FREE FLOWING WATER: A SOURCE OF WISDOM

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"Indeed it is because life is wisdom and water wisdom's element, that there can be such a thing as the water of life" (1).

In early August, while visiting gardens in the Boulder area of the Rocky Mountains, I discovered El Dorado Canyon, 10 minutes south. A brochure on the area relates...the tilted layers carry groundwater from the Rockies, down and eastward to a depth of 8,000′, before it is pushed to the surface as an artesian spring. Nearby, this tenacious spring feeds a 20 × 80′ pool. Swimming in this cool, turquoise, silky water, I moved with noticeable ease and buoyancy...refreshed in beneficent living water.

This article's title and beginning sentence, so eloquently expressed by Theodor Schwenk, continues with his experience of living water. "Water constantly pouring out of a spring in the middle of a flower-filled mountain meadow, sparkling in the pure cold air, with light reflected from the shimmering snowy peaks around." Generous, effervescent, living water.

Clearly, the beauty in the looking and the beauty in the seen, connected.

Sensing a similar mystery, David Abrams writes (when our perceptive practices reveal)..."a reciprocal phenomenon organized as much by the surrounding worlds as by (the perceiver)" (2).

Recently I discovered a passage by Rudolf Steiner saying that springs are the eyes of the earth.

In his extraordinary, rich, and comprehensive lectures and writings of the early 1960s and into the 1970s, Theodor Schwenk (1910–1986) proposed a new 'water consciousness,' a transformative way of thinking about this universal element. He described and illustrated fluid circulation, movement, and rhythms of the earth's water cycle and resulting organic forms. His experiments demonstrated the rhythmical, metamorphic potential hidden within fluid processes. Included here are a few of his insights and discoveries.

In *Water, The Element of Life*, Schwenk develops a picture.

> Water as mediator between the centric (earthly) and the universal forces, setting them in balance and interweaving them with its very substance, reveals the activity of the heavens on earth. It is the port of entry through which cosmic-peripheral forces pass into the earth realm, directing the shaping, 'formative forces', organizing and patterning organic forms (Fig. 1).
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> Renouncing any form of its own, it becomes the creative matrix for form in everything else.
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> Contemplating this vast living organism, Earth, one's attention is drawn again and again to the layer-structure of its great enveloping mantles and to the rhythms that play in and through them.
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> A glance at the surface configuration of the earth reminds us that 71% of it is covered by water. This watery surface in its immense extension provides a plane of contact with the atmosphere...where it works as the great regulator in matters of climate, meteorological processes and their rhythms.

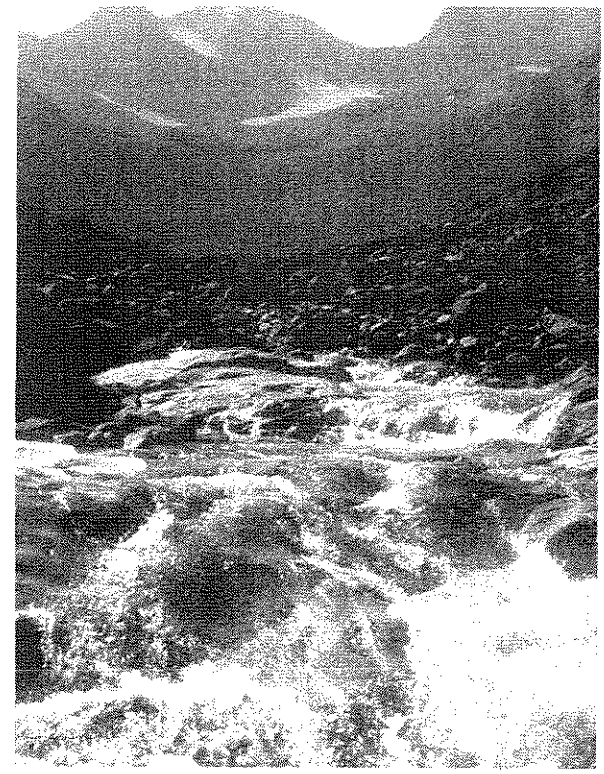

Figure 1. Waterscapes p. 8 edited by Herbert Dreiseitl, Dieter Grau, and Karl H.C. Luduig, 2001, Birkhauser, Switzerland.

Water's ability to regulate the climate is due to its thermal properties, in its tremendous capacity for storing warmth...evident too, in the origin of ocean currents and biological processes.

> Water's ability to absorb gases allows life on continents to come together with deep seas and thus these seas become great regulators of the respiratory processes of earth. In autumn, the plant world withers away and no longer inhales carbon dioxide and in the breaking down processes of plant substance, in the disintegrating foliage, much carbon dioxide is released into the air and is absorbed by the seas. When, however, in spring, the plant world grows anew and forms the substance for its foliage out of the carbon dioxide in the air, the waters of the earth once again release some of the necessary carbon dioxide. By absorbing carbon dioxide, it increases its ability to dissolve solid substance.
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> Almost every property of water shows itself, in its relationship to warmth, as maximally suited to support the life

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of earth and its inhabitants. In this vein, water is unequaled, as L.J. Henderson has shown; the temperature anomaly, as a result of which water reaches its greatest density at +4 °C and grows lighter again at the freezing point, is the reason solid ice does not sink, rather floats, thus keeping earth from becoming a totally lifeless block of ice (3).

"Water is an element that brings a state of balance everywhere. Rhythm is its life element and the more it can be active rhythmically, the more it remains alive in its innermost nature" (4).

Linking similarities between water and thinking, Schwenk offers,

> The capacity of water in the realm of substances to dissolve and bind together, reappears in thinking as a spiritual activity.
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> Like water, thought can create forms, can unite and relate the forms to one another as ideas. We speak of a capacity to think fluently when someone is skillfully able to carry out creation of form in thought, harmoniously coordinating the stream of thoughts and progressing from one idea to another.
>
> In thinking there prevails the etheric life of the water forces; through water flows the wisdom of the universe. Is it not this wisdom itself which has created the element of water, a tool for its own activity.
>
> Everything in Nature forms one indivisible fabric woven of living interchange. An all encompassing world of life comes into being from the interplay of cosmic-peripheral forces, meteorological forces, forces of the elements, the earth and all its living organisms (5).

Viktor Schauberger was a pioneering Austrian forester and brilliant inventor (1885–1958). His inventions were linked to water supply, natural river regulation, agriculture, propulsion and energy generation. They were all based on his observations of an underlying principle governing all natural processes, implosion.

> Implosion is an inward, curving (centripetal) suctional motion which follows a spiraling, whirling path as a vortex. Modern technology is primarily based on explosion, that is the outward moving, centrifugal motion of heating, burning, pushing or exploding. Inefficient, most of the energy is lost during an explosive process through frictional resistance, which produces useless waste heat. A characteristic feature of the life-generating vortex, is that the outside moves slowly, while the inside moves rapidly. As water is imploded in a vortex, suspended particles, which are denser than water, are sucked into the center of flow, so the frictional resistance is reduced and the speed of flow increased (6).

In 1961, Theodor Schwenk joined with George Adams, a mathematician, who for decades, with the assistance of Olive Whicher, had been researching projective geometry connected with organic forms, to found the Institute of Flow Sciences in the Black Forest in southern Germany. Just then his classic book on water, *Sensitive Chaos*, was published. Describing his experiences in seas worldwide, Jacques Cousteau wrote in the Preface,... "all around us there arose from the living sea a hymn to the 'sensitive chaos.' These memories have now taken for me a new meaning suggested by the book of Theodor Schwenk" (Fig. 2).

Figure 2. Tentacles of the sea curl inland, eroding the Dutch coastline along the Waddenzee. In this view from 14,000′, a very low tide has revealed pale plains of mud and sand, giving the tidelands the look of a river delta. The darker veins are channels cut deep by the land-stealing sea; when the tide is high, they serve fisherman as navigation lanes (5).

John Wilkes, a sculptor, had also joined the staff and was responsible for technical production of geometric models. In 1970, Wilkes, now at Emerson College in Sussex, England, began developing the Flowform Method and founded the Flow Design Research Group, currently based at the Virbela Rhythm Research Institute at Emerson College.

Concerned with enhancing water's quality, he posed his initial question, "can we create a form for water that will enable it to manifest its potential for metamorphosis and order?"

> This was inspired by observing controlled experiments revealing paths of vortices in contrast to the complexity of water movements in outer nature. Streaming water generates asymmetrical forms, but studying the results of living processes, it became clear that these forms tend strongly toward symmetry. Such forms have to do with thrust processes. Wilkes created simple symmetrical channels with mirrored meandering walls and changing proportions. He was looking at symmetry in this moment as of a higher order, with the idea of lifting water towards the living. The fortuitous event of proportion variation led to pulsing process in one particular place. This opened up for him a wide spectrum of investigation which led to the Flowform Method.
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> Water's capacity to support life is actually related to its ability to move within itself...to generate membranes (surfaces) within its own volume. These form sensitive 'organs' through which water mediates between individual organisms and its total surroundings, carrying information. Movement,

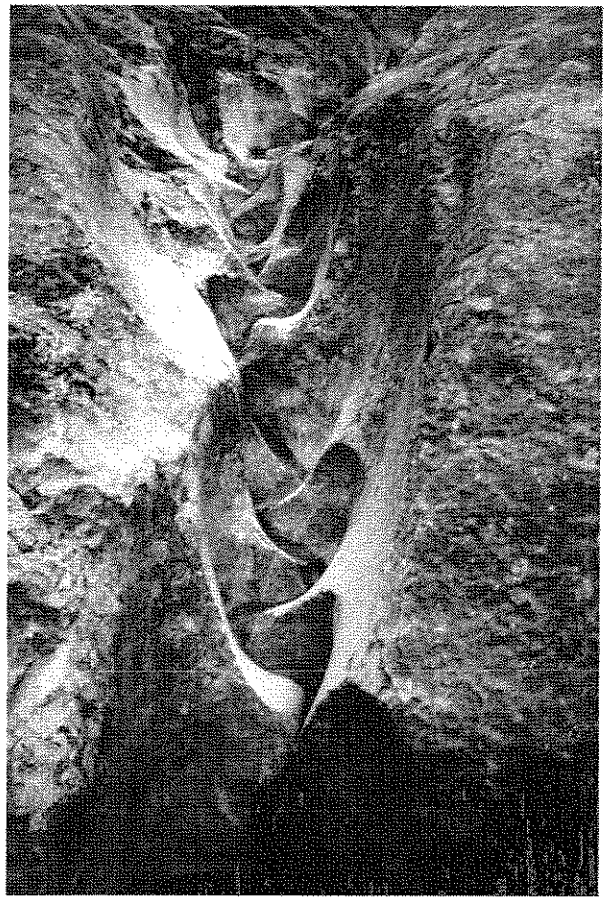

Figure 3. Such meander channels can be found below glaciers where streams have caused erosion over thousands of years. Photo supplied by John Wilkes.

especially vortical movement, sensitizes water to this task (Fig. 3).

The Flowform is a vessel, generally ovoid in shape, with a narrow entrance and exit, which create a resistance, inducing an oscillating figure of eight (lemniscate) movement. Flowing into alternate sides, whorls or vortices form, folding the water upon itself, oxygenating, enlivening the inner mobility of its many surfaces, the basis of its vitality, its freshness. Oxygenation fosters biological processes necessary to effect purification. The frequency of the rhythm varies with the size of Flowform, while the character of movement depends on the shape (7).

Special restorative value derives from water features designed in water's own terms. . .shaped surfaces caressed intimately by flowing, pulsing water.

Since 1973, in England and in collaboration with associates worldwide, well over 1000 Flowform installations have spanned more than 30 countries.

Also at that time, Arne Klingborg, director of the Rudolf Steiner Seminariet in Jarna, Sweden, invited Wilkes to test the beautifying and ecological possibilities of Flowforms in a lagoon purification system. Three Flowform cascades are operating through seven ponds with progressive wetland ecosystems from an algae pool to reed bed. Wilkes tells us, "not only is the coliform bacterial concentration in the treated water significantly below official levels permissible for public swimming, but the entire site serves as a community park and bird sanctuary" (Fig. 4).

Other applications of Flowforms include water purification, desalinated water treatment, stored-water treatment, swimming pools; air-conditioning and humidity; agricultural research centers, farms, homes, public gardens, parks and offices; aquaculture systems such as fish ladders for seasonally migrating species; pharmaceutics; and therapeutic and medicinal application.

In 1997, Flowforms America was founded. Its CEO, Sven Schunemann, worked with John Wilkes for a short period before this. Sven relates. . ."When water's movement is optimized for circularity, the liquid itself is able to be more effective as a natural element. Naturally flowing water is better aerated as more surface area is exposed."

John Wilkes added,

It is necessary for Flowform creators to learn, in working with water's circular movements, to find the very special proportions which will finally generate pulsing processes. "Naturally flowing water is also more bioavailable. . .by allowing the nutrients it carries to be accessed more easily by plants. A plant, in turn, plays its part by taking nutrients out of such circulating water; thus fulfilling two roles, that of cleansing the water and of feeding itself" (8).

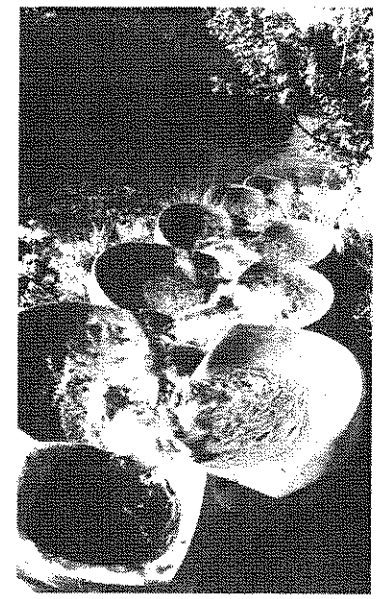

Figure 4. Malmö Flowform installed by a mountain stream at Sundet, Mösvatn, Norway. Water from the stream higher up is directed through the vessels which generate an ordered rhythmic swinging movement, like a living pulse, in contrast to the multitude of rhythmic movements in the streambed. If mounted below a hydroelectric turbine at a much larger scale, cast in situ, these more life-related rhythms, would improve the vital qualities of the water for irrigation, in a shorter distance! (11).

Wolfram Schwenk, a hydrobiologist and leading member of the Institute of Flow Sciences, writes about water and the creative process.

> If a creative artist wants to bring about cosmic and organic Flowforms in water, this cannot be done in the same way as a sculpture would be created. They can be evoked by handling water as an instrument. The creative process then takes place in the water itself. The artist learns how water twists and turns as it flows, eddies, trickles and spurts, surges, rests and reflects; enhancing and emphasizing by creative design, the theme develops as a joint work of art. Inspired, others may discover and experience special features of water. I know of no better, more attractive and sustainable ecological study course than this (9).

From his website, Herbert Dreiseitl informs, when referring to technology and infrastructure, of the lack of respect for the intrinsic aesthetics of water. He is actively participating in solving this dilemma.

During some months of 1978, he came to study the Flowform process with John Wilkes. In 1980, he established Atelier Dreiseitl in Uberlingen on Lake Constance in southern Germany. In his recently published book, *Waterscapes* (10), he writes, "to do justice to water, we have to go into the waterworld ourselves and experiment with it and learn to think in an integrated and interdisciplinary manner, about its flow and flexibility."

With regard to integrated planning, he states,

> water always creates a relationship between the detail and the whole. Each individual drop contributes to the balance of the earth's climate. Water projects become valuable when they help this process and can show that the place is being addressed and how it is connected with the world around it (10).

Further, he brings attention " to the special inner flexibility necessary to work with water successfully. The designs improve gradually and start to carry the signature of the water itself" (10).

Over the years, Atelier Dreiseitl has had opportunity through the scope of its commissions, which range from open-space planning in parks, water playgrounds, town squares to housing developments and urban hydrology, of linking water art to other complex themes, such as rainwater and surface water management, restoration and creation of waterbodies, incorporating Flowforms, storage and circulation cisterns, light and sound technologies, inlaid waterworks, and air-conditioning systems. Herbert relates, "demonstrating sustainable environmental technologies succeeds when everyone involved in the planning process, really does use interdisciplinary practices" (10) (Fig. 5).

Again, from his beautifully presented website, "water resources can only become sustainable when social values grant water the necessary priority. Water deserves everyones awareness" (10).

John Wilkes' new book, *Flowforms, The Rhythmic Power of Water*, is now available through Steiner Books (11).

Through our inventive, progressive and collaborative efforts, demonstrated and practiced with care, in our art and technology, may we allow water to be vigorous and free to the depths of its innermost nature.

Figure 5. A water playground by the river—here everyone can join in. Water can be raised, played with and experienced! Water playground in Pforzheim, Germany (from 10).

> Choose to be changed. Oh be infused with the rapture of a fire that shows not what's changing in it as it burns for the directing spirit of the earth entire loves the figure of flight, not so much as the point where it turns
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> Sonnets to Orpheus II, 12 by Rilke
> John Lash, translation after Walter Kaufman (12).

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Sidebars

1. Why does water rise to such great heights in mountain springs or artesian wells?
   Artesian springs come bubbling up vertically out of the ground. The source of the water comes welling up in pulses from the center of a column...this movement is similar to a telescopic extension.
   We can observe that in every stream, the water at the edges flow more slowly than in the middle, where the water is colder...faster layers flow past slower layers...building layer upon layer and creating extensive inner surfaces. These layers have different temperatures and densities. The inside layer is most dense, coolest and has the highest electrical potential, resulting in increased centripetal, spiraling motion. The outside layers warm up and expand in that warming up.
   Within a closed channel, i.e., underground, the outer layers exert pressure on the inside layers...tension builds from the temperature difference of the layers, disturbing the equilibrium inviting water to move! Just as a plum seed is shot forward from its fruit if you squeeze it...the denser body shoots forward as relief from pressure. Water always seeks the path of least resistance (adapted from Reference 13).
2. The vortex with its different speeds, is closely akin to the great movements of the planetary system. A given planet circles round the Sun as though in a vortex, in as much as it moves faster when near the Sun and slowly when further away. The vortex in its law of movement is thus a miniature image of the solar system and its planets.
   Also, if a very small floating object with a fixed pointer is allowed to circle in a vortex, the pointer always points in the direction in which it was originally placed, that is, it always remains parallel to itself!...it is always directed to the same point at infinity. This illustrates how a vortex is oriented, as though by invisible threads, with respect to the entire firmament of fixed stars (5, pp. 44–45).
3. Water as an information carrier.
   Various researchers such as Professor Benveniste, Dr. W. Ludwig (Treven and Talkenhammer, ed., Umweltmedizin Move-Verlag-Idstein, 1991), and Professor David Schweitzer have provided clear proof that water acts as a liquid tape recorder and is able to receive, store, and transmit electromagnetic vibrations. Because water molecules have positive and negative poles, they behave like little magnets. They attach themselves to their neighboring molecules and form clusters of several hundred molecules. These clusters are very sensitive structures and are impressionable by vibrational influences. This is what give water the ability to store information.
   This is closely linked to homeopathy, where a substance is diluted so many times, that eventually there is no molecule of the original substance left...yet it still has an effect. Homeopathy works because of the cluster ability to store vibrational imprints.
   Every substance and element has its own individual vibrational pattern, a bit like an energy blueprint. If you carry out the homeopathic process of diluting and succussing, the vibrational pattern of the remedy material becomes locked into the cluster structure of the carrier water. When you take this homeopathically prepared remedy, the cluster structure is transferred into the body and you react to the vibrational pattern of the original substance from which the remedy was prepared (14).