

Chapter 8.1

Consciousness : Solitons (The egg and the spiral)

The egg and the spiral · Waves on the beach · Babbitt's Atom · Tornadoes · Birkeland currents ·
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*I thought the earth remembered me,
she took me back so tenderly,
arranging her dark skirts, her pockets
full of lichens and seeds.*

*I slept as never before, a stone on
the river bed,
nothing between me and the white
fire of the stars
but my thoughts, and they floated
light as moths
among the branches of the perfect
trees.*

*All night I heard the small kingdoms
breathing around me, the insects,
and the birds who do their work in
the darkness.*

*All night I rose and fell, as if in
water,
grappling with a luminous doom. By
morning*

*I had vanished at least a dozen
times
into something better.*

– Mary Oliver

There are certain physical principles, forms, gestures and archetypes that keep cropping up wherever the topic of consciousness is approached from an experiential, empirical direction. The primal archetypal expression of Polarity has already been introduced in Chapter 3. Although most people have not heard of the soliton, it is a fundamental feature of natural movement through space, and its form recurs time and time again in many different situations. A soliton¹ is a self-sustaining standing wave that arises when there is free movement of matter through space; and each “component part” of that movement is caused to move by virtue of its relationship to all other parts. Planetary orbits are soliton-like², but there are insufficient discrete planets for the spiral nature of their motion³ to be easily observed. If each planetary orbit was not resonant with the orbits of other planets, the solar system would have become catastrophically unstable within a few million years, and collapsed into the sun before it even had a chance to begin. At the grandest scale, every spiral galaxy is a soliton. As is every hurricane and waterspout. Solitons occur across all possible scales, even being visible at a quantum level⁴.



The existence of the Soliton as a physical phenomenon in Nature was first discovered in 1834 by the Scottish engineer John Scott Russell (1808–1882).



I was observing the motion of a boat which was rapidly drawn along a narrow channel by a pair of horses, when the boat suddenly stopped – not so the mass of water in the channel which it had put in motion; it accumulated round the prow of the vessel in a state of violent agitation, then suddenly leaving it behind, rolled forward with great velocity, assuming the form of a large solitary elevation, a rounded, smooth and well-defined heap of water, which continued its course along the channel apparently without change of form or diminution of speed. I followed it on horseback, and overtook it still rolling on at a rate of some eight or nine miles an hour, preserving its original figure some thirty feet long and a foot to a foot and a half in height. Its height gradually diminished, and after a chase of one or two miles I lost it in the windings of the channel. Such, in the month of August 1834, was my first chance interview with that singular and beautiful phenomenon which I have called the Wave of Translation⁵.

Photo credit : <https://www.piershaskard.com/>



Scott Russell followed up this strange experience with experiments in a water tank, and later used his observations to design hydrodynamically efficient boat hulls for Isambard Kingdom Brunel.

Waves on the beach

Anyone who goes to the seaside will have seen many solitons. And surfers (or anyone who has been caught in a wave on the shoreline and trapped in its vortex been pressed hard onto the seabed) will be intimately familiar with the power that resides inside and underneath this little crest of water. Every wave is a two-dimensional soliton, 2-D because each wave is expressed on the surface where the air and the water meet⁶. Whilst enjoying the beach, the fresh air and sunshine - one can observe one of the strange properties that make solitons special. Watch two waves approaching the beach at slightly different angles and speeds, and you will see that they come together and appear to be just one wave, but then as they re-emerge, they retain the same identity – size, direction, energy – that they had before they merged. So a set of solitons can be superimposed, and whilst it might appear that there is only one, in fact there are many that act as one, but each maintains its own identity and is therefore also potentially separable from the wave that it is part of. So each wave in the ocean is actually the superposition of a myriad of small soliton-ripples caused by the action of wind on the surface of the water. If the wind pushes the water in a sustained fashion, then the water being pushed and its internal pattern of momentum has time to self-organise, and the resulting wavelet becomes a soliton, and will continue to move indefinitely until it is dissipated on a coastline. The kind of mega-wave sometimes produced by mid-ocean storms that can reach over 20 metres in height can never reach the coast, because each mini soliton that it is composed of is travelling at a slightly different speed, and so the big wave quite quickly spreads out as it travels away from the storm. Solitons also invariably (by definition) have a spiral rotational component that has a degree of gyroscopic behaviour when it is engaged with physical matter.

Relationships are all there is. Everything in the universe only exists because it is in relationship to everything else. Nothing exists in isolation. We have to stop pretending we are individuals that can go it alone.

- Margaret J. Wheatley

Microscopically small solitons⁷ are also found at the heart of every liquid chemical reaction – and if the fluid did not self-organise into a soliton that mixes the different reactants, chemical reactions would not be able to take place so quickly. This is yet another example of how the energy contained in a soliton is NOT the fluid itself, but rather is a latent force that expresses within the medium of fluid. Which goes to explain how solitons in the sea can mix (after all, they use the same seawater) and still retain an individual identity. Perhaps this gives some clue as to the meaning of a Chinese proverb that goes along the lines of

Kicked by a horse – broken bone. Kicked by a camel – dead.

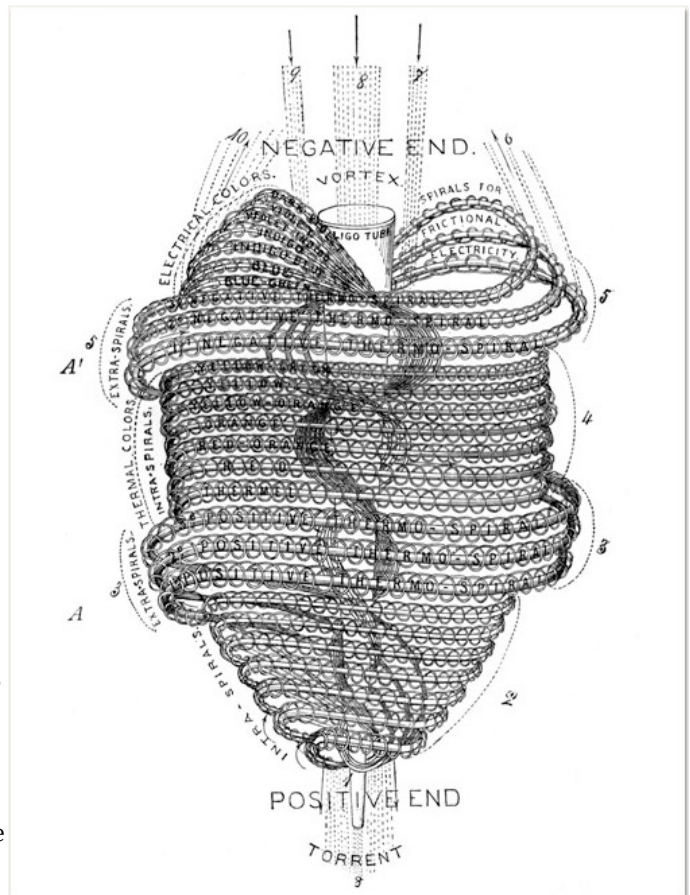
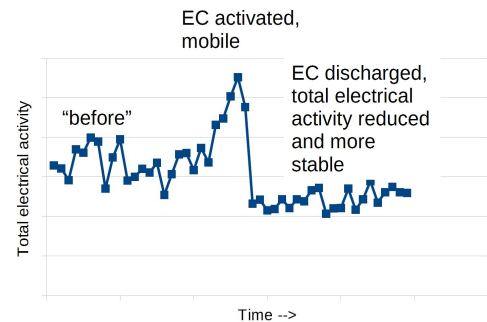
... which starkly points out that a horse's hoof is hard and so breaks bones. This might seem to be worse than the softer blow that might come from a camel. But a camel's hoof is padded and springy, and so its kick produces a sustained impact of the kind that produces a standing wave or soliton. The kinetic energy from this kind of sustained blow can cause a lot of internal damage by following (refracting along) lines of different tissue density and then coming to a halt and persisting in the body as an energetic entity/soliton. I sometimes see these kind of injuries in my clinic arising from hard falls onto nylon brush mats that are typically used on artificial ski slopes.

Dr. John Upledger identified this kind of damaging energetic presence during his research with the biophysicist Jon D. Vredevoogd^{8,9}, and called it an "Energy Cyst" (EC). He found that if the internal static tensions of connective tissue around the EC were neutralised, the trapped EC (soliton) would either resume and complete its journey out through the other side of the body, or would reverse and exit by the same path along which it first entered the body. This process was accompanied by a very characteristic change in total resting electrical activity in the body.

Babbitt's Atom

Image (Right) : public domain, see <https://commons.wikimedia.org/wiki/File:Babbitt-atom.png>

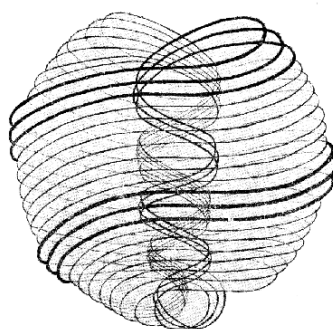
Solitons were re-discovered by a very different means and in a very different context in the late 19th century. When viewed through a 21st lens, Victorian life was a seething mess of contradictions – though maybe they were simply more robust in their dealings with life's necessary contradictions. Sections of English society were sexually repressed and found physical contact repulsive (which can be seen by looking at the various machines designed to provide massage in various ways, or the genteel designs of ladies bicycle saddles). On the other hand its figurehead Queen Victoria could gift Albert with the 2.4 metre wide painting "Florinda" by Franz Xaver Winterhalter



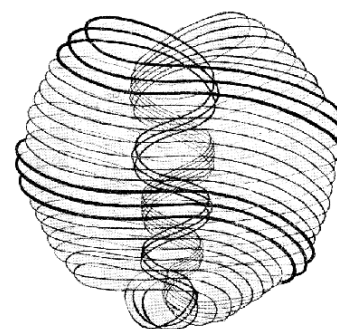
(probably one of the greatest examples of soft porn as high art - which was hung facing the writing desks they used for state business) and joyfully produce nine children.

Similarly, science and engineering were celebrated in mid 19th to early 20th century popular culture as they are today. Both Darwin and Brunel were celebrities almost equivalent in status to modern film stars. But the scientist's place in popular Victorian culture was neck-and-neck with Spiritualism - so Sir Arthur Conan Doyle was as well known in his later life for his love of seances as for his literature. The scientific advances were extraordinary, and almost as rapid and far reaching as the ones we have seen in the 20th century. James Clerk Maxwell (1831-1879) had laid down the equations that describe the relationships between electricity and magnetism, which would in turn pave the way for Einstein's theory of relativity. JJ Thompson's experiment with cathode ray tubes in 1874 pointed to the existence of particles as the basis of all physical matter, and was the beginning of the scientific exploration of the physical atom. And at the same time there were many famous Spiritualist mediums and movements in this period, including Annie Besant and CW Leadbeater (who promoted Anthroposophy and brought Jiddu Krishnamurti to England as a young child). One of their friends - Elwood Babbitt - put together a group of mediums who set out in 1878 to beat the physicists in the search for the fundamental particle - the atom - by using psychic means. The results of that psychic experiment (seance) were reported much later in Besant and Leadbeater's "Occult Chemistry" (1919)¹⁰ as a strange involuted spiral¹¹, often referred to as Babbitt's Atom or the Anu, which occurs in both positive and negative (or male and female) forms¹².

The Babbitt's Atom/Anu has a very specific shape, consisting of an inner double helix of concentrated energy, wrapped around a hollow core. On its return the double helix expands out into a shell-like form or outer skin which is composed of flowpaths that are turbulent, having secondary spirals in addition to their more obvious vectors. Interestingly, the late 19th century Anu derived by séance has exactly the same form as the 3-D soliton described by mid to late 20th century



MALE.



FEMALE.

physics. Its soliton-nature requires that there is a universal self-reference within it that results in resonant relationships between particular parts of its spiral waveforms¹³. If a modern physicist is hard-pressed to describe what an electron might look like close-up, this is exactly the kind of form he/she will describe. The difficulty in this description for the physicist describing the electron is exactly the same difficulty in describing the superposition of ocean waves - that somehow the energetic vector is both intimately

bound to and is also separate from the matter that it is moving with – a concept that does not rest easily inside the constraints of Newtonian physics and standard ideas about momentum enshrined in the mathematics of classical physics. And for an electron that carries a unitary charge, one has to ask – exactly *what* is it that is moving, and how does that motion relate to the property of charge? Just as for a wave, one has to ask – if the kinetic energy itself is separable from the matter that it is bound to, what exactly is it, given that we define energy in terms of mass/matter?

Tornadoes

Image(Right) credit [Justin1569](#) at [English Wikipedia](#) – see https://commons.wikimedia.org/wiki/File:F5_tornado_Elie_Manitoba_2007.jpg

The double helical core form of the Anu is seen in more places than the full soliton is recognised; this being simply because the concentrated form of the core is more visible, whereas its low energy return path is far less easy to see or to measure, and is spread over a far greater physical space. One can easily identify the core of a tornado, but the return pathway is virtually invisible, occupying many cubic miles of air. Will Keller, a farmer of near Greensburg, Kansas USA, stood in the doorway of his storm cellar on the afternoon of June 22, 1928, and watched one of three tornado funnels rise above the ground and pass over his head. The following paragraph conveys something of a flavour of his experience that day¹⁴:



As the great shaggy end of the funnel hung directly overhead, everything was as still as death. There was a strong gassy odour and breathing became difficult. A screaming, hissing sound came directly from the end of the funnel. Mr. Keller looked up and saw right into the heart of the tornado where there was a circular opening in the centre of the funnel, about 50 to 100 feet in diameter, and extending straight upward for a distance of at least 1/2 mile. The walls of this opening were rotating clouds and the whole was made brilliantly visible by constant flashes of lightning which zigzagged from side to side. Around the lower rim of the great vortex, small tornadoes were constantly forming and breaking away. These looked like tails as they writhed their way around the end of the funnel. It was these that made the hissing sound. The direction of the rotation of the great whirl was anti-clockwise, but the small twisters rotated both ways, some one way and some another. The opening was entirely hollow, except for something which he could not make out, but supposed that it was a detached wind cloud. This thing in the centre was moving up and down.

Similar eye witness reports describe a twin (!) vortex in the middle of the main funnel “writhing like two snakes” (and apparently being the source of the lightning discharges), which may be the “something” that Will Keller saw moving up and down within the funnel.

As another analogy, electrical discharges through the atmosphere occur all the time, but it is only when their charge density is great enough to ionise the air that we can see them – as lightning. Given the intense concentration of energy at the core of a soliton, it is probably not a coincidence that the basis for the genetic expression of cellular life is a double helix, and in focussing on the structure of DNA, a question is then raised as to what it is that also lies around and outside it, and what is its relationship to space.

Birkeland currents

In nature we never see anything isolated, but everything in connection with something else which is before it, beside it, under it and over it.

- Johann Wolfgang von Goethe

Image (Right) from <https://www.plasma-universe.com/filamentation/>

Birkeland current forming in free space

The double helix is also found in Birkeland currents¹⁵ - the movements of electrical charge through non-conducting space. On a planetary scale, Birkeland currents cause the polar Aurora. On a cosmic scale, they may be responsible for the formation of planets, stars and even galaxies.

Maxwell's equations separate magnetic field from current – and this is a necessary mathematical artefact, because magnetic field affects current and current affects magnetic field. When either or both of these factors are physically constrained by copper wires or iron coils, then the separated equations are easy to apply because one variable has been fixed. However, when electrical charge is freely moving in open space with no physical constraints, it's a very different matter. As charge moves according to magnetic field, so the magnetic field shifts, and so the motion of the charge also changes.

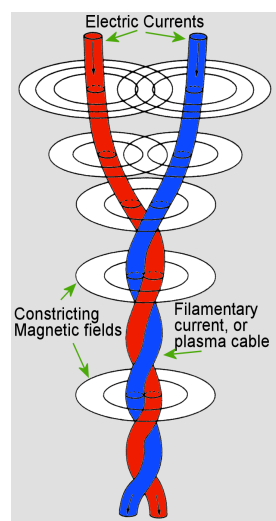


Image (Right) Caduceus, public domain – see [https://commons.wikimedia.org/wiki/File:Bookman_Ornament_9649_\(caduceus_and_book\).svg](https://commons.wikimedia.org/wiki/File:Bookman_Ornament_9649_(caduceus_and_book).svg)

This self-referential intertwining has a relatively stable emergent form, that is also subject to perturbation from the smallest of disturbances. It is only recently that we have had the mathematical tools and the computing power available to resolve the equations, and it turns out that the magnetic field causes the moving charge to separate into two interweaving snakes. As current passes through space, the charge causes matter (dust, gas) to converge, and another aspect of the soliton / Anu / Birkeland current is that it has a centripetal effect, concentrating energy and matter into the surface surrounding its empty core. Not unlike the DNA double helix.



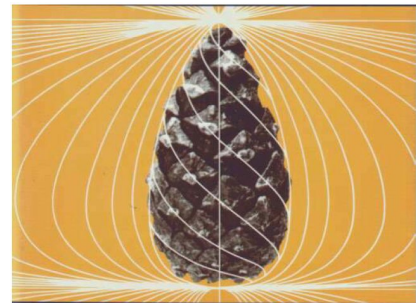
Not unlike the Caduceus. Not unlike the egg-vortex projective geometrical forms suggested by Rudolf Steiner to be the mathematics of Life; or the centripetal energetics of water as described by Viktor Schauberger ... The peculiarly ubiquitous presence of the logarithmic spiral and double spiral in nature is perhaps to be explained by the fact that the organisation of matter in this form is a maximisation of entropy¹⁶. In other words, these spiral forms are the way in which energy and information self-organise in three-dimensional space – a principle not dissimilar to the work on dissipative structures by Prigogine & Stengers^{17, 18}; and analogous to the way in which water flows downhill under the force of gravity.

Projective Geometry

Whatever affects one directly, affects all indirectly. I can never be what I ought to be until you are what you ought to be. This is the interrelated structure of reality.

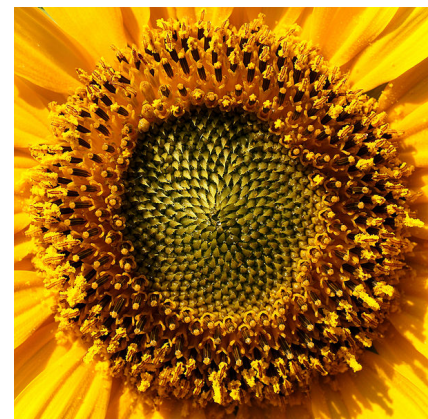
– Martin Luther King, Jr

Image (Right) from the book cover of “Vortex of Life”, Lawrence Edwards (2006)



Rudolf Steiner once made a throwaway comment that – if one wants to understand life, the mathematics of projective geometry is not a bad place to start. And just as a soliton is a moving system in which every part refers to every other part, projective geometry is a system of mathematical constructions that demonstrates how space relates to itself given certain fundamental initial elements (“boundary conditions”), such as the relationship of a line and a point to infinity. Steiner’s comment about projective geometry is also related to the double helix, as can be seen in the shape of pine cones and sunflower heads and many other arrangements of seeds – where two different logarithmic or hyperbolic spirals – usually proportional to each other by way of the Fibonacci series – curl in opposing directions to create an immediately recognisable pattern.

Image (Right) public domain, see
https://commons.wikimedia.org/wiki/File:Sonnenblume_Helianthus_2.JPG

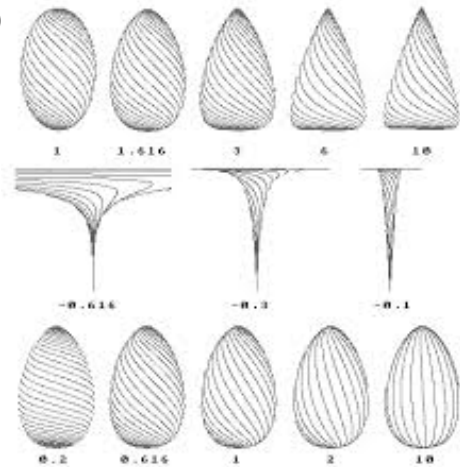


Steiner’s comment was taken up by Lawrence Edwards, a mathematics teacher who then devoted his life to measuring tens of thousands of buds and flowers by hand to compare them to the set of vortical and egg-like shapes (or “path curves”) that arises from projective geometry. If you inspect the image of path curves opposite, you will see that egg shapes also have spiral forms, and in fact the egg is a mathematical involution of the vortex that can be found in a waterspout or hurricane. A small portion of hens eggs demonstrate faint spiral undulations on their

surface. And the development of starfish embryos has been shown to also follow this vortical pattern¹⁹.

Image (Right) from “Vortex of Life”, Lawrence Edwards (2006)

Edwards found that every bud and seed he measured conformed with a high degree of precision to the projective geometrical path curves. Furthermore, the shapes of buds changed over time – not only with growth-development, but also according to transits of the particular planet that the plant or tree had been assigned in medieval astrologically based herbals. Scientists didn’t know what to make of his work²⁰ at time of publication. His measurements and calculations are meticulously rigorous, archived and available for inspection; and yet the scientific data pointed to phenomena that are usually considered highly unscientific. He also obtained rapid time-phase x-ray images of the beating heart; and showed that the chambers of the heart go through seven shifts in geometric shape (possibly according to the seven spiral muscles that form the heart?), and the focus of these shifts from about one foot in front of the body out to infinity and back in a single beat. The parallels with esoteric anatomy are hard to ignore.

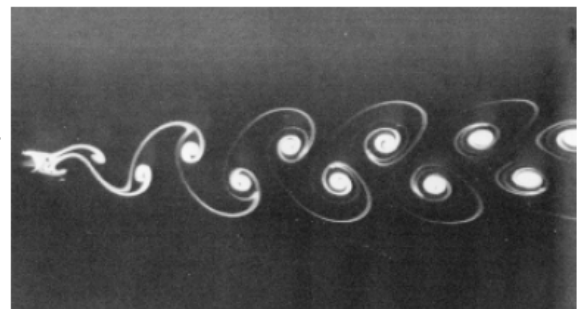


Living water

In nature we never see anything isolated, but everything in connection with something else which is before it, beside it, under it and over it.

– Johann Wolfgang von Goethe

The power being expressed by the inner vortex of the tornado is unmistakeable and awe-inspiring, and also exists in flowing water. Centripetal forces acting in a vortex are themselves a core element of the natural flow of water²¹, described by Viktor Schauberger^{22,23,24} (1885-1958). Schauberger came from a line of several generation of foresters to the Royal family of Austria, and spent his childhood wandering through the still-existent primeval forests of Europe. He noticed that water in its natural and undisturbed state exhibits particular flow shapes, carves flow channels of particular cross section and curvature, has a stronger and more buoyant flow at certain temperatures. The shapes he saw to be most powerful and to increase the power of water – were egg-shapes and hyperbolic spirals. And the water and trees seem to have conspired together across millennia in wholly undisturbed forest to achieve these optimum conditions.



Karman vortex street behind a cylinder placed in uniform flow. Re ~ 300 [Courtesy: Sadotoshi Taneda; from An Album of Fluid Motion by Van Dyke (1982)]

The trees benefited from the energised water, growing more healthily; and they in turn shaded their own trunks and the flowing water, thus reducing the temperature down to an optimum for centripetal forces to take effect.

Image (Right) from

https://commons.wikimedia.org/wiki/File:Venous_valves.png

Schauberger particularly noted that the implosive or centripetal spiral – what I have described here as the inner helical vortex of the soliton – was a place where power accumulated almost infinitely. It is by tapping these forces in the swirling water of rock pools that salmon and trout can leap up waterfalls. And by engaging with the slower vortices that invisibly circulate along a natural water course, fish can swim more quickly up-current than they can swim

downstream. Experimenting with hyperbolic spirals in tubes made from different kinds of material, Schauburger showed that if water could be coerced into moving in this specific way through the shape of the channel it was flowing through, it started to behave in a manner that defied the usual laws of fluid motion, having near-zero energy loss as it moved. In essence he was creating the inner vortex of a soliton by imparting a specific motion reminiscent of the inner soliton vortex. Furthermore, this vortex-energised water increased the vigour of any life that took it in, including humans. He constructed water flumes and engines based on these principles of flow which were so successful that they demonstrated very clearly that he had discovered something fundamental. He noted that many structures in animals – such as the form of valved veins or antelope horns - contain these hyperbolic spirals and other similar flowforms that both increase flow efficiency (in the case of a Kudu's horns, one perhaps asks – what is it that is flowing?) and provide a “something” that promotes organic health²⁵.

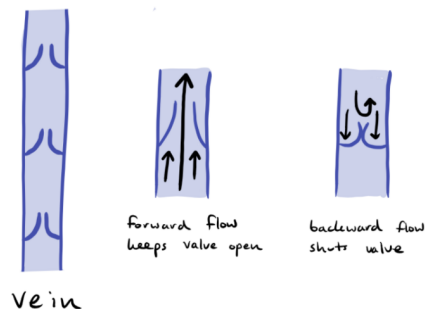


Image (Right) Copyright Sylvia Barbero²⁶

However, his published papers^{27,28,29,30} are almost unreadable. They are written using a jargon that he developed to describe these new concepts based on a sophisticated exploration of polarities - which is quite foreign to normal ways of thinking about physical flow – because they include quite esoteric and experiential ways of perceiving natural processes. And on account of being largely ignored or ridiculed, Schauburger had a tendency to rant - because he felt so passionately about his work – which showed how humans might benefit by cooperating with nature³¹.

Schauberger also researched soil fertility. He demonstrated in well controlled scientific experiments that the organic health of the soil is



destroyed by steel tools, whereas wood or copper/bronze preserve or even enhance the soil's natural electrical insulating properties that are important for healthy plant growth. In the light of modern knowledge, he was showing something that probably also relates to the health of the soil microbiome – which has been found to generate electrical charge. His work is not dissimilar in some ways to Steiner's system of Biodynamic farming, but it is unclear whether Schauburger and Steiner (who were contemporaries) ever met. Theodore Schwenk combined both of their principles with regard to the flow of water in his book *Sensitive Chaos*³².

There is a theory which states that if ever anyone discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable. There is another theory which states that this has already happened.

-- Douglas Adams

Solitons as vehicles for consciousness

There seems little point in all this arcana from a medical or psychological point of view. That is, until one starts to stitch the phenomenology of solitons back into the phenomenology of consciousness, and from there into embodiment, and thence into trauma and dissociation, disturbances to the ANS, and therefore physiology. In one respect we are no longer on scientific ground. Although the effect of Schauburger's flowforms can be demonstrated (and they are now e.g. used to bring polluted water back to life), unless one takes on board some of the more arcane aspects of their technology, it is very easy to prove that they do not work by mis-understanding the principles involved (and therefore not asking the right questions). So I once saw a renewable energy expert dismissing them because he had placed stones in the flowforms to disrupt their flow, and this seemed to make no difference- so he said – therefore they don't work. It would have been better to compare flowform-treated water with non-flowform treated water, but that seems not to have occurred to him after his initial falsification experiment³³. And whilst nobody would deny that solitons do exist in fluids, there is little evidence for much of the other material I have discussed.

The evidence I am basing all this on is a combination of personal experiences over many years, over which time I have also been looking for some mechanism that joins the dots. Well, solitons join up the dots very nicely with regard to the phenomenology of consciousness. When applying them to consciousness, embodiment, trauma and dissociation – it is not necessary to believe that they are solitons. But if one remembers the properties of solitons, then this gives an accurate model for one aspect of their behaviour – the way that consciousness, ideas, experiences, trauma, thoughts, generational mayhem, and many other things have a presence in the region in and

around the body that intersects and interacts with body tissue and the sensory system.

Given that understanding, it would even be quite possible to throw out the idea of solitons altogether, because its usefulness for the purposes we have here is in the application rather than the specific substance. If I were engaged in agriculture or water engineering, then the physical form would be of far more importance. When dealing with the rather more diffuse substance of consciousness, it is not possible to construct a physical device that channels it through flumes – we have to use other means that are not based on the properties of flow. Well, maybe we could – but so far my experience suggests that would not be a good idea. Although the experience is documented in other spiritual traditions (such as mystical Christianity), the most well known description of that inner vortex core of consciousness being activated is called “Kundalini” - a term from the Hindu and Yogic traditions that was introduced to the West in the early 20th century by Parahansa Yogananda. Although Kundalini Yoga is yet another fashion that comes and goes in the West, a rising Kundalini is not something to trifle with. When the body-mind is stabilised and opened and cleansed through years of practice, then this rising is experienced as an inner awakening – an explosion of conscious awareness. If this preparatory stage has been bypassed or ignored, then the Kundalini might still rise in its proper manner. But it might also rise too quickly (not being able to ground to Earth) and cause severe mental disturbances. Or a more common experience is that it hits a blocked part of the spinal column and then ricochets off to one side, causing anything from an annoying rapid involuntary twisting or side-to-side tic of the neck (similar to Tourette’s syndrome), or intense physical shuddering deep in the body, or worse. This inner vortex might be invisible, and might be undetectable with currently available scientific instruments, and what it is “made of” might be unknown to science – but none of those negate its physical power when it is activated.

More on Energy Cysts

*What did the great Zen master Dogen say after his own deep enlightenment, when
“body and mind fell away”?*

*He said, “I came to realize clearly that mind is no other than mountains and rivers and
the great wide Earth, the sun and the moon and the stars.”*

- Papaji

Energy Cysts are not only related to the storage of kinetic energy... As described by John Upledger, they form when there is a complex insult to the body, in such a way that the complexity results in an overwhelm of the body's ability to deal with the totality of what is happening. Upledger described this initially as a strong physical impact (such as being

hit by a bus) occurring at a time of great emotional turmoil. The strong emotions cause a reactive tightening of the body's tissues, and in this tightened state they are unable to process and disperse the kinetic energy of the physical impact. A combination of kinetic energy and emotion is therefore encapsulated by the body as a way to isolate it from other tissues and organs - thus forming an Energy Cyst (EC). Proteins and collagen fibres are reorganised radially to form a physical container around the encapsulation. This self-protective mechanism is used for any combination of insult that is overwhelming in some way, as (noted in Chapter 2) the body uses the same generic processes to deal with many different kinds of insult / invasion / damage / threat / trauma. Insults that may singly or in combination create an encapsulated overwhelm include:

- mental (beliefs, expectations),
- emotional (any strong emotion³⁴),
- physical stressors (heat, cold, radiation, chemical, lack of water or food, impact, etc.),
- environmental (pollutants, noise, threat, lack of light, etc.),
- relational (insufficient support, overridden boundaries, deception, betrayal, abandonment, etc.),
- infections, parasites, toxicity
- immobilisation (physical constraint, anaesthetics and other drugs, social expectation, etc.)
- or other physiological or medical (operations), etc. etc.

Thus, the principle of the EC applies to all “trauma”, in that any kind of overwhelm creates an EC. The energetic form of the EC is the soliton described previously. Encapsulated infections are from this point of view also manifestations of an EC; and EC's can have a strong infective component – which may be primary (an original part of the cause) or secondary (opportunistic infection of weakened tissue) - though in many cases telling the difference between the two is not always possible. The discussion in Chapter 3 (Wellness) suggests that infections are almost always opportunistic. Therefore, given any infection there is also usually a layer of causality lying beneath that, which must be addressed if the person is to proceed to a greater overall state of Wellness. And as AT Still demonstrated many times, if the underlying causes that created a suitable terrain are addressed, the body is often capable of dealing with the infection by itself.

Understanding the EC as a phenomenon requires that consciousness be thought of as a field phenomenon that has some degree of self-organisation – in the form of a soliton / standing wave. Thus, the sum total of overwhelming insults is contained in a soliton-like form that combines with and superposes onto the normal field of consciousness, just like two waves in the sea can combine. Each retains its own identity and is separable given the right conditions. As has been pointed out in previous sections, infection is not a simple matter of pure human good guys being infected by nasty alien bad guys, and cellular identity is more fluid and malleable than is usually recognised. So whilst it is not

unusual at all for the tissues inside an EC to be affected by infection (with secondary inflammatory processes), in many cases the infection itself is secondary and arises because the conditions that maintain proper homeostatic control of the internal ecosystem are no longer present. This is not to say that one cannot be affected directly by an infection, but in 99% of cases the infection occurs because the conditions for infection are already present – to quote Pasteur’s deathbed recant again “the terrain is everything”. The loss of human-ecology-identity in the EC creates an opportunity, and life being what it is, bacteria and other life will take that opportunity should it arise. Once the inflammatory, toxic and necrotic process of infection have dominated the area, then even if the infection is secondary, it must be dealt with directly. This is not some abstract point, and once infection becomes obvious, then it must be dealt with directly to some degree. But “directly” can still mean restoring normal body ecology instead of (or as well as) necessarily trying to kill off the “bad guys”.

In many cases where infection has not got out of control, restoration of the embedded relationship between consciousness and tissue – i.e. the EC is released – can restore local ecology, because the body reorganises itself. An indirect example of this is the recent discovery that many cases of back pain³⁵ are associated with local infection in the spinal nerve roots. Although acute spinal infections were well recognised³⁶, the study suggested that they could be far more prevalent, less extreme and chronic than realised – requiring a process of local encapsulation, because many of the people affected did not display the usual inflammatory markers in blood tests. I regularly see this kind of issue in my clinic, and blood tests for inflammatory markers are usually useless in detecting them because the encapsulation process hides the infection most of the time. The response in the case of this study was to use massive doses of antibiotics to kill off the bad guys – rather missing the point that this change in local ecology is opportunistic and not causal. The germ model of medicine tends to always assume that bacterial infection is causal, so from that point of view it makes sense that massive antibiotics are used. But it is well known that back pain can self-heal, or be treatable in many other different ways that do not have to even consider infection.

Returning to the presence of an EC, the tissues and cells of the animal body are able to recognise what should and should not be present, and are capable of releasing the stored energy *provided that* the conscious mind:

- i. Does not confuse them by thinking that the EC is part of normality.
- ii. Gives them permission to release the EC – which includes the principle that the mind should believe that the EC along with its side effects is capable of leaving.
- iii. Provides sufficient presence to locally overcome the organising forces within the EC, so that the cells recognise that they are part of the normal body and not part of the EC

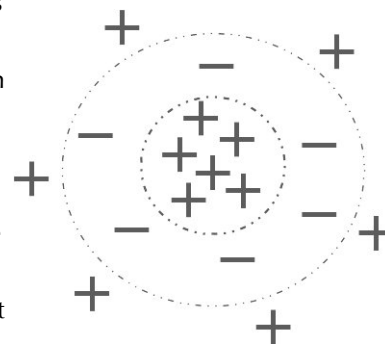
- iv. Does not get in the way of the reorganising intelligence in the body.

Animals do not generally suffer from the restriction of these conditions, because they tend to not think or tell themselves stories about why this might be happening and what it means.

Plasma and charge shells³⁷

“Plasma” is a gaseous or diffuse cloud of charged particles. In its most common usage, the word usually refers to hot plasma – gas heated to maybe millions of degrees, such that the charge occurs because the high temperature has stripped the electrons from their atoms. Another extreme form of plasma commonly thought of is the plasma that occurs when a vast electrical potential discharges – such as a lightning strike, or the kind of experiment conducted by Nikola Tesla. However, electrical charge also operates on cold and even diffuse matter in just the same way, following the same rules. Gerald Pollack³⁸ provides a very easily readable walk through the various aspects of charge separation³⁹.

An electrical charge is a polarity of negative charge (electrons) and positive charge (protons, or a lack of electrons where they ought to be to balance the proton charge). Electrons are relatively mobile because they are small and relatively weakly bound to an atom or a molecule, and protons are relatively immobile because they form the core of atoms. So charge separates through loss of bound electrons; and charge moves either because the electrons move, or the electron-impoverished molecules move, or both. Simply put, if something tends to concentrate charge by aligning molecules or through a natural tendency to attract one particular charge, then the mobility of charged particles results in a reverse-charge shell forming. Then that shell creates the possibility of another shell forming round that, and so on, and so on. As the shells accumulate outwards their charge density decreases because the same charge occupies a larger volume (note how the same positive charge in the diagram is more concentrated in the centre and less concentrated at the periphery). So there comes a point at which outer shells are too insubstantial to have any integrity and even the smallest fluctuation in the environment is enough to dissipate them. But nevertheless they continue to form and re-form.



Although charge is clearly not in the spiral form discussed in the rest of this chapter, it tends to take on an egg-like form. Having a scientific background, I have always been rather curious about the tangible off-body phenomena that occur during treatment sessions. There may be strange shifts in temperature such as a radiant heat on the back

of my hand that is unconnected with the temperature on the palm, or impossibly icy coldness that seems to draw heat out of me, and many other temperature phenomena. Pollack's work on charge provides one physical explanation for that. Similarly, the proxemic space around a person is quite tangible if one is open to the possibility of being aware of it; and tangible to a degree (as a physical air pressure, rather like walking into an air lock) that it must have some physically measurable manifestation. So Pollack's electrical charge is a good candidate for the physical aspects of these off-body fields. However, shifts in mental intention can radically change these fields, and some people have developed a powerful to shift them at will. For other people the proxemic field is set involuntarily by a particular mental-emotional-survival response. The question is – what mental effect can alter the charge shell around a body. The only answer available is that mental-emotional activity and the act of will affects the electrical activity of the physical body, and the field of consciousness interacts with these external (electrical) charge shells. The behaviour of proxemic space is described elsewhere. One does not have to understand plasma physics to be able to work with it, but the charge shell and the soliton models are useful to bear in mind in a very generic way when working with off-body fields.

Notes : Chapter 8.1

- 1 Also see Chapter 3.1
- 2 <https://www.youtube.com/watch?v=pwaTzpNo4BA>
- 3 John Martineau (2002) A Little Book of Coincidence in the Solar System. Publ. Wooden Books ISBN-13: 978-1904263050
- 4 Jennifer Chu / MIT (January 5, 2022) Physicists watch as ultracold atoms form a crystal of quantum tornadoes. Phys.org
<https://phys.org/news/2022-01-physicists-ultracold-atoms-crystal-quantum.html>
- 5 Quotation from John Scott Russell's diaries in Mary Mulvihill (?) Discovery of the Soliton. Ingenious Ireland.
<https://ingeniousireland.ie/podcast-audio-tours/quaternions-by-the-royal-canal/discovery-of-the-soliton/>
- 6 A hurricane is almost 3-D – but not quite, because it is large compared to the total thickness of the atmosphere. A soliton can only be truly 3-D if there is enough space for it to move unimpeded in three dimensions.
- 7 Usually 3-D if free-solute and 2-D if the reaction takes place on a catalytic surface.
- 8 Upledger, John E. & Vredevoogd, Jon D. (1983) Craniosacral Therapy (Volume 1). Publ. Eastland Press Inc. ISBN-13: 978-0939616015
- 9 John E. Upledger (2002) Somato-Emotional Release: Deciphering the Language of Life. Publ. North Atlantic Books ISBN-13: 978-1556434129
- 10 Leadbeater, CW & Annie Besant (1919) (ed. AP Sinnett). Occult Chemistry - Clairvoyant Observations on the Chemical Elements 2nd Ed. Publ. Theosophical Publishing House, London. Republished (1967) ISBN 0787-3010-8-6 by Health Research, Mokelumne Hill, California 95245, USA
- 11 Purce, Jill (1974) The Mystic Spiral : Journey of the Soul. Publ. Thames & Hudson
- 12 Spirals are “chiral” or handed, and so express left-right symmetry. So most screws have a thread that spirals clockwise as the screw tightens – but it is also possible to have a thread that winds the other way – as is found on Propane gas bottles to prevent them being used with standard plumbing fittings. Molecules can also be chiral, with a molecule organised with one chirality being useful to life, and sometimes the oppositely organised molecule may be poisonous, despite having exactly the same atomic composition and exactly the same kinds of molecular bond.
- 13 Understanding Bioresonance http://implizit.blogspot.com/2011/08/light-color-bioresonance-golden-spiral_4929.html extracted from Bruce Burger (1997) Esoteric Anatomy : The Body as Consciousness. Publ. North Atlantic Books ISBN-13: 978-1556432248
- 14 Laura V. Wolford (1960) TECHNICAL PAPER NO. 20 Tornado Occurrences in the United States. NOAA (US Department of Commerce, Weather Bureau) https://www.nws.noaa.gov/oh/hdsc/Technical_papers/TP20.pdf
- 15 Donald Scott: Modeling Birkeland Currents, Part 1 | EU Workshop Nov 14-16, 2014 in Phoenix, Arizona
<https://www.youtube.com/watch?v=yJFR67sckK0>
- 16 William Brown & Dr. Amira Val Baker (Sep 09, 2019) The Morphogenic Field is Real and These Scientists Show How to Use It to Understand Nature. Resonance Science Foundation | Faculty article, quantum physics.
<https://www.resonancescience.org/blog/The-Morphogenic-Field-is-Real-and-These-Scientists-Show-How-to-Use-It-to->

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Understand-Nature

- 17 Ilya Prigogine (1997) *The End of Certainty: Time, Chaos and the New Laws of Nature*. Publ. The Free Press ISBN-13 : 978-0684837055
- 18 Ilya Prigogine & Isabelle Stengers (1984) *Order out of Chaos: Man's New Dialogue with Nature*. Publ. Bantam Books ISBN-13: 978-0553340822
- 19 Massachusetts Institute of Technology (March 23, 2020) *The growth of an organism rides on a pattern of waves*
<https://phys.org/news/2020-03-growth-pattern.html>
- 20 Lawrence Edwards (2006) (ed. Graham Calderwood) *The Vortex of Life: Nature's Patterns in Space and Time*. Publ. Floris ISBN-13: 978-0863155512
- 21 Coates, Callum (1996) *Living Energies: Viktor Schauberger's brilliant work with natural energies explained*. Publ. Gateway Books
- 22 Olof Alexandersson (2002) *Living Water: Viktor Schauberger and the Secrets of Natural Energy*. Publ. Gill Books ISBN-13: 978-0717133901
- 23 <https://www.permaculture.co.uk/Secrets-Water-Viktor-Schauberger>
- 24 <http://www.hedgedruid.com/2009/12/the-spiral-and-the-vortex-viktor-schauberger-water-and-earth-energy/>
- 25 The flow principles derived by Schauberger also have a direct application to physiology – in that they provide an alternate means to understand the vascular system and the heart. One of the great deceptions of modern cardiophysiology is that the heart is considered to pump the blood. In fact, hydrodynamic modelling of the vascular system shows that it is impossible for the heart to generate anywhere near enough pressure to push blood through the capillary bed unless it is assisted. So what seems to happen is that the capillary bed itself is the main source of circulatory force, probably through electrical charge affecting the blood cells as they move against the capillary walls. Hyperbolic (“flowform”) flow through valves in the venous system also probably contributes, as does resonance – that creates a **valveless pumping** effect – see e.g. <https://aip.scitation.org/doi/10.1063/1.3114603>. The heart contributes to that – as do the arteries, both indirectly by pressure-volume storage within major arteries, and directly through vasoconstriction. The net effect is that the heart's most important function is that of a flow regulatory valve – not unlike the action of a ram pump – see https://en.wikipedia.org/wiki/Hydraulic_ram and <https://www.youtube.com/watch?v=Zk9zs0EQIQ8>
- 26 Barbero, Silvia; Pallaro, Agnese (2015). *Relation between man and water: the awareness of livingwater for sustainable design*. In: *In a planet of our own - a vision of sustainability with focus onwater*, Bombay (INDIA), 3-5 December 2015. pp. 1-11. Availability: This version is available at : <http://porto.polito.it/2646134/> and from: https://www.researchgate.net/publication/313869814_Relation_between_man_and_water_the_awareness_of_living_water_for_sustainable_design_Cumulus_Mumbai_2015
- 27 Viktor Schauberger (Author), Callum Coates (Editor, Translator) (1999) *Nature as Teacher: New Principles in the Working of Nature (Schauberger's Eco-technology)*. Publ. Gateway ISBN-13: 978-1858600567
- 28 Viktor Schauberger (Author), Callum Coates (Editor, Translator) (2000) *The Fertile Earth: Nature's Energies in Agriculture, Soil*

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Fertilisation and Forestry (Schauberger's Eco-technology). Publ. Gateway ISBN-13: 978-1858600604

- 29 Viktor Schaubberger (Author), Callum Coats (Editor, Translator) (1999) *The Water Wizard: The Extraordinary Properties of Natural Water* (Schauberger's Eco-technology). Publ. Gateway ISBN-13: 978-1858600482
- 30 Viktor Schaubberger (Author), Callum Coats (Editor, Translator) (2000) *The Energy Evolution: Harnessing Free Energy from Nature* (Schauberger's Eco-technology). Publ. Gill & Macmillan Ltd ISBN-13: 978-1858600611
- 31 When looking with any depth at 20th century figures who created physical effects based on essentially esoteric principles – it's hard not to fall into some kind of conspiracy theory. Wilhelm Reich, the father of Body Psychotherapy, who invented the Orgone Accumulator and then an Orgone-based device that could alter the weather was arrested in the USA, died in prison (1957) before he could be tried, and all of his books and papers that could be found were burned. The year after Reich's death, Schaubberger was invited over to the USA and travelled with his son. Within a few days somehow he had signed over the rights to all of his patents and life's work! He returned to Germany a broken man and died a short time after. See his biography Alexandersson (2002) op. Cit.
- 32 Theodore Schwenk (1996) *Sensitive Chaos: Creation of Flowing Forms in Water and Air* (New ed.) Publ. Rudolf Steiner Press ISBN 139781855840553
- 33 Falsification is increasingly fashionable in popularised science. Its requirements are that one fully understands what is to be tested, and therefore can apply a negative test by changing something so that – if the basic premise is incorrect, the experiment will fail. Of course, one has to fully understand what is being tested – and in this case, the engineer clearly didn't. Flowforms will accommodate small obstacles, because it is the generic pattern of motion – rather than the specific – which creates the effect. Especially when round pebbles are being used – which are themselves natural shapes that have been altered by the action of water, one could say moved towards the idealised egg shape that the water wishes them to be. And particularly when they are placed off-center, which will actually increase the rotational components in the water flow.
- 34 It is usual to assume that any emotion that results in "Trauma" - i.e. is stored in the body in a way that it should not be – is necessarily a "negative" (fear, anger, shame etc.) emotion. However, I once experienced someone releasing an EC which contained unexpressed laughter and joy. Just as anxiety and excitement are two sides of the same coin, so are laughter and hysteria, and although the person may have been able to make the distinction at the time (or maybe not in the case of a very young child), the somatic body may not have done so.
- 35 Quesnele, J., Dufton, J., & Stern, P. (2012). Spinal infection: a case report. *The Journal of the Canadian Chiropractic Association*, 56(3), pp209–215.
- 36 <https://www.mountsinai.org/locations/spine-hospital/conditions/spinal-infections>
- 37 Also see Chapter 3.1
- 38 Gerald Pollack (2013) *Fourth Phase of Water: Beyond Solid, Liquid & Vapor*. Publ. Ebner and Sons ISBN-13: 978-0962689543 available free online at various sources including <https://www.mdpi.com/2073-4441/5/2/638>
- 39 Gerald H Pollack (2013) *The Fourth Phase of Water: Beyond Solid, Liquid, and Vapor*. *Edge Science* 16 pp14-18 <https://eccc.colorado.edu/~ecen5555/SourceMaterial/Pollack13.pdf>