiten, p. 2 and p. 118. De Gruyter 1991.

Etheric organization

Bone reveals etheric body activity both in its development and in the healing processes that follow fracture. The impressive “biological plasticity” of bone points to its life organization. At the etheric level, reduced regeneration has been described especially in connection with Type 2 osteoporosis at an advanced age, considered to be an osteoblast deficiency. (14) Powers of the etheric organization have progressively withdrawn from their organic activities as the individual grew older, and are no longer adequately available for bodily development. It may also be that premature development of powers of consciousness results in weakness in the etheric.

Physical organization

At the physical level we have the pathology of bone form and structure of bone tissue as described earlier. The compact and spongy parts of bone tissue are affected differently by osteoporotic changes (Table 1).

Clinical examination may show dowager’s hump and shortening of the trunk, also the “pine tree” phenomenon, with skin folds running obliquely on either side of the spine. Thin skin with thin skin folds has already been mentioned as a possible indication of osteoporosis.

Basic treatment goals

If the different bodies develop non-physiologic activities in the organism, bringing in a foreign quality, we call on the healing powers of inflammation. The excarnating activity characteristically seen in the different bodies with osteoporosis is countered by a suitable healing impulse. Osteoclasts derive from (special?) monocytes, cells therefore that serve inflammatory processes in the organism. Cytokines can be used to activate them with their proinflammatory connections. (15) These osteoclasts are active above all in connection with post-

Table 1

Difference in loss of cortical and spongy bone mass at age 90, relative to peak bone mass (after Riggs et al, quoted from Ringe JD. Osteoporose. Pathogenese, Diagnostik und Therapiemöglichkeiten. De Gruyter 1991.)

Age 90	Men	Women
Loss of maximal cortical bone mass	5 %	20 %
Loss of maximal spongy bone mass	10 – 25 %	40 – 50 %

menopausal osteoporosis, changing a bone structure that no longer reflects physiologic activity of the bodies.

Resorption of bone, which comes close to inflammation, evidently has deeper significance in this case than one would first assume on the basis of pathophysiological insights. Then, if not before, it will also be evident that treatment must involve more than inhibition of osteoclast degradation processes or encouragement of bone building. What therapeutic goals may be considered in the light of the activities of the different bodies in osteoporosis which have been described above?

First the attempt must be made to get I-organization activity to engage in the body again. At the beginning of life, the infant’s early attempts at coming upright and all that follows until he is able to walk upright indicate a first I-organization activity. Conversely, its premature separation represents a threat to uprightness, as evident in the typical curvature of the spine, with consequences for the whole human form. Exhibition of phosphorus aims to direct I-organization activity to the limbs in a will-related way. This therapeutic principle which has been used for a long time in Anthroposophical Medi-

cine, has a connection with the modern biphosphonate treatment for osteoporosis. This forces the I-organization into its human body; it also appears that a bone structure develops that does no longer correspond to I-organization activity in every detail, which makes it artificial. It may indeed be justifiable to give such high doses of phosphorus if the indication is there, and for the time being at least, the clinical value in reducing the risk of fracture is considered to be beyond doubt, yet the physician prescribing it should be all the more on the alert in case such medication inhibits development in soul and spirit. This might make the currently one-dimensional evaluation of the treatment more relative. Exhibition of a potentized phosphorus preparation can “invite” the I-organization to increase its activity in the system of metabolism and limbs.

This medication stimulates the I-activity that fully warms. It needs to be associated with something that gives form, however, taking the active processes into configuration. Clinically this means silica, which has major significance in osteoporosis. Given by way of “its” medicinal plant, which is *Equisetum*, quartz gains additional efficacy. The aim is to stimulate the structuring powers of the I-organization, for these have been reduced in the process of developing osteoporosis.

If osteoporosis is seen in the above way, with the stated treatment goals, the indicated methods will be as follows. First of all, the aim should be a conduct of life where there is more movement, which is in contrast to developments in our present civilization. It will be the quality of movement which matters, however. For bone development, it is important to work with the forces of gravity. Just as a patient with hemiparesis due to cerebral insult may also develop “hemi-osteoporosis” as the higher bodies withdraw on the affected side, so may bone mass increase on the healthy side because additional demands are made on it. Similarly it has been observed that tennis players may show increased bone density in the region of the most used arm, and weight lifting, interesting as a phenomenon but not relevant for treatment, is also said to increase bone mass.

Apart from forms of movement therapy—eurythmy will be discussed later—nutrition is of further importance. Here it is essential to consider the acid and basic qualities which have already been characterized in spiritual-scientific terms. Any diet leading to acid production forces astral activity into a quality similar to inflammation, going more in the direction of dissolving bone. (16)

Ultimately it is adequate exposure to sunlight which takes the form-giving powers of light into the process of giving form to the skeleton.

This reference to light immediately characterizes the principles of *medical treatment*. Two substances, polar opposites in terms of the threefold human organism, relate intensely to light—quartz and phosphorus.

Quartz connects with the neurosensory system and its configuring activities in the human organism. Phosphorus, which on the one hand has gained configuration

where it occurs in the skeletal system, on the other has its sphere of activity in the sphere of dynamic, will-related metabolic processes. Exhibition of phosphorus may therefore support the incarnation of the I-organization in the human organism, and osteoporosis sufferers need this. The author frequently uses the preparation *Agaricus comp./Phosphorus* in the treatment of osteoporosis, and it may be prescribed in this context. Phosphorus relates to the activities of the I-organization, *Agaricus muscarius* to the astral body. This medicament from the world of fungi strengthens the connection between astral and etheric bodies. “In cases where we perceive a disorder due to the I-organization making too great a demand on the astral body, not allowing it to enter into the etheric body, we must have recourse rather to the fungi.” This is how Rudolf Steiner characterized it in the *Education for Special Needs* course. (17) The spores of ferns, which also appear to go in the direction of fungi, have also been included in the medicament. Ferns develop their relationship to the etheric in a powerful leaf organization, yet when the spores are shed, a quality separates from the organization of the plant that grows into a prothallium, which is like a fern flower, and may thus be considered to relate to the astral sphere. (18)

Lead guides phosphorus, which apart from its dynamic action in the human skeletal system also enters into the configuring powers of the I-organization, into the consolidation of bone. Pyromorphite is a compound of phosphorus and lead.

There will be many occasions when the metal quality which is the polar opposite of lead will be indicated constitutionally or to support the generative etheric quality. *Argentum* is thus also part of the above-mentioned *Agaricus comp./Phosphorus* preparation.

Quartz and therefore silica compounds channel configuring powers to the skeletal organization. In this case, living light, as it were, remote from conscious awareness, takes hold of the organism to configure it via the nervous system. Silica is thus found in particularly high concentrations in embryonic structures close to the neurosensory system in the amnion. (19) The amnion is like a sky arching over the ectoderm, the embryonic layer from which the nervous and the sensory system develops. The aim of silica medication is to take the configuring powers connected with the I-organization into the skeletal system. *Equisetum silicea cultum* may be indicated, or also *Bambusa*. Apart from the impressive vitality apparent in the rapid growth of bamboo, the plant also has a high silica content, a further therapeutic principle which gives the medicinal plant its powers of uprightness (see Franziska Roemer’s paper in this issue (20)). *Equisetum* is also part of *Solum uliginosum comp.* (WALA, e.g. 10 ml i.v.), an important medicinal composition which may find clinical use in treating the pain of osteoporosis.

A further therapeutic step to follow the configurative powers of light which are active below the threshold of consciousness would be to effect the hardening and consolidation which is so essential for bone develop-

ment: Plumbum takes the living silica light into a catabolic quality and into consolidation. Barysilite, Plumbum silicicum, may be used for this.

Finally the light-related configurative power which still lives in the supersensible sphere must be brought to materialization. Supersensible form needs filling out with substance. Here we come to the calcium sphere of activity. Calcium, its true sphere of activity being between the generative etheric processes and the physical organization, (21) takes the osteogenic processes in life into physical hardening. Calcium carbonate may be given in low potencies in this case, or also in material doses. Calcium phosphate has a different quality that relates to the genesis of mobile skeletons as distinct from the shell-like calcium carbonate skeletons (oyster, Sepia). Calcium phosphate skeletons alone can be “modeled”, their structure broken down and reshaped; here mobility enters into the skeleton (personal communication from Georg Soldner). Calcium phosphoricum will therefore be indicated rather in higher potencies for the “phosphorus-type” patient who seeks to flee gravity and tends to be in restless motion.

The polarity between calcium phosphate and carbonate at substance level thus belongs in the field of tension between buoyancy and gravity, cosmic and earthly spheres. Rudolf Steiner characterized its as follows: “Calcium phosphate is the point of attack for the cosmos in giving form to bone” and: “With calcium carbonate, bone gains the peculiarity of being subject to the earth”. (22) The example he gave of an axial long bone and the tendency to spherical structure in the “neck of the femur” throw light on this polarity in the language of form, with cosmic forces relating to the spherical form, earthly forces, being connected with gravity, to axial configuration. In making this comparison, it is, however, important to consider the substance processes involved. These may on the one hand be connected with the anabolic, constructive powers, and on the other show themselves as secretion. “If you have a part of bone that is essentially created out of the cosmos, calcium phosphate is the constructive principle. In another part, calcium phosphate will be found as a secretion. Conversely, calcium carbonate is the constructive principle in long bones, whilst it exists as a secretion, is secreted to the part which is created out of the cosmos. ... it never is a question of one substance or another being present, but of the route which these substances take, the significance they have at one place or another in the organism.” To sum up, the spherical configuring principle which is close to the cosmos and the forces of buoyancy is close to calcium phosphate. Calcium carbonate “as a secretion” takes it into solidification. Conversely, axial bones, relating to gravity, are connected with the calcium carbonate processes, with calcium phosphate presenting as a secretion.

The Agaricus comp./Phosphorus preparation, which goes back to a suggestion which Rudolf Steiner made in a different clinical context, contains Conchae (7x). The medicament thus comprehensively addresses the activ-

ities of the different bodies when these have changed in the case of osteoporosis. Phosphorus influences the incarnating activity of the I-organization, Agaricus the connection of the astral body with the life organization, and Argentum the vital processes in the skeletal organization. Conchae finally takes the activities of the bodies into physical consolidation.

After medicaments based on the mineral and plant world, the next level of medical treatment involves medicines from the animal world. Organ preparations may be used to support the constructive powers of osteogenesis, serving as archetypes to direct the laws pertaining to the skeletal system into the constructive processes of the etheric.

Considering the long-standing use of phosphorus and calcium compounds in Anthroposophical Medicine, it is surprising to find that these very two principles have currently gained significance in the treatment of osteoporosis with biphosphonates and with medication to influence calcium metabolism ranging from calcium substitution via vitamin D₃, to calcitonins and parathyroid hormone. Rudolf Steiner also considered the properties of fluorine, speaking of the significance of fluorine in dental development in his discussion of the fluorine and magnesium processes. He did, however, immediately relate these properties to the child’s development of consciousness, placing them in a comprehensive context that went beyond a monocausal principle.

At this point, a comment may be made on vitamin D₃ which is better called a hormone and not a “vitamin”. What qualities does this substance have?

Cholecalciferol is produced from a precursor derived from cholesterol in the skin under the influence of UV light. It is also taken in with food—mainly in animal fats and particularly sea fish. From the skin sphere, which is open to light and has sensory functions, it is transformed (25-OH metabolite) in the liver, an organ dominated by the etheric body, and then goes to the kidney organization, which is connected with the astral body. Here it changes again, into 1.25-(OH)₂ vitamin D. This hydroxylation may also happen in other organs (skin, lymph nodes, pancreas, prostate, adrenals, brain, breast, colon, endothelium (23)), though the kidney is the only organ capable of secreting this metabolite into the circulating blood. Having passed through the kidney organization, this substance, so closely related to light, develops the wide range of its characteristic activities. This is the route by which the light-related configuring powers connected with the upper human being are taken via the warmth-related kidney organization into the vital processes of metabolism and limbs. Clinically these configuring powers first of all show themselves significantly in increased muscle power. The calcium-dependent movement metabolism of the musculature clearly has significance in this. The part played by vitamin D in reducing the number of fractures due to osteoporosis is probably due not only to an effect on bone metabolism but in older subjects particularly also to improved muscle strength (24), so that there are fewer falls. Apart from

this power to improve function in the locomotor organization, cholecalciferol is involved in osteogenesis at an organic level. Light-related powers of configuration of the upper human being are taken to the vital processes especially of the lower human being. In the treatment of rickets, this incarnating gesture makes the “heavenly human being” into an “earthling”. The light-related configuring power of quartz accompanies the processes of calcium metabolism.

This form-giving activity connected with the neurosensory system as much as with the material processes of vitamin D metabolism also comes to expression in other important phenomena. Following first indications as long as 50 years ago, it is now known that increased exposure to sunlight goes hand in hand with reduced incidence and mortality for most forms of cancer (breast cancer, ovarian cancer, cancer of the uterus, prostate, pancreas, esophagus, stomach, colon, rectum, bladder, kidney and lung) (25). Vitamin D is said to have anticarcinogenic properties in this respect. This is a further important example of the way in which the configuring powers of the upper human being also influence proliferative processes in life. Connections with other pathological conditions due to inadequate incarnation of the upper bodies in metabolism and limbs point in a similar direction. Epidemiologically, there are indications that higher 25-OH vitamin D levels have a protective effect with conditions such as type 1 diabetes, multiple sclerosis, less evidently so with systemic lupus erythematosus, Sjogren's syndrome and possibly also rheumatoid arthritis. (26) Excessive, uncritical exhibition of vitamin D may cause the supersensible human being to be bound too strongly to the physical organism, making other developmental steps more difficult. If secondary osteoporosis and osteomalacia should develop in conjunction with renal failure, thus being partly renal in origin, substitutive treatment principles may gain in significance again.

Osteoporosis presents as a disease relating to premature excarnation. In a sense it may therefore be considered physiological in old age. It affects not only spongy bone but also the compact bone which encloses the spongy bone rather like a cranium. Special conditions pertain with postmenopausal osteoporosis. The fundamental aspects of treatment so far discussed may be part of a comprehensive treatment of menopausal symptoms.

Prevention and treatment of postmenopausal osteoporosis with hormone replacement therapy is currently seen to have limits in several respects. HRT was previously recommended almost right across the board. When it is discontinued, bone loss is “caught up on”. With hormone treatment rarely given for more than 10 years, the overall osteologic benefit would thus be rather small. (27) Corresponding data for Raloxifen are still outstanding. The HRT principle was made subject to limitation in 2002, as an increased incidence of conditions such as breast cancer, cerebral accident, myocardial infarction and increased “treatment-associated mortality”

ty” contraindicate its use for ethical reasons. Disease cannot be cured by using monocausal approaches. In the case of osteoporosis prevention and treatment, these have led to death and suffering due to pathology. The use of monocausal therapies to correct symptoms may at times be indicated and meaningful; the indication and assessment of rationality need the background of comprehensive insight into the pathology.

Remedial gymnastics, eurythmy therapy— setting inner tasks

Movement—and hence the will of the human soul and spirit active in the organism—serves outstandingly well in prevention and treatment. Remedial gymnastics are clearly based on the laws pertaining to limbs and locomotion in the physical body, yet since the precondition is for mind and spirit to be active in human beings they go far beyond the physical organization. Remedial gymnastics exercises can be comprehensively extended on the basis of anthroposophy.

Additional principles come into play with eurythmy therapy. This involves processual gestures that are never finished or complete but in continuous development. Any positional, finished movement lies outside this processual region, becoming a gesture of the physical body. The movements of eurythmy therapy make it possible to experience the spirit of consonants and vowels as the visible speech of the etheric.

Eurythmy therapy exercises may with reference to osteoporosis take up the theme of buoyancy and gravity, which also relates to the upright position as a factor which constitutes the human organism. The light of conscious awareness develops in the weightlessness and resting quality of the head, whilst will activity enters into gravity with every movement of the limbs. Two sounds reflecting this polarity are C and D. In the D gesture, taken downward, the human being relates to gravity, developing inner uprightness in the process of this sound gesture. Powers of buoyancy connect with the C when it is taken upwards. The vowels U and I [German U and I sounds] can effectively complement the quality of uprightness in walking and standing. The LMS sequence may then be used in conjunction with U and I. L and M address the rhythmic quality of breathing, S also has significance in connection with the pain of osteoporosis (the author has found these indications in collaboration with eurythmy therapist Marlies Adams).

The inner task concerns a number of practice fields. Initially, attention may be directed to the quality of *thinking*. If thinking is largely associative and restless, for instance, it will not be possible to have the condensation and concentration needed for a world of formed-out thoughts. The opposite, with too much form quality in the thinking process, may also be the case. Just as resistance is a major precondition for the treatment of osteoporosis, so it is also possible to consider the relationship between processual and form-giving qualities in thinking.

Another important area for practice is movement and the *unfolding of the will*. Reference has been made in several ways to external movement. In human life, there should be an inner movement to correspond to the outer. Exercises done mechanically untherapeutic in this respect, for instance using a running ergometer and calling for no appreciable activity in mind and spirit to go with it, and also external movement done in isolation, and not accompanied by an activity in the sphere of the senses that would be relevant to this, relating to the moving world and not withdrawn from this sphere of sensory perception by use of a walkman or the like. The capacity for inner mobility should unite with that for external movement and lead to movement with soul quality. In the sphere of *feeling*, one will often see the sentient configuration described for osteoporosis, often in conjunction with depressive qualities. Here it is a matter of bringing light into the darkness which sometimes prevails in the soul. This is not only the external light which in terms of vitamin D metabolism has significance for osteogenesis; the inner life is just as important which can unfold in the human being and gain healing qualities.

Finally the therapeutic gesture which is to bring about incarnation of the human soul and spirit also demands an appropriate biographic goal. It is particularly with postmenopausal osteoporosis that the question often arises as to finding a new biographic goal—whether and how one's essential humanity can connect with the body again at a new level. A *positive* attitude, a basic openness to the future, is important here, being able to look to the future in an *unbiased* way. These five qualities come together in an organ which evolves with a sixth exercise that brings the individual exercises together. The 'six qualities' which Rudolf Steiner characterized as control of one's line of thought, control of will impulses, equanimity with regard to pleasure and pain, a positive approach to the world, and taking an unbiased view of life are part of the way of inner development that can take human beings to knowledge of self and of the world. With regard to the destiny of the illness, it reveals its inherent healing powers. Seen like this, healing is more than the correction of symptoms, for it reveals the way they connect with the individual's way of inner development. It thus does not take us back to past 'health', but evolves into the future, towards a new step in human development.

The treatment of osteoporosis thus covers much more than calcium and vitamin D₃ substitution, known as stage-1 treatment, or the exhibition of biphosphonates and other substances in the second phase of treatment. (28) It is rather meant to encompass the whole essential human being, letting inner faculties arise in facing the disease.

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Reference

- 1 Pfeilschiffer J. Rationale und rationelle Osteoporoseprophylaxe und -therapie. *Der Internist* 4.2002: 554–562
- 2 Dellling G, Dreyer T, Hahn M, Röser K, Vogel M, Welkerling H, Wolf E. Pathomorphologie metabolischer Osteopathien – Aussagemöglichkeiten an Beckenkammibiopsien, Pathophysiologie und neuere Vorstellungen zur Spongiosastruktur. *Internist* (1990)31: 737–744
- 3 Steiner R, Wegman I. *Extending Practical Medicine*. Tr. A. R. Meuss. London: Rudolf Steiner Press 1996.
- 4 Siegmund T, Fassbender WJ. Diabetes mellitus und Osteoporoserisiko. *Dtsch Med Wschr* 2003;128:937–940
- 5 Girke M. Diabetes mellitus unter Gesichtspunkten der Anthroposophischen Medizin. *Der Merkurstab, Sonderheft V Diabetologie* 2002(55): 4–29
- 6 Girke M. Die Schilddrüse. Teil I und II. *Der Merkurstab* 1995(48)5 und 6
- 7 Steiner R. The Mystery of the Trinity. Lecture of 28 July 1922. Tr. J. H. Hindes. Hudson: Anthroposophical Press 1991.
- 8 Ringe JD (Hrsg): Osteoporose. 2. Kapitel. De Gruyter. 1991
- 9 Loc. cit.
- 10 Minne HW. Klinik und röntgenologische Verlaufskontrolle der Osteoporose. *Internist* (1991)32: 70–75)
- 11 Cizza G, Ravn P, Chrousos GP, Gold PW. Depression: A major, unrecognized riskfaktor for osteoporoses? *Trends in Endocrinology and Metabolism* Vol. 12 No. 5, Juli 2001, Übersicht
- 12 Girke M. Diabetes mellitus unter Gesichtspunkten der Anthroposophischen Medizin. *Der Merkurstab, Sonderheft V Diabetologie* 2002(55): 4–29
- 13 Wenderlein JM, Hengstler S. Knochendichte mit Bezug zur kognitiven Leistung im Alter. *Ztsch Geburtshilfe und Frauenheilkunde* 2002; 62:30–36
- 14 Ringe JD (Hrsg). Osteoporose. 2. Kapitel. De Gruyter 1991
- 15 Pfeilschiffer J. Der Knochenstoffwechsel und seine Aktivitätsparameter. *Internist* (1990) 31: 727–736
- 16 Wolff O. Zur Osteoporose – Pathogenese und Therapie. *Der Merkurstab* 1993(46) 5: 440–447
- 17 Steiner R. *Education for Special Needs*. Tr. M. Adams, revised. London: Rudolf Steiner Press 1998.
- 18 Pelikan W. *Heilpflanzenkunde Bd.II. Philosophisch-Anthroposophischer Verlag am Goetheanum / Dornach (Schweiz)* 1982
- 19 Wolff O. *Grundlagen einer geisteswissenschaftlich erweiterten Biochemie*. Verlag freies Geistesleben Stuttgart 1998
- 20 Roemer F. *Bambus – Heilmittel für die Rückenbehandlung*. *Der Merkurstab* 2003 (5) 5:280–291
- 21 Steiner R. *The Healing Process*. 1st lecture. Tr. C. E. Creeger. Hudson: Anthroposophical Press 2000.
- 22 Steiner R. *Course for Young Doctors*. 3rd lecture. Tr. rev. G. F. Karnow. Spring Valley: Mercury Press 1994.
- 23 Barthel HR, Scharla SH. Mehr als nur Knochenschutz-Vitamin D zur Prävention von Stürzen, Krebs, Bluthochdruck und Autoimmunerkrankungen. *Dtsch Med Wochenschr* 2003; 128: 440–446
- 24 Loc. cit.
- 25 Loc. cit.
- 26 Loc. cit.
- 27 Pfeilschiffer J: Rationale und rationelle Osteoporoseprophylaxe und -therapie. *Der Internist* 4.2002: 554–562
- 28 Genth E, Burmester GR, Gross WL, Märker-Hermann E, Ringe JD. *Rheumatologie*. *Der Internist* 1999 (40) 4: 401–406