

Figure 1.1

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holistic or integral osteopathic treatment of humans, as well as showing its limitations.²³

The holon concept according to Koestler and Wilber

According to the holon concept, originally thought out by Koestler and then further developed by Wilber, reality is neither a whole nor does it consist of parts, but it is composed of wholes/parts that are called holons.

All phenomena are thus whole as well as part of something else. Every whole exists as part of another whole. This concept applies to things as well as processes. It applies to atoms, molecules, cells, tissue, and organisms, and hence to humans. It applies to somatic dysfunction as well as to the idea of health. A whole in itself does not exist, but only the wholes/parts that integrate into a higher as well as a lower level on the scale.

There are certain uniform phenomena in the evolutionary process, universal patterns of evolution, but there is also discontinuity. Wilber, as well as Jantsch et al., point out that the continuous process of self-transcendence engenders discontinuity. Mental activities cannot be put down to biology, and biological processes cannot be put down to matter and physics only.

Wilber's model of the Cosmos (as opposed to the physical Cosmos or universe) describes structures and processes in all dimensions of existence. It comprises the physiosphere (material level), the biosphere (biological level, including inherent autopoiesis), the noosphere (level of the mind, world soul), and the theosphere (divine sphere). There are some striking resemblances (in spite of some incongruences and diverging interpretations by osteopaths*) between Still's perspective and Wilber's cosmology (see Tables 1.8 and 1.9).

Wilber made the following fundamental statements to characterize holons:

- 1 The reality or the Cosmos consists neither of things nor processes, but of holons, i.e., of wholes/parts – of entities that are at the same time part of other entities while also having a certain autonomy as parts. According to this concept, disease and somatic dysfunction are not independent entities, but temporary phenomena that interrelate with their environment, i.e., other wholes/parts.

*Pöttner sees in Still's triune (tri-unus – three united as one) concept a reflection of the Christian trinity idea, albeit a very distant one. According to Pöttner, the mind is not part of the soul for Still, but intellect that manifests in logical reasoning. The intellect, just like the spiritual being, has God-like characteristics, and both have a long tradition in the over 2000-year-old history of Christianity.

| | Interpretation according to Dippon | Interpretation according to Stark | Equivalent in Spence's matter/motion/force according to Townbridge |
|--|---|--|--|
| Material body | Body as inanimate matter | Body as inanimate matter | Matter |
| Spiritual body | Soul inseparably linked to the body, bringing life to the body through movement and action and sensual perception | Vitalist or physiological perspective. Principle of action, excitability, sensitivity, accessibility, arteries, veins, nerves, lymph, etc. as carriers of vitality; biochemical or genetic secrets of the body | Motion |
| Being of mind | Mind as the entity above the vital forces of the body–soul entity that coordinates chaotic movement and sensual impressions in a meaningful way | Soul in the sense of an entity mediating between the body and a spiritual being that exists as something divine, independent of the body | Force |
| Comment: Dippon thinks that Stark's representation of Still's triune concept is a rather spiritual interpretation. Pöttner ²⁹ disagrees. See further comment* | | | |

TABLE 1.8: Interpretations of Still's Triune Concept^{24–28}

*Pöttner agrees with Stark's interpretation of Still's triune concept, seeing the three times subdivided unity as a step further from the rigid opposition of the physical and the spiritual. The triune concept permits a gradual transition from one to the other. According to Pöttner, this interpretation is borne out by Still's background in American transcendentalism, which had a strong influence on his ideas on osteopathy. Although Spence is also aware of this tradition and uses similar terminology, he does not adopt the triune model from transcendentalism, as Still did.

2 Holons have four fundamental capacities:

a Horizontal capacity:

- i Agency/self-preservation: this describes a tendency towards self-preservation, self-assertion, and assimilation and is an expression of wholeness. Wholeness, autonomy, and identity of a holon, and its agency must be preserved. If its autonomy is under threat, this will affect its existence. A holon, therefore, strives to keep its wholeness in the face of environmental constraints. This is true at all levels, whether

atoms, molecules, cells, tissues, organisms, or mental entities.

- ii Communion/self-adaptation: these refer to a tendency to enter relationships and fit in as a way of expressing its partness aspect. Being always part of something else, a holon must adapt to its environment. If it can no longer be part of its environment and another entity, this can also be a threat to its existence. Agency and communion characterize the horizontal capacity of a holon.

| Elements | Properties | Manifestations | Approaches | Kosmos according to Wilber |
|--|--|----------------|------------|----------------------------|
| Material body or physical being or matter | Matter, physical functioning parts of the body (bones and muscle origins) | Matter | Mechanical | Physiosphere |
| Spiritual side of a vitalist or physiological perspective | Action principle, excitability, sensitivity, accessibility. Arteries, veins, lymph, nerves, etc. which are the main carriers of vitality. Biochemical or genetic mysteries of the body | Action | Vitalist | Biosphere |
| Spirit or spiritual existence within a religious concept | Principle that governs the body and provides it with purposeful action. Vital force | Movement | Spiritual | Noosphere |
| Soul, the "inner self", the human spirit from a spiritualist perspective The truth of life until after death Spiritual substance spiritualist | | | | Theosphere |

TABLE 1.9: Still's view of a human being. Elements, properties, manifestations, and approaches (according to Stark). Last column augmented by Liem^{30*}

*This concept clearly diverges from Wilber's classification. For Wilber, the noosphere is a spiritual level that has transcended the body sphere, for instance in the sense that the mind has some control over the body and its desires (sensomotoric consciousness). The noosphere, according to Wilber, is not linked to a spiritual approach (although the spiritual touches other levels), and neither can it be attributed to the vital force, which would be part of the biosphere.

b Vertical Capacity

- i Self-immanence: a healthy descending drive where the higher embraces the lower, e.g., a molecule embraces its atoms. Its dysfunctional form is self-dissolution. If neither agency nor communion can be maintained, regression occurs. The higher dissolves into the lower – in other words the holon dissolves into its subholons. Thus, a molecule may disintegrate into atoms. The process of holon dissolution reverses the process of holon building.
- ii Self-transcendence: Jantsch calls the evolution "self-realization through self-transcendence," describing an evolutionary drive towards a higher level. In this transcendence process, from which new holons emerge, what exists is

transcended. Preceding holons are embraced by new holons.

A holon is exposed to these four forces and carries them within.

In osteopathy, the unity of the body/organism and its intimate interaction with physical, mental, emotional, and spiritual factors³¹ within the unity is emphasized. Individuals are integrated, regulated, and coordinated by the independent functions of many different associated anatomical, physiological, and psychosocial systems. Even the "partial aspect" of humans in limbo between self-preservation and self-adaptation as well as between self-dissolution and self-transformation is taken into account in osteopathy, although not always very clearly. Osteopathic diagnosis and treatment includes questions such as: is the person deficient in his/her ability to

maintain wholeness and/or to define boundaries? How does the patient adapt to his/her cultural, social, and biosocial environments? Where can balance be found as opposed to the current imbalance? Are the patient's symptoms an outlet for processes veering towards self-dissolution or self-transcendence? Or what are the opportunities/challenges/resources for a patient in self-transcendence (i.e., converting an imbalance into a balance of a higher order)? What are the dangers of self-dissolution?

The same applies to the patient's subholons, e.g., organs or tissues. An organ must define its boundaries in its environment and maintain relative autonomy, while also being able to adapt to its surroundings and function as part of the wholeness of a human being.

1 Holons emerge: evolution can be partially understood as a process of self-transcendence that leads beyond what exists. During the emergence of holons, new units are created from fragments – a creative process. According to Wilber, the Cosmos unfolds in quantum leaps of such creative emergence. It is important to emphasize that a level/holon cannot be reduced to its components. Thus, the analysis of the components of a holon will give insight into its parts, but not regarding its wholeness. Wilber and Jantsch point out that the continuous process of self-transcendence results in discontinuity, e.g., the transformation of biological existence leads to mental existence, whereas mental activity cannot be reduced to its biology. Biological life, in turn, cannot be reduced to matter (physics). The challenge for osteopathy lies in the development of more adequate methods of differentiation, e.g., in order to integrate the mental level into the treatment context.

Wilber equals the principle of self-transcending creativeness to the mind. According to him, calculations show that the dynamics of evolution are not simply driven by chance. Creative evolution is characterized by an effort to overcome chance. The Cosmos gives rise to form in its drive toward organizing shape in increasingly coherent holons. This drive comes out of the Buddhist principle of emptiness.

2 Holons emerge holarchically: there is a natural hierarchy of increasing wholeness (e.g., particles→atoms→cells

→tissue→human being or physiosphere→biosphere→noosphere, etc.). According to Koestler, reality is built out of holons: he coined the term “holarchy” to describe a state where on a higher/lower organizational level, the whole is more than the sum of its parts (subholons).

In an osteopathic context, disease could thus be understood as a dysfunctional disproportion or imbalance of wholeness and partness. Within the human holon, the wholeness may have shifted in relation to its partialness or vice versa. Such shifts are perceived in osteopathy as specific dysfunction patterns or complexes. The practitioner must identify them.

3 Each emerging holon transcends and incorporates its predecessors: an emerging holon retains its preceding entities (subholons) by keeping its basic functions and structures intact, while overcoming their separateness and isolation by incorporating them in a more comprehensive identity. This improves their potential for communion. Thus, a cell transcends the molecules of which it consists while at the same time including them. The molecules, in turn, transcend and embrace atoms, etc. A molecule possesses characteristics beyond those of atoms, however numerous they may be. The same applies to the cell in relation to the molecule – it has new properties, as has the biosphere beyond what could be explained by purely material laws. Similarly, the emergence of the spiritual goes beyond the purely biological. Thus, the higher level always includes the properties of the lower, while the higher is not completely contained in the lower. Everything lower is contained in the higher, but not everything higher is contained in the lower level. Thus, the higher levels cannot be reduced to the lower levels. Hence, the human organism cannot be entirely reduced to its biological, biochemical dynamics, and quantum physical laws (e.g., as attempted in conventional medicine), or its vitalistic and biomechanical dynamics (as in osteopathy), or its psychodynamics (as sometimes in psychology). A holon at a certain level provides an outer shell for lower systems (subholons) as well as an inner world for higher level systems.

Morphogenetic fields are organized hierarchically.³² Morphogenetic fields of a higher order define

and structure their components without violating the patterns and laws pertaining to the components. Physicochemical processes within the molecular components of cell organelles are regulated by the relevant cell organelles, while the processes involving cell organelles are subject to higher-ranking fields within the cells, which, in turn, are subject to the fields of tissues, which belong to organ fields, and finally the field of the entire organism. On each of these levels, the superior level has an effect on the lower by structuring processes/dynamics that would otherwise be unstructured and uncoordinated. Lower levels are not destroyed, but embraced, as the higher level represents a kind of probability structure that stabilizes the lower levels by supporting certain processes and making others less likely.

- 4 The lower sets the possibilities of the higher; the higher sets the probabilities of the lower. The lower sets a framework for the higher. These are certain conditions that do not restrict the higher. Thus, the higher cannot be defined by the lower or reduced by the lower, e.g., biological properties cannot be reduced to physical or quantum physical laws, and the spiritual level cannot be reduced to the biosphere. The transcendence of the lower and the integration into higher holons goes beyond the subholon setting without violating or ignoring subholon rules and basic patterns. This means that, even where the biological goes beyond pure physics, it is still subject to physical laws. Likewise, the spiritual is always subject to biological laws while at the same time going beyond the biosphere. Freud, for example, mainly worked on the psychological level, but always strived to understand the connection between psyche and soma, which, he emphasized, were closely interconnected and interacted with each other, but were subject to different laws.³³

Still, on the other hand, apparently looked at somatic levels in his publications. According to Stark, Still regarded the body as an amalgamation of matter, movement, and mind, penetrating each other as in transcendentalism. He apparently dealt with the mechanics, and what he did not spell out had to be read between the lines.³⁴

Although from a holon perspective, Still did not sufficiently integrate the mental and physical levels

in his writings and was not very elaborate on the interactions and mutual impacts of the mental and somatic levels and their holarchic ties (see point 7) – given his local, regional, and general social and cultural environment when he initiated osteopathy – he emphasized the need for the osteopath to gain an understanding of the mental aspects of a patient’s personality.⁵ According to many experts on the history of osteopathy, such as Stark and Paulus, he had deep insight into the spiritual world. Dippon claims that he was deeply rooted in the Christian Methodist view of the world. However, it can only be guessed how deep his knowledge of the spiritual world really was, as it can usually only be read between the lines.** The mind (sometimes used by Still as synonymous with the soul) lives in the subject he is writing about on the day. In his autobiography, he talks of “the material house in which the spirit of life dwells” (autobiography 1897, p. 99). Conversely, he states on p. 104 of his *Philosophy of Osteopathy*⁵¹ that “The eye is an organized effect, the lymphatics the cause; in them the spirit of life more abundantly dwells.” These quotes show that you cannot just pick one sentence that may permit a certain interpretation and neglect the rest. When writing, he had to start writing somewhere, and the fact that he describes things one after the other does not mean that they form a linear sequence.³⁴

According to Hulett, Still’s osteopathic principles aimed at establishing a normal/healthy relationship between the individual and the environment which could apply beyond the body itself, e.g., to the adjustment of bodily relationships, intellectual and moral relationships, as well as to conditions in the environment. For Hulett, this amounts to the realization of the harmony principle.³⁵

**Still’s interest in spirituality was not necessarily shared or tolerated by his surroundings, and notably his wife, who went as far as tearing out pages of a book Still was reading, with the title *Religious Denominations of the World* (Miller V.I., updated by Brown J.N. in 1973). Still left the following annotation in his copy: “my good wife is an honest Methodist woman and has torn out pages 47, 48, 49, and 50 as she was (satisfied?) they were a bill of slanderous lies on a good people. She is right!” (from Still’s family library). Only recently, it emerged that Still was probably a Freemason.³⁶ To what extent Freemasonry has shaped his writing can only be surmised.

Characteristics of a holon at any level:

- a Qualitative emergence
 - b Asymmetry or breaks in symmetry
 - c Inclusive principle (the higher includes the lower, but not vice versa)
 - d A developmental logic (the higher safeguards the lower, but overcomes its separateness)
 - e Chronological indicator: the higher follows the lower chronologically, although not everything that came later is necessarily higher.
- 5 The number of levels that a hierarchy comprises determines whether it is “shallow” or “deep”: a small number is described as shallow, while a large number is considered deep. The larger the vertical extension of a holon, the larger its depth. The number of holons at one level is shown on a horizontal scale (i.e., quantity: wide–narrow): the more holons there are at the same level, the larger the span.
- 6 Each successive level of evolution produces greater depth and less span (compared to its previous level): in a holarchy, a high (i.e., deep) holon has a narrower span, compared to a lower holon, and more depth. It is not the number of its parts at one level that make a holon higher – on the contrary – the number of entities is always smaller than that of its parts (more atoms than molecules, more molecules than cells, more cells than tissues, etc.). It follows that the deeper a holon, the more it depends on internal holons. Wilber stipulates that the higher the depth of a holon, the higher the degree of consciousness. A molecule has less consciousness than a cell, a cell less consciousness than a plant, a plant less consciousness than an animal, etc.

True spirituality would thus be a measure of depth. According to Wilber, the negation of God through reasoning requires more spirituality than affirmation of God’s existence through myths, simply because negation is the expression of a higher depth.³⁷

Changes at the horizontal level are called translations, whereas vertical changes are referred to as transformations. Agency and communion affect the horizontal, while self-transcendence and self-dissolution act on the vertical. The agency/self-preservation of a holon acts according to the organizational

level/codex of the relevant holon, i.e., a holon does not simply recognize a given external world, but only perceives it selectively, depending on the coherence with its codex or disposition. This is important for the understanding of holons. External stimuli that do not fit the organizational pattern of a holon are simply ignored, they are not taken in. They do not exist as far as the holon is concerned. Thus, according to Varela,³³ holons are relatively autonomous entities that follow a “logic of coherence,” and a subatomic particle is unable to respond to biological forces such as hunger, nor is it capable of understanding a painting by Klee or the meaning of somatic dysfunction. The deeper a holon (deep structure), the wider the range of worlds it responds to. Transformation leads to the emergence of a completely new organizational structure of the agency. A newly emerged holon can thus access completely new aspects of a pre-existing world. Every transformation comprises all pre-existing lower levels, but at the same time, something totally new emerges, i.e., it embraces and transcends all previous subholons, thus conveying to the emerging holon a deeper understanding and perception of the world. Wilber calls this a gradual internalization of the external. “Translation is change of the surface structure, transformation is change in the deep structure (vertical). Translation is the shifting about of parts; transformation creates a whole.”

Even if seen from the phylogenetic point of view, man in contrast to other species has reached already a great depth or deepness or profoundness, every single human being as an individual or as an individual person starts from an ontogenetic point of view as if from point zero, going through all developmental stages. This means that at each developmental level, something may go wrong and differentiation and transcendence remain incomplete or do not happen at all. Here, osteopathy, like many other methods, can support differentiation and transformation processes by dissolving limiting conditions and promoting orientation towards a deeper state of balance.

- 7 Destroy any type of holon, and you will destroy all of the holons above it and none of the holons below it. Accordingly, dissolving a holon means regression to

the next lower holon level. Wilber has thus described an extremely useful tool to decide which holon is higher or lower in evolutionary terms. We simply must ask ourselves which holons would be destroyed if a certain type of holon were to be dissolved. Everything that is destroyed with it is higher, while everything that remains intact is lower. For example, if the prefrontal cortex is damaged, the lower areas of the brain that control basic biological functions in a patient remain intact. Damasio gives a lively description of patients who have lapses in consciousness in the course of persistent vegetative state. Although they retain normal basic body functions, their mind is totally inert, with no sense of self and no awareness of their closest relations.³⁸ The less depth a holon has (i.e., the shallower it is), the more fundamental it is for the Cosmos. By contrast, the more deep structure a holon has, the more significant it is for the universe because it integrates more Cosmos in its wholeness. Thus, living matter is more significant than nonliving matter. Emotions are more significant than the biological level, and the mental level, in turn, more significant than the emotional level, and the spiritual level more significant than the mental level. The emergence undergoes individual variation and is evolutionarily directed and must be taken into account when looking at health and illness in a patient. Fundamental holons have an impact on all following holons, creating an ascending chain of causality. Thus, for example, nutrition and the biological status of a person may affect emotional, mental, and spiritual levels. Genetic defects may equally affect higher levels or even prevent higher developmental levels from forming. It can generally be said that the earlier (in development) a major trauma appears, the more fundamental its potential effects on the organism. Here is another example: if all molecules in the universe were to be destroyed, biological life would be impossible, although atoms and subatomic particles would not be affected. There can also be causal chains operating in the descending direction. We can, for example, “think ourselves” into a state of illness.

If possible emotional trauma – either in the sense of evolutionary emergence or as the synchronous objective and subjective expression of dysfunction –

is neither recognized nor taken into account in the process of resolving the somatic dysfunction, treatment can only result in translational compensation. This may sometimes be necessary in order to prevent physical collapse or temporarily halt self-dissolving tendencies. However, genuine transformative processes can also thus be prevented, at least until the onset of the next period of instability, disorder, or the development of symptoms. On the other hand, it is possible that a patient may use the energy gained in the symptom-free period to sustain genuine transformative processes.

Here is a functional/physiological example – Porges³⁹ distinguishes between three stress responses. A person who feels relatively safe may respond to stress by involving the autonomic system, which is also, phylogenetically, the most recent system and includes the myelinated vagus and its associated cranial nerves (V, VII, IX, X, and XI). In other words, the response involves facial expression, vocalization, and listening. At the same time, the lower brain stem structures (including the sympathetic trunk and the non-myelinated vagus) are inhibited. If the threat becomes stronger or the former strategy proved unsuccessful, older structures are disinhibited. First, the sympathetic trunk kicks in, exhibiting fight and flight mechanisms. If that proves unsuccessful, the non-myelinated vagus (immobilization) takes over. This has been described as the theory of dissolution (according to Jackson^{39a}). Again, this shows that if one holon level does not function (although not irreversibly here!), the lower level offers a fallback position. It is important in osteopathy to remember that if a higher or more significant integration level has stopped operating, for whatever reason (e.g., past trauma), dysfunctional transfer to lower levels may occur (e.g., sympathetic response or even immobility). Such dysfunctional conditioning, in turn, may cause further physiological disruption.

- 8 Holarchies co-evolve: no holon exists on its own, but all holons exist in field in fields in fields... The basic unit is “holon plus environment.” Both are inseparable and mutually influence their evolution (according to Jantsch,^{39b} micro- and macro-evolution). Here is an example from biology: there is mutual interaction

between a cell and its surroundings, e.g., via ground regulation according to Pischinger,^{39c} via integrins and architecture of the cytoskeleton in the tensegrity model, via structural coupling and autopoiesis, or via morphogenetic effects in embryonic development.

9 Micro and macro interact and exchange at all levels: at each level, holons exist and maintain themselves through interaction with other holons at the same holarchic level (exchange at the same level). Wilber gives the example of the three main levels in a human: matter (physiosphere), life (biosphere), and mind (noosphere). In the physiosphere, humans are in exchange with other physical levels (e.g., gravity, material forces, light, or water). In the biosphere, there is exchange with other biological systems and ecosystems, while in the noosphere, there is exchange with cultural and symbolic contexts.

10 Evolution has directionality: directionality exists not only in the biosphere but in all domains of evolution and is characterized by differentiation, polymorphism, complexity, and organization.

a Increasing complexity: in the evolutionary process, macro- and microcosm developed intricate interdependent structures, resulting in interlacing functional and structural differentiation and integration processes.

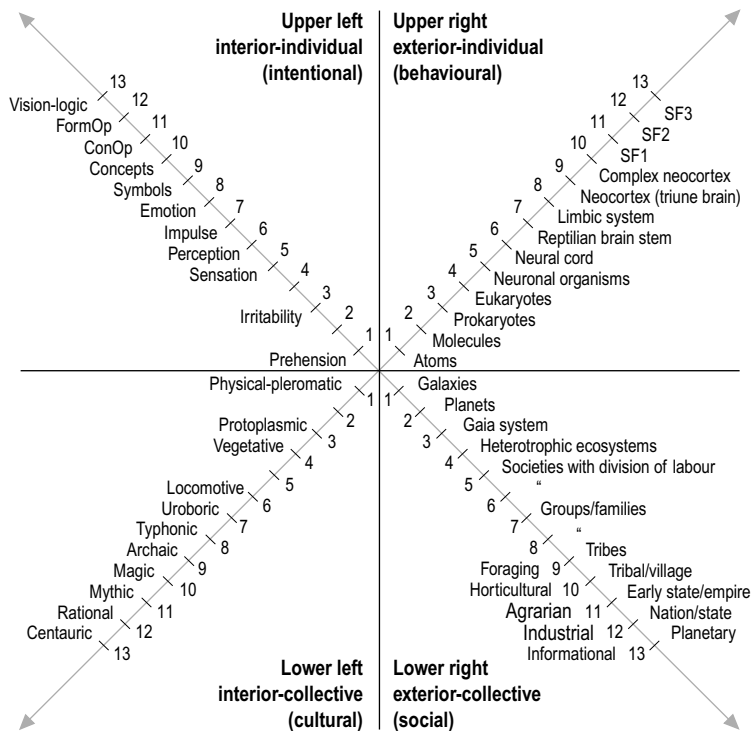
b Increasing differentiation/integration: differentiation leads to the development of parts where new shapes emerge. Integration is the way from polymorphism to unity. The inherent force of evolution, gradually increasing differentiation and integration, enhances coherent heterogeneity and thus the formation of holarchically organized holons (whole/parts). This is a continuous, never-ending process: one holon leading to another and another ad infinitum.

These differentiations and integrations are explained extensively in this book in respect of the physiosphere (Chapter 4) and for the biosphere (Chapter 5). The noosphere is explained to a certain extent (Chapters 11 and 12). In the noosphere, this process can be observed as aggression (drive towards differentiation) or Eros (drive towards integration). Osteopathic treatment generally strengthens the processes of increasing differentiation and

integration in the organism (focusing mainly on the biological level, but potentially able to integrate other levels as well (Chapter 20).

c Increasing organization/structuring: in evolution, there is an inherent drive toward the formation of ever more complex or higher organizational levels. Teilhard de Chardin⁴⁰ took the view that matter unfolds spirally through all evolutionary stages and, with increasing complexity, consciousness becomes more self-centered. He uses the analogy of a lamp with several veils, between the light source and the outside, which dampen the light. While minerals have a thick veil that lets hardly any light penetrate, the lamp in plants is shaded by a slightly thinner veil, allowing more light to penetrate. With the phylogenetic development from fish to mammals and the ongoing development of the brain, the veil becomes ever thinner. The thinnest veil in evolution is that found in humans. Once the veil has been completely lifted, we can see the pure spirit. The same light shines behind the various veils, whether coarse or delicate, and, accordingly, the light of pure consciousness appears behind all forms of life and can be perceived as completely unveiled consciousness in some saints. According to Jantsch, evolution occurs in breaks in symmetry, i.e., the increasing complexity of holons induces a hypercycle that elevates holons to a higher level of organizational structure (formation of a super holon). Each new organizational level represents a simplification of system functions and structures. At the same time, however, structural and organizational complexity increases. (In relation to his quadrant model, Wilber explains that the higher the complexity of material form – upper right quadrant – the higher the internalized consciousness level – upper left quadrant – that can develop within such forms (Figure. 1.2).)

d Increase in relative autonomy: for Wilber, this means an increase in self-preservation ability (agency) under changing environmental conditions – not to be confused with hardness and durability. Indeed, stones can be much more durable than, for example, biological holons. The latter, however, are able to exist as a self-renewing system,

**Figure 1.2**Four Quadrants according to Wilber.⁴⁵

in the absence of thermodynamic equilibrium (Chapter 6). Relative autonomy increases, as in the course of evolution, and external forces affecting holons become internal forces through transformation. Relative autonomy can go too far in humans, leading to a pathological dissociation of the mind from the biological level (e.g. anorexia) or the environment (e.g. environmental destruction) – an indicator of the relativity of autonomy. A holon may be a whole, but it is also part of a wider context/environment.

Dissociations can show as subjective or objective changes. The resulting tension can be picked up by the osteopath and not only through palpation, although palpation will be the main avenue for treatment.

- e Increasing telos: the defined telos of a holon exists as a relative whole, while in its property as a part (of another holon) it is influenced by a telos out-

side itself. The deep structure, the morphogenetic field, as well as the end point of the system, act as attractors for the system in question. Attractors provide quasi-patterns of higher probability or a kind of attraction that acts as an engine, driving the development of a holon in a certain direction. Certain defining contexts of a holon can thus not be resolved within the holon itself. The holon exists in its entirety, separated from the world outside and within its own, limited, perspective; over time, its internal inconsistencies will increase, initiating transformation/transcendence. Deeper holons (the outside) exert an attraction on the defining context of an existing holon, until the outside transcends to an inside. The type of attractor can be identified by looking at a series of system states. Static attractors govern evolution when system states are relatively at rest; periodic attractors govern those systems that go through

| | |
|--------|---|
| Mind | Pure consciousness, spirit, consciousness of God, emptiness (Brahman in Hinduism) |
| Matter | The entirety of phenomena in the world (Maya in Hinduism) |
| Motion | Maya evolving towards increasing complexity, differentiation and internalization (Wilber's holon concept) |

TABLE 1.10: Vedanta interpretation of Still's "matter, motion, mind"*

*Omega point: complex unit in which the organized sum of the reflected elements of the world becomes irreversible in embrace of a transcendent super-ego.

recognizable periodic repetitions of the same cycle. If, however, the sequences are irregular, this may hint at a chaotic attractor. Chaotic attractors may seem chaotic on the surface, but there are some patterns of order hidden in their complex structure, which give direction and structure to seemingly accidental system activities.

During the evolution of transformative processes, it has been established that increasing fluctuations in a system imply that interactive dynamics can no longer be stabilized by static or periodic attractors in the current state. This is where chaotic attractors come in, creating a critical threshold state with chaotic manifestations. This critical state can result in a symmetry break and lead to a transformation of the system at a higher organizational level. New static and periodical attractors replace the chaotic attractors to ensure the dynamic stability of the new holon (Chapter 4).

A telos has been described not only for the biosphere (e.g. the development of a plant out of a seed or of an animal out of a fertilized egg), but also for the physiosphere and the noosphere. As far as the noosphere is concerned, Freud's and Piaget's approaches are based on the presence of a telos, toward which the psyche develops. The end points of these developments vary, depending on the author, which is understandable considering the variation in context and environmental factors on which the authors based their considerations. From a holon concept perspective, the question arises as to whether a final telos can be defined. Certainly not in the world of phenomena, which

seems to consist of an endless pattern of holons – holons in holons in holons, etc. – or endless dynamics towards ever-deeper holons.

It would, however, be conceivable that there is an extreme, all-pervading telos, emptiness: the primary foundation of all holarchies and of all being. This is what the Hindus call atman and the Buddhists, nirvana, and Teilhard de Chardin speaks of the omega point. There is an immanent telos in evolutionary and involutory processes in all manifestations of being, God in the shape of an "all-embracing chaotic attractor."⁴¹

According to Vedanta and Wilber's holon concept, one could deliberately interpret Still's "matter, motion, mind"⁴² (which was definitely not intended) as follows (Table 1.10): as the dynamics of evolution are linked to increasing complexity and differentiation, something can go wrong at each individual evolutionary step, and new pathological patterns may develop. For example, emotional or mental pathological patterns may affect lower levels by displacing or suppressing biological factors. Differentiation may well overshoot its target and end up in dissociation instead of integration.

Adequate integral treatment must be able to classify pathological patterns and emerging dysfunctions and attribute them to the relevant evolutionary step. At a physical level, the disruptions are different from those at a biological or mental level. Consequential disruptions at the lower levels may annihilate all treatment options at higher levels, whereas the destruction of higher levels affects lower levels far less.