

C-zones, pillars of coherence

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“This whole reductive programme – this mindless materialism, this belief in something called ‘matter’ as the answer to all questions – is not really science at all. It is, and always has been, just an image, a myth, a vision, an enormous act of faith. As Karl Popper said, it is ‘promissory materialism’, an offer of future explanations based on boundless confidence in physical methods of enquiry. It is a quite general belief in ‘matter’, which is conceived in a new way as able to answer all possible questions. And that belief has flowed much more from the past glories of science than from any suitability for the job in hand. In reality, not all questions are physical questions or can be usefully fitted to physical answers.”

Mary Midgley

Abstract

In this article, the authors link the findings of the theory of relativity to findings from quantum physics in order to arrive at a new hypothesis explaining the natural organization in general, from the universe to microcosm. Based on their findings from literature, the authors formulate the existence of a law of nature that explains how ectropy can appear in the material organization. By assuming that matter is capable of manifesting interconnectivity in the form of hypothetical connections, called C-filaments, it becomes understandable how it is possible for matter to organize itself, both biologically and cosmologically. This law of nature can thus explain biological activity and cosmic order even in areas where this has been impossible to date. Applying this hypothesis opens the way to targeted experimental and empirical research by the joint investigation of similarly constructed systems that normally are seen as isolated from one another.

The law of nature described by the authors does not exist in isolated and stabilized systems. The occurrence of this law of nature may also be inhibited by the presence of diamagnetic substances. The combination of these two factors explains why this law of nature was never observed using classical research methods. This law of nature is a scientifically much more plausible explanation than blind coincidence as the cause of the self-organization of matter.

The **appendix** provides a brief overview of the theorems set out in this article.



Introduction

Regular science tells us that the universe started with an almighty blast, the Big Bang. An event that without any doubt represents the greatest chaos imaginable. After nearly 14 billion years we observe a largely ordered universe in which we ourselves thrive as living and self-conscious beings. We have exhausted all means to search for the why of the numerous and unforeseeable forms of coherence. In terms of actors we have found nothing, hence the belief in blind coincidence. But the far-reaching order of which we are a part, forces us to think differently. The observed coherence is too amazing, it is mind-boggling. Perhaps we have misinterpreted our data, or carried out our experiments incorrectly. Have we overlooked something? The ubiquitous forms of coherence observed, give us the impression that we may be dealing with something that is elusive, with something that produces order in several locations simultaneously. This happens in spite of the usual scientific explanations, because according to thermodynamics, matter tends to increase disorder. As, in addition to their omnipresence, we are also dealing with phenomena that occur locally, it is good to focus our attention on observations of unusual behavior of space and time.

Some peculiarities on the edge of spacetime were discovered in the early 20th century by Albert Einstein using the theory of relativity. Together with Nathan Rosen, Einstein determined that it is theoretically possible that some kind of bridges emerge between separate parts of space. The possible existence of such bridges was subsequently confirmed by means of electromagnetism¹ by Hermann Weyl. However unlikely, the possibility of these shortcuts in space was then complemented by the possible existence of time-lapses. John Archibald Wheeler and Charles Misner used the general relativity to elaborate Weyl's findings. They found tubular connections they called wormholes. As a result, besides space, also time became bridgeable. Kip Thorne added a quantum approach to the time-lapses, making time travel seem possible. How far in time this feasibility reaches, depends on the amount of energy involved in the process. The extension to time means that connections can be made not only with the past, but also with parts of a still to realize potential future. This ability to make things come from a possible future into the past was given extra support by the concept of the Tipler cylinder².

The bridges can provide for the exchange of information, impulses and energy. Because they provide for connections and communication, we call these tubular connections **C-filaments**. The areas where they depart and arrive are then called **C-zones**. These C-filaments and their C-zones are not perceived as electromagnetic interactions or fields. There are a lot of speculations about how C-filaments can be generated, but so far no one has succeeded in getting that clear. Later in this article it will appear that they emerge more easily than previously suspected.

¹ https://en.wikipedia.org/wiki/Hermann_Weyl

² Concept invented by American physicist Frank J. Tipler, who stated that any object rotating around a hypothetical cylinder of infinite length would go backwards in time.

Intangible properties of the quantum

The fact that equally something special is going on in another boundary area of spacetime is demonstrated on the quantum level by the **uncertainty principles**. These look like this:

$$\Delta E \cdot \Delta t \geq \hbar \quad (E = \text{energy}, t = \text{time}, \hbar = h/2\pi)$$

$$\Delta p \cdot \Delta x \geq \hbar \quad (p = \text{impulse}, x = \text{location})$$

The first principle means that certainty about the energy of a particle gives uncertainty about its relation with the course of time³ and vice versa. The second principle means that certainty about the directed kinetic energy (impulse) of a particle gives uncertainty about its location and vice versa. In this principle the course of time and the location of a particle correspond respectively with the energy and with directed kinetic energy.

The uncertainty principles describe how matter relates to spacetime⁴. They describe the minimal conditions for the presence of matter in the Here and Now. They describe to what extent we can deal with causal, understandable, mathematical certainties.

Thus, the uncertainty principles describe the limits of what we call **determinism**. The concept of determinism coincides with the predictable, the reversible and the repeatable (events). The concept of **indeterminism**, on the other hand, coincides with the unpredictable, the irreversible and the unrepeatable (events).

Quantum mechanics has also led to the discovery of the phenomenon of **entanglement**⁵. Sometimes the importance of this observation is reduced to the level of its description. This way of practicing physics minimalizes the importance for our perception of this observation. It camouflages that this is about the discovery of a fundamental fact. In fact, we observe that, under certain circumstances, separated particles, which were once part of a single configuration, remain connected to each other as if the space in between them did not exist. This shows the presence of a connection that transcends any form of spatial separation. We become acquainted with a property, not yet integrated in current science, which unmistakably transcends the spatial and thus material boundaries: **Non-Locality**. We call this an intangible property.

In the uncertainty principles, the location (Here) can be substituted by the course of time (Now). Uncertainty about the course of time then means that the position in time is no longer precise, so that one also has to consider the existence of yet another property with an intangible character: **Simultaneity**. This property implies that there is no presence of continuous progressing, it implies a kind of flowing together of states or processes from the past with similar things from a potential future⁶. As stated, both properties are intangible, not directly perceptible.

When we link the findings of quantum physics with those of the theory of relativity, a new paradigm appears. Quantum mechanics alone can only approach the intangible properties described above with the help of probabilities. Thus, the essence of both Non-Locality and Simultaneity cannot be understood. With the C-filaments, assistance comes from the relativistic angle. The C-filaments offer the possibility to imitate the above intangible properties, even to emulate them. The C-filaments bridge both space (Non-Locality) and time and the latter in both directions (Simultaneity).

³ An enormous amount of energy can suddenly appear and disappear just as quickly: the boson reaction in which a neutron converts into a proton.

⁴ <https://en.wikipedia.org/wiki/Spacetime>

⁵ https://en.wikipedia.org/wiki/Quantum_entanglement

⁶ This is also called anticausality: https://en.wikipedia.org/wiki/Anticausal_system

The 'easy' generation of C-filaments

Through the study of entropy changes, **Ilya Prigogine** realized that irreversible processes occur for which the past and the future are not the same. In contrast to this, for example, are the movements of the planets: calculating their current orbit enables determining their position in the past as well as predicting their future positions. Irreversibility appears in systems that are far from their equilibrium state when 'instabilities' develop. The asymmetric addition of heat energy to a balanced system then creates an energy flux through this system (e.g. a beaker with water on a hot plate). However, the 'dissipation' of heat through the system by conduction (collision of molecules) and convection (movement of particles) creates a typical swirl pattern (material flux). Prigogine calls such structures 'dissipative'.

In systems that are extremely far from equilibrium, these fluctuations take on such proportions that they reach a point where the system becomes unstable. Sudden transitions which, according to Prigogine occur as a result of 'bifurcations', take the system from a deterministic state to an indeterministic state. The result is that the system then suddenly changes into a new macroscopic spacetime structure, such as vortexes or rolling liquid elements in a heated beaker. The indeterminism which occurs in the event of instability and thus extremely far from equilibrium, causes the system 'to go another way' without this can be derived from its previous behavior or can be expected a priori. The resulting system is new, more differentiated and of a higher level of 'order' or organization. In this way, the new system efficiently solves an energetic or structural problem, taking into account all kinds of environmental factors.

Prigogine saw the irreversibility of time as the driving force behind this spontaneous form of **self-organization**. A more plausible assumption is that it is the indefiniteness of indeterminism itself that is responsible for the appearance of the unexpected order. During an indeterministic phase, the causal of the Here and Now is abandoned. This quitting and returning is identical to the generation of C-filaments. We conclude that this phenomenon was not recognized before because of the complexity of the indeterministic phase. This way of generating C-filaments cannot be verified with the mathematical tools of classical physics. Indeterminism in all meanings is unpredictable⁷. Thus, a new perspective comes into play. After all, we described a clearly observable natural law that occurs everywhere in the universe. There are many additional arguments that show that C-filaments become active when order appears from chaos.

⁷ incalculable

Functioning of C-zones

C-filaments emulate Non-Locality and Simultaneity. These drive **three actors**:

1) Non-Locality holds the role of collecting information from the near as well as the far surroundings: **spatial feedback**⁸.

The action of Simultaneity can be divided into two components:

2) the feedback linked to the past and thus the **time-bound Feedback**⁹. Through this actor, systems show a feedback mechanism in time or **cybernetics**¹⁰.

3) a **Feedforward** directed by a future potential. Through this actor, systems show a Feedforward mechanism or **odegotics**¹¹.

These three actors ensure for the incoming data to be arranged in a ready-to-use manner around possible **symmetries**. This action ensures the **preservation** of the information and the formation of overview information that determines the path a process will follow, the so-called **pathways**. This way information of a higher order is formed, so-called meta-information. This process yields an indispensable **interactive working memory**: information is not just passively stored; it is converted into meta-information. The collection of additional information and the formation of meta-information results in a decrease in entropy or **ectropy**¹². This ensures the stability¹³ of the systems involved, therefore being able to hold a higher level of energy than the environment.

Because of the time-bound Feedback the sequence of an interaction (pathway) is a consequence of the history of that interaction and this history determines the behavior of matter. The best example of such a pathway is the determination of the so-called coupling constants¹⁴. Most of these constants can be calculated using **path integrals**. This involves calculating a constant that seems to regulate the sequence of an interaction. This constant is determined by the average of all possibilities: the sum of each possible value multiplied by its own probability¹⁵. In other words, this means that some constants in physics can be determined using the statistical expectation value of the entire history of their interaction. In other words: the sequence of an interaction in the present (Now) reflects the summary of its past. This indicates the formation of meta-information by the time-bound Feedback. The existence of this meta-information is necessary to actively project the entire past into the present by means of uniform events in spite of all the possibilities that present themselves.

Feedforward in turn weighs and weighs up the possibilities of the pathways to the future of a process and 'feels'¹⁶ when they are useful for **maintaining the process**. The path that is chosen is the one that provides a suitable finality¹⁷ or way out for those circumstances. Feedforward requires a specific working memory for the intermediate and final targets or pre-selections.

⁸ Just as a thermostat regulates the operation of a driver. The term feedback is therefore simply written with a small letter.

⁹ In contrast to spatial feedback, this form of Feedback is written with a capital letter.

¹⁰ From the Greek word for "helmsman"

¹¹ From οδηγός (odēgós) or "a guide, that which shows the way"

¹² = increase in order in nature = negative entropy

¹³ An example of this we have seen in the dissipative structures.

¹⁴ An example is the "magnetic moment", which is represented by a number. This number determines the reaction of an electron with respect to an external magnetic field.

¹⁵ In fact, it is an amplitude that is squared and thus indicates the probability of the behavior.

¹⁶ We use the quotes because it's about the functioning of an actor.

¹⁷ This already is systemic behavior

The pathways form themselves according to these targets and thus it is possible that a combined focus arises on different levels. In this way, the 'preservation' or 'survival' of the entirety will also be achieved in a further future.

A **metaphor** for the functioning or working method of the Feedforward mechanism can be found in a dice cup. Suppose we want to get **5 aces** after shaking. Obtaining only aces is then 'the target' or 'the pre-selection'. If we always include all the dice in the shuffle, there is only a very small probability that we will get five aces at once (1 out of 7776). However, if we remove the already obtained aces from the poker hat at each shuffle, then it only requires in the order of 20 shuffles for five aces to be obtained almost certainly in this way "without replacement"¹⁸.

A **metaphor** for the combined functioning of the three actors: two drivers, one ordinary and one meta with a highly developed C-activity, have to go from point A on one side of the city to point B on the other side of the city.

The ordinary driver follows a fixed pathway or route description. He knows what to do at the different intersections. When he makes no mistakes, he arrives at point B after an indefinite period of time.

Among other things, the meta-driver has access to information about the city that reach him through the communication of other drivers:

- The spatial feedback ensures that he 'feels' the direction so that he always knows in which direction to travel. As a result, he 'feels' where there are traffic jams. He has a 'smart' compass.
- The Feedback ensures that he knows that certain roads are more difficult to drive due to local circumstances and that they take longer. We also call that experience.
- The Feedforward ensures that he knows when there will be jams in the city: he knows about the occurrence of markets, demonstrations, events that will result in unexpected crowds. He avoids getting stuck.

These three actors take care that the driver follows a pathway that has not been predetermined and that ensures he has the smoothest driving from point A to point B in the events that actually occur in the in between places at that moment.

In **summary**, all this means that through the actors of the C-filaments and their specific interactive working memories, coherent matter acquires a **basic form of intelligence**. Spatial feedback collects environmental information, Feedback takes care of its logical arrangement and Feedforward makes appropriate choices. This basic intelligence eventually creates and maintains life. It provides the necessary forms of ectropy at every level of coherence.

¹⁸ The median here is rounded to 11 shakes and throws ("without replacement"); after 21 shakes and throws there is already a 90% chance of 5 aces, and after 25 that is 95% etc.

The hypothesis

C-filaments have a reach that depends on the degree of complexity of the system that generates them. Because Simultaneity has to do with the course of time, its **reach** in time is a function of the amount of matter and **energy** that is involved in the process¹⁹. The spatial reach of Non-Locality then is a function of the electric **charges** that are involved in the process²⁰. This distinction in reach gives rise to different levels of organization as follows:

a) C-filaments which come back in the nearby surroundings and which have an immediate and organizing influence: this is the beginning of generating a C-zone

Examples of this are the above mentioned dissipative structures that appear in systems that are far from equilibrium state and also the findings with regard to plasma activated water²¹.

b) C-filaments that have a slightly larger reach and pick up information and energy from the more distant surroundings to form the organizing effect of the C-zone

An example of this can be found in the work of geneticist Luc **Montagnier**²², who determines the possibility of teleportation of DNA. He describes a phenomenon in which DNA emits signals that contain an image of its own structure. He calls these signals "ghost DNA", which enzymes can erroneously regard as real and thus replicate in another location. He himself is still looking for an explanation in the electromagnetic domain.

c) C-filaments that look for equal systems to exchange information and energy in order to become strong together. By equivalent systems is meant, that they are composed of equivalent components or materials and that they correspond in their shape

An example of this can be found in the research of **Vlail Kaznacheyev**²³, who reports the observation that similar tissue cultures exchange information among each other. Experimental data exist on intercellular remote interaction between two tissue cultures when one of them is exposed to factors of biological (viruses) or chemical (mercury(II)chloride) nature are presented. The characteristic reaction of the "intact" culture is in the form of a "mirror" cytopathic effect where the need for the use of specific materials²⁴ is remarkable.

d) C-filaments that scan the 'survivability' of a system by connecting with future potentials

An example of this can be found in **Monika Gagliano's** work²⁵. She discovered an intelligence in plants that is not based on the functioning of neural networks. She observed that across all species individuals thrive in complex ecological systems that they are seldom aware of. In order to cope with this uncertainty, to make good choices and to avoid costly errors, organisms have developed the ability to exploit the most important characteristics of their environment. It has long been understood that people and other animals through experience quickly learn to associate specific clues with specific locations, events and circumstances. The

¹⁹ That became apparent from Kip Thorne's calculations.

²⁰ This is why Weyl also came up with the possible existence of an Einstein-Rosen bridge.

²¹ <https://www.youtube.com/watch?v=vDcQhkt3-L0&feature=youtu.be>

²² <https://www.popsci.com/science/article/2011-01/can-our-dna-electromagnetically-teleport-itself-one-researcher-thinks-so/>

²³ *Bulletin of Experimental Biology and Medicine* March 1980, Volume 89, *Issue 3*, pp 345–348
<https://link.springer.com/article/10.1007/BF00834249>

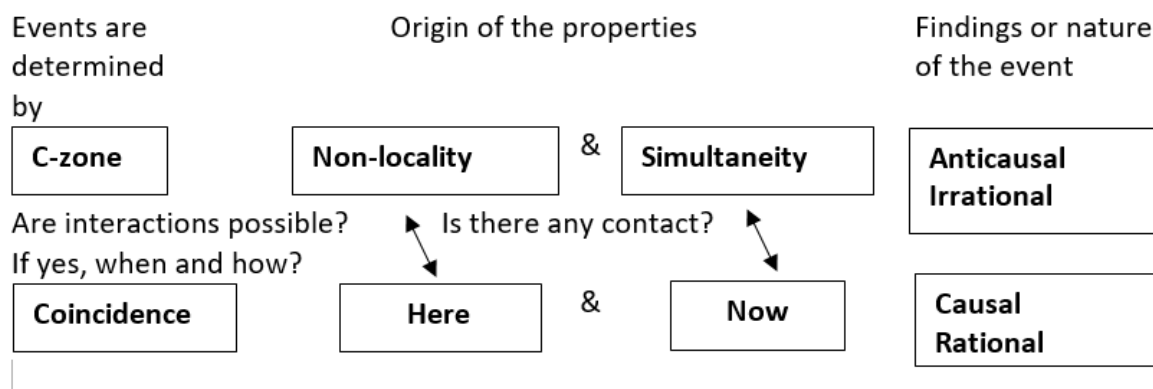
²⁴ See below with HHO and Schauburger

²⁵ COMMUNICATIVE & INTEGRATIVE BIOLOGY: The mind of plants: Thinking the unthinkable

2017, VOL. 10, NO. 2, e1288333 (4 pages) <https://www.tandfonline.com/doi/full/10.1080/19420889.2017.1288333>

idea that plants are also able to learn by association has never been proven before. Now there is experimental evidence that plants learn associatively²⁶, making them suitable to subject them to cognitive research. Gagliano points out that the current premise of cognitive science - that we need to understand the precise neural underpinnings of a particular cognitive function in order to understand the evolution of cognition and behavior - needs to be fully reconsidered.

In the diagram below, it is assumed that events in the lower material layer can be triggered by interactions with the upper intangible (transcendent) layer.



The bottom layer describes the material mechanistic reality, which means that all known things in the Here and Now are material, sometimes happen by coincidence and furthermore are rational and causal. The influence of the upper intangible layer ensures that self-organizing processes take place. As long as we limit ourselves to the bottom layer by solely analyzing things we encounter in the Here and Now, we will not recognize the influence of that abstract world of the upper intangible layer and we are not able to gain an intrinsic understanding of coherence in matter all around us (= reductionism).

Distant or near influences from the surroundings can create an organization with 'new' parameters as described above. Through a variety of C-filaments, the C-zone utilizes the intangible properties Non-Locality and Simultaneity. A C-zone is not a combination of electromagnetic fields, but it is rather a zone in which the **mechanistic** is transcended and the **systemic**²⁷ makes its appearance. A C-zone functions both spatially and in time as a **transfer zone** of information or energy, as follows.

- ✓ The spatial aspect includes that processes requiring energy in order to occur, can draw this missing energy from a process with excess energy²⁸ that takes place in the nearby and more distant surroundings.
- ✓ The time aspect includes that processes requiring information and energy in order to occur, can draw this missing energy from a related process with excess energy that will take place in the near or far future.
- ✓ The C-zone holds a (self)**organizing principle** that establishes a relation with the properties of the nearby or distant surroundings both in space and in time. This ordering principle causes the systemic behavior of matter.

²⁶ Paul Stamets: <https://www.youtube.com/watch?v=Nxn2LIBJDI0&feature=youtu.be>

²⁷ Behavior of matter as an organized coherent system

²⁸ <https://www.popsci.com/science/article/2010-02/physicists-prove-teleportation-energy-theoretically-possible/>

- ✓ A system easier survives when the least vulnerable degree of complexity is adopted. This gives systems the ability to adopt a **geometric-dynamic ratio**. By means of a specific geometric-dynamic ratio, the systems can maintain **receptivity** between each other. Therefore this receptivity is a vibration-free and contact-free equivalent of what we know as resonance in interconnected states.
- ✓ Geometric-dynamic ratios play a determining and intelligent role; they cause, so to speak, "**the magic of life**".

Now that we have come to this insight, we can see that the generation of C-filaments happens just about everywhere in physics, chemistry and biology when a process or system is 'far from equilibrium'. 'Weird' or salient facts finally get an explanation. C-filaments help us to form a picture as sharp as possible about the 'boundary areas' where analytical and causal physics and ditto science falls short in its explanatory capacity. Out of necessity because their articles would otherwise not have been published, quite a few scholars have tried to explain the phenomena they observed as electromagnetically induced manifestations or special quantum effects²⁹. This tendency to give laborious explanations with existing physical concepts tended not to be appreciated by physicists and the articles of those scholars ended up in the trash. C-zones generated by circumstances 'far from equilibrium' offer much more guidance and plausible explanations.

A few examples

Louis Kervran and the biological transmutations³⁰

By studying the evolution of a hen's egg, this scholar found that transmutations take place in it. He was defamed by the nuclear physicists because he was unable to provide an explanation for excesses or shortages of energy that occur during such transmutations. Yet these observations are very reliable. Biological processes are continuously 'far from equilibrium' and yet they are stable. Here we can express the justified suspicion that, under certain circumstances, biological transmutations occur by the generation of one or more C-filaments. There are several indications that C-filaments are generated when di-atomic substances are converted into a mono-atomic state. In this state, matter is so 'far from equilibrium' that it produces a C-zone that provides both structural changes and stability. Such phenomena are observed in a state of water which was not understood until now: Brown's gas or HHO.

Brown's gas or **HHO** is a state of water produced by a less driven form of electrolysis. The products of the split water molecules are and remain mono-atomic. The state of the gas is highly energetic compared to the gas when it becomes diatomic, as it is the case with the classical, fully driven form of electrolysis. There, the split atoms are forced back into their di-atomic state by the drive of the electrolysis. However, the mono-atomic state itself shows long-term stability. The reactions of the HHO are not to be understood by means of 'normal' physics. For example, HHO becomes implosive under the influence of paramagnetic substances and explosive under the influence of diamagnetic substances. Paramagnetic substances allow the binding action of C-zones in HHO causing it to implode when ignited. When mono-atomic atoms implode, this additional imbalance generates C-zones that are able to trigger transmutations³¹.

²⁹ *BioScience Trends*. 2011; 5(3):89-92: <https://www.ncbi.nlm.nih.gov/pubmed/21788692>

³⁰ <https://pdfs.semanticscholar.org/60be/010e046739e96682a1c48ebb85526af31cac.pdf>

³¹ Provoked in a special reaction chamber, see article on F&P on <http://ww.ontheorigin.com>

The temperature of a torch(!)³² driven by HHO adapts to its environment. When the flame is aimed at organic tissue, it reaches only 130°C, when aiming at steel the flame causes melting (normally at 1450°C) and when aimed at tungsten evaporation occurs (normally at 5550°C).

Viktor Schauburger discovered that vortexing water (a combination of a centrifugal movement and a centripetal movement) has a peculiar effect. A strong ionizing effect occurs in the environment. The nature of the effects that occur is, as with HHO, again dependent on the presence or absence of para- and diamagnetic substances.

An unofficial report³³ points at a strongly propulsed vortex which, unlike a gravity propulsed vortex, can provoke dematerialization (with unorganized transmutations as a result). Others, whose reliability we can't vouch for, in turn speak of anti-gravitational effects. Because these effects could not be explained, these reports have not been granted any attention. Here a C-zone is produced by a combined expanding and shrinking movement, the centrifugal movement and the centripetal movement. Other C-filaments can also be related to circular phenomena:

Centrifugal phenomenon: origin of the Universe → order → life

Centripetal phenomenon: implosions of HHO → possible transmutations

The circular movement is not physically a natural movement. It is a forced movement that does not fully correspond to abstract smooth geometric movement. The fact that there is more to circular movement than meets the eye, is shown by a number of mechanistic effects such as the rotating key or tennis racket called the Dzhanibekov effect³⁴. There are also reported experiments in which $\pi = 4$ is observed³⁵.

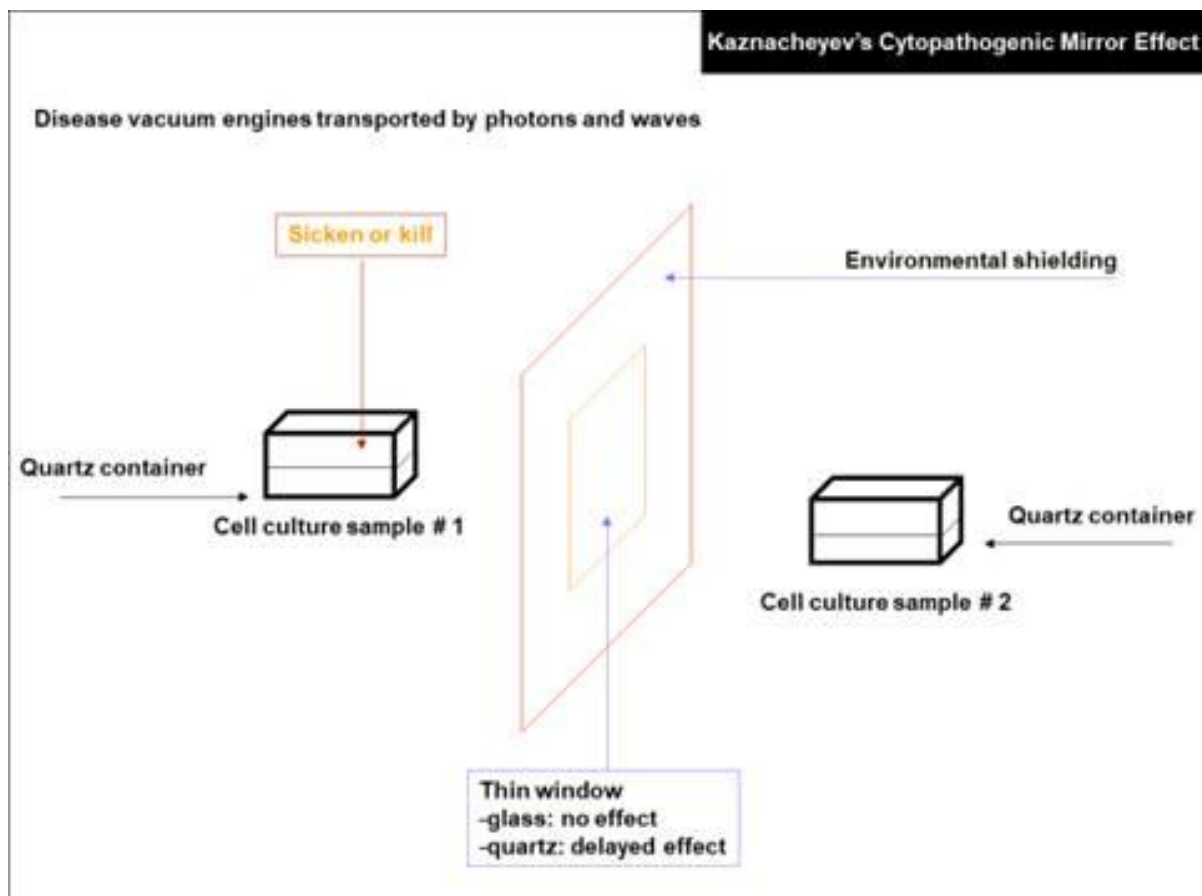
Kaznacheyev, already cited above, reports the observation that equivalent tissue cultures exchange information with each other despite the presence of a physical barrier. His experimental setup looks as shown in the figure below. A remarkable finding here is that quartz plays a decisive role in whether or not the effect is present. Again, as with the two previous examples, HHO and Schauburger, we observe the importance of the presence or absence of para- and diamagnetic substances. In this case, the presence of quartz is very important. Quartz (SiO_2) contains the diamagnetic silicon and the paramagnetic oxygen. The molecule as a whole has a diamagnetic influence.

³² This is burning water!

³³ <http://www.waterjournal.org/uploads/vol5/supplement/LeClair.pdf>

³⁴ https://www.youtube.com/watch?v=1VPfZ_XzisU&list=FL1XAXu76RnZxTdGAlDeN9CA&index=2&t=3s

³⁵ <https://www.youtube.com/watch?v=QhuvUSS3KAE&feature=youtu.be>



Philip Callahan³⁶ mentions that plants only flourish on the eastern side of the Nile. The reason for this is that paramagnetic substances are deposited on that side. This makes it easier for plants to generate C-zones. On the West side where mainly diamagnetic substances are located, there is hardly any plant growth.

Gerald Pollack's exclusion zone³⁷: he notes that water can emulate other molecules to create a multiplication effect. This means that certain biochemical processes occur despite the absence of the required quantities of catalysts or other intermediate substances.

Scholar **Mae-Wan Ho**³⁸ goes even further than Pollack. She investigated the special role of water in biological processes. She found that a collagen water structure shows a surprising degree of organization. Because she did not know of the C-filaments, she had to hypothesize the existence of superconducting channels allowing every free cell in the body to coordinate perfectly with the other cells. Due to that hypothesis, her findings were still taken to the realm of pseudoscience.

³⁶ <https://www.amazon.com/Paramagnetism-Rediscovering-Natures-Secret-Growth/dp/0911311491>

³⁷ Pollack: <https://www.youtube.com/watch?v=p9UC0chfXcg&t=408s>

³⁸ <http://www.i-sis.org.uk/newageofwater.php>

Equally in **cosmology** we have to take into account the generation of C-filaments:

- In fusion reactors, the existence of uncontrollable disturbances resembling lightning bolts³⁹ has been reported. Such phenomena also occur during a long time on the surface of the sun where they are called filaments⁴⁰. Presumably these disturbances can be regarded as C-filaments that are generated by the chaos. They appear to set in motion a self-organizing effect.
- According to Nobel Prize laureate Hannes Alfvén, our cosmos is full of invisible regulatory filaments of which only the organizing effects can be observed. So far, their cause and purpose have been inexplicable; however, with the knowledge of the C-filaments, we may understand a little bit more about their *raison d'être*:

Invisible filaments in Space⁴¹

“Computer simulations of magnetic fields in galaxy clusters by Klaus Dolag revealed that galaxy clusters are embedded in a large-scale spider-web-like structure of filaments. Extensive galaxy surveys also show that structures resembling sheets and filaments characterize the distribution of galaxies. Consistent with the simulations, this distribution resembles a complicated spider's web several hundred mega parsecs in diameter. According to Hannes Alfvén, space is filled with a network of currents which transfer energy and momentum over large distances. Hot plasma streams along such filamentary currents. Now, astronomers have actually detected a 'universal web'. Vast filaments of hot gas tracing the web have been 'seen'. Astronomers using NASA's X-ray satellite observatory, Chandra, 'viewed' the filaments stretching for millions of light years through space, with one passing through our own galaxy. They calculate that the filaments contain five times more mass than all the stars in the universe!

Astronomers say that the filamentary structures are so hot that it would generally be invisible to optical, infrared, and radio telescopes. These invisible filaments are detected only because higher density ordinary matter tends to accumulate and condense in these filaments - generating radiation which can be measured by scientists to confirm the existence of these filaments in intergalactic space.”

Recent reports mention interactions between galaxies that can be explained by C-filaments:

- "The observed coherence must have some relationship with large-scale structures, because it is impossible that the galaxies separated by six megaparsecs [roughly 20 million light years] directly interact with each other."⁴²
- “The Milky Way, the galaxy we live in, is one of hundreds of billions of galaxies strewn across the universe. Their variety is stunning: spirals, ring galaxies shaped like star-studded loops, and ancient galaxies that outshine virtually everything else in the universe. But despite their differences, and the mind-boggling distances between them, scientists have noticed that some galaxies move together in odd and often unexplained patterns, as if they are connected by a vast unseen force. Galaxies within a few million light years of each other can gravitationally affect each other in predictable ways, but scientists have

³⁹ <https://www.livescience.com/62605-whistler-waves-nuclear-fusion-reactors.html>

⁴⁰ The whistler-waves in fact are also filaments, but should not be confused with what is currently, somewhat unfortunate in this domain, also referred to as 'filaments': a kind of shield layer for the surrounding walls to prevent them from being attacked by the bursting plasma.

⁴¹ <https://www.unexplained-mysteries.com/column.php?id=89466>

⁴² <https://www.sciencealert.com/something-strange-is-causing-distant-galaxies-to-synchronise>

observed mysterious patterns between distant galaxies that transcend those local interactions.”⁴³

- When the horizon of a black hole generates a C-zone, it means that a black hole can exchange energy with other black holes or with other forms of matter connected to that C-zone.

With the help of the C-zones, all kinds of so far unexplained phenomena can be scientifically substantiated by means of findings and new experiments. The following are easy to investigate examples from nature:

- ✓ Immediate communication by pheromones: when the female of a couple of cockroaches secretes pheromones, her male almost immediately picks it up at a very large distance, he becomes restless and leaves in the right direction.
“Cockroach species that can fly, and some of the non-flying species also, rely on long-range volatile pheromones for finding mates.”⁴⁴
- ✓ The Hundred Monkey Effect⁴⁵
The name of this effect refers to the observation that if sufficient people have learned a certain behavior, this behavior spontaneously ends up in a form of common consciousness.
- ✓ **Rupert Sheldrake** expanded the findings on this effect even further. He set up many experiments that can only be explained by the presence of a C-zone. Because he had no other explanation, he thought of fields that are not linked to space-time, which he called **morphogenetic fields**, somewhat similar to the geometric-dynamic ratios.

Biologically active C-zones (self-zones)

Here

- transmutations may occur causing an organism to operate in a more targeted way
- life may be generated (as a self-organizing system)
- **consciousness** may arise as a manifestation of combined C-zones

Examples include:

Forester **Peter Wohlleben** made many observations about the hidden life of trees. He identified unexpected skills of trees and describes amazing processes of life, death and regeneration he has observed in the forests. Much like human families, tree parents live together with their children, communicate with them and support them as they in grow. Among others, they share nutrients with those who are sick or struggling and create an ecosystem that mitigates the impact of extreme heat and cold for the whole group. As a result of such interactions, trees in a family or community can live to very old age; in contrast solitary trees often have a tough time and, in most cases die much earlier than those in a group.

⁴³ https://www.vice.com/en_us/article/zmj7pw/theres-growing-evidence-that-the-universe-is-connected-by-giant-structures?utm_source=dmbf&fbclid=IwAR1EVhCm6Q3BiLh0oX8YiZsU2LTHQ9AsKTO4abTgVuNyoB7p-uWLgp5U4h8

⁴⁴ <https://www.cambridge.org/core/books/advances-in-insect-chemical-ecology/sex-pheromones-of-cockroaches/980209F0E2728AC9FB3434B04E3DBEB6>

⁴⁵ https://en.wikipedia.org/wiki/Hundredth_monkey_effect

Researcher **Eric P. Xing**⁴⁶ described how odor molecules are picked up and recognized. There are two different theories: the 'lock and key' theory and the 'vibration' theory⁴⁷. The first theory states that odor molecules can be seen as keys that fit on a specific lock, or a specific receptor. The second theory states that the way the molecules vibrate determines which receptors are activated. The latter can only happen if Non-Locality is involved in smelling.

Many phenomena existing in free nature and in our living environment can hardly arise otherwise than by the generation of a C-zone. Other explanations than by means of a C-zone tend to be far-fetched and often don't correspond with reality:

- ✓ For example, **draught**: in a split second a sense of state is present; as a result, all air molecules are almost instantaneously directed in the same way.
- ✓ The coordination of a flock of starlings is so instantaneous that the reaction time of the participating starlings should be assumed to be almost zero in order to explain this effect. This is also observed in shoals of fish.
- ✓ The combination of **tone and rhythm** makes music that catches on. The quality of music is usually sought in its tone, when in fact it is in the rhythm. It's the rhythm that generates a C-zone in which we can get carried away.
- ✓ In the connecting role of **dancing** there is the cadence that generates a C-zone causing dance partners to find each other in a magical entirety.
- ✓ The hoverfly imitates a dangerous insect which makes it less vulnerable as a prey for birds. The **mimicry** in hoverflies can only be explained by 'feeling' or 'knowing'⁴⁸ the reactions of an environment.
- ✓ The chameleon that can blend into in a certain environment in order not to be noticed, is yet another reaction that originates from an **environmental awareness**.

In the last two cases the 'awareness' of the surroundings is a result of the presence of Non-Locality. Because anticipation is at work, the reaction can only be explained by the presence of the property Simultaneity. The intertwined role of the three actors of the C-filaments in organisms is highly determining for biological developments, for the inception of new species.

The following scenario indicates that the construction of multiple layers of meta-information was required to produce self-supporting life forms. This scenario needs to be adapted, expanded and further investigated. A descendant of the circular prokaryotic **DNA** is found in different cell organelles of eukaryotes. Thus, mitochondria are not only manufacturers of energy, they also produce all possible proteins and enzymes in a coordinated fashion. Mitochondria are overly active, so we assume that their circular DNA is produced by the combined and consecutive activity of numerous self-regulating C-zones that formed several successive layers of meta-information.

As a result, a possible scenario of development is as follows. In the primordial soup of the oceans all kinds of amino acids were formed as a result of all kinds of activities. In this turbulent prebiotic soup, configurations of amino acids happened to constitute 'usable' proteins. C-zones emerged and the resulting produced meta-information ensured that 'useful

⁴⁶ <https://www.pnas.org/content/113/21/E2889.abstract>

⁴⁷ When in a scent molecule an atom is replaced by its isotope, we 'smell' this difference.

⁴⁸ We use the quotes here to indicate that 'feeling' (Feedforward), 'knowing' (time-bound Feedback) or 'being aware' (spatial feedback) are terms that are used here and further on for the functioning of the three actors.

configurations⁴⁹ were remembered and that the need was 'felt'⁵⁰ for the development of other structure-supporting amino acids. These could then be produced in a targeted way through the C-zones. Once this step was taken, a number of useful configurations persisted and grew into more complex structures. In this way meta-information of a higher order was formed in which a distinction was made between the producer and the memory for the structure of the final products delivered. This is how the mitochondria containing the mitochondrial DNA came into being. Because of their high degree of restlessness, the mitochondria in themselves are extensive C-zones and therefore coordination centers for the entire organism. The mitochondrial DNA 'felt' that it had to protect its host organism and thus a core is molded in which more stable forms of DNA are stored. In addition, some mitochondria specialized in other cell organelles such as ribosomes that enabled survival and reproduction. The distinctive specializations of the mitochondria merged into fully-fledged cells that were able to survive, pass on and grow into the formation of complex organisms.

Evolution became possible due to the appearance of core DNA. We have seen with Montagnier that DNA manifests itself in its environment. This does not happen according to his assumption as a result of an electromagnetic field but by one or more C-filaments. This means that the core DNA of an organism, probably via various kinds of interactions with the mitochondrial DNA, is also in contact with the environment. The result of this contact is that the DNA 'knows' about the needs of that environment. Because C-filaments are involved in this communication, this also means that the DNA is 'hemming and hawing' its chances of survival. When an environment changes drastically, DNA can lose its stability and will start to choose other ways to allow 'its organism' to survive. This means that 'targeted' mutations are required.

Targeted mutation is not a single event. It is not a single gene change, but a number of complementary genes changes. A good example is the appearance of a new genus of fruit flies. When a gene mutates in a fruit fly to form larger genitals, another gene will mutate in that fruit fly that changes the color of its exoskeleton and another gene will mutate that influences the mating dance. When such a targeted series of mutations has taken place, a new genus has appeared. The mutant fruit flies of which the genitals fit into each other notice each other by the striking changes in the color of their exoskeleton. When they approach each other, they spontaneously perform a mating dance that tells them that they are made for each other.

Now suppose that an environment changes so drastically that the appearance of a much more complex new species is required. Let us take the development of the snake 20 million years ago. For a snake to develop from a reptile it takes about 20 new properties. An example of such a property is to produce a poison that can paralyze a prey and at the same time facilitate the digestion of that prey. The 'knowing' of how this biochemical process should proceed can only be achieved by an intense contact between the DNA of the reptile to be modified and that of its possible prey. This contact can only take place via Non-Locality in their C-zones. The modus operandi of the biochemical modification is in turn controlled by the two actors of Simultaneity. Many other properties need to be developed in order to eventually form a new genus: the snake.

⁴⁹ Feedforward determines which pre-selection gives the best chance of building a structure.

⁵⁰ 'feeling' here is a term used for the combined functioning of the three actors

In order to understand how such a large group of properties can change so drastically in a limited number of generations, we return to the metaphor of the dice cup. Suppose that there are **20 dice** under the cup. If we were to shake to obtain 20 aces at once, we would need at least three lives to do so.

With the Feedforward mechanism, as with the 5 aces, it only takes about 20 to 30 shakes ("without replacement") to obtain 20 aces⁵¹.

In this case a dice has 6 surfaces. Each of these surfaces represents a possible species. Natural selection then determines which of these 6 possible species will survive.

How do we translate this into the development of the snake? Suppose a population of reptiles is under survival pressure of a threatening environment. Locally, targeted mutations will occur. As already mentioned, a targeted mutation is coordinated. This means that changes will still occur in the adjoining DNA of the organism, as a result of which mutants will recognize each other. These other mutants may show additional mutations. An offspring with a mutation is attracted to an offspring with another mutation, thus bringing into being an advanced combination of mutations. This process takes place at various levels and after many generations all the mutations needed to form one or more new species have found each other.

Conclusion

The existence of C-filaments and C-zones has not yet been systematically integrated in science, whilst it already contains a number of indications in that direction. The insights and concepts provided in this article allow us to arrive at a plausible scientific explanation of many 'weird' or salient facts relating to the organization of matter. The perspective of the C-zone enables a scientifically sound understanding of coherence.

Epilogue

In the twentieth century, a number of smarties, each in their own misplaced and authoritarian way, prevented the normal development of science for a very long time. We can no longer make the same mistakes; we have already lost too much time.

One of those *smarties* is Hermann Minkowski. In 1908 he gave rather a pathetic lecture about his new mathematical approach to spacetime. "The idea of space and time that I wish to present to you stems from experimental physics, and that is where its power lies," he said. "It is radical. From now on, space and time as such will slip into the ghostly realm and only a kind of unification of both will exist as an independent reality."⁵² By making this statement, Minkowski has prevented people from realizing the importance of the imaginary character of the dimension of time as the instigator of its irreversible course. It was not until much later that Prigogine was the first to draw the world's attention to this occurrence. He did this by noting that there is no mathematical description of the course of time⁵³. Prigogine himself made no connection with Minkowski's statement.

⁵¹ The median here is only 19 (!) pitches and 29 pitches for a 90% chance and 33 for a 95% chance ... This also explains a "complexity increasing efficiency": the targeted information then has a relatively heavier impact along a larger number of possible pathways. This is an additional argument against blind coincidence, which therefore becomes less and less plausible with increasing complexity.

⁵² Pais, 1982, 151, quotes Minkowski, 'Space and Time', seminar at the University of Cologne, 21st of September 1908.

⁵³ Irreversible time and continuous creation: 'Between time and eternity' by Ilya Prigogine and Isabelle Stengers.

It can be stated that the search for the why of things was abandoned by most scientists from 1927 onwards. This happened spurred by Niels Bohr and Werner Heisenberg when in a lecture they proclaimed the tenor that became known as the 'Copenhagen interpretation'. The aim was to avoid unnecessary time wasting on experimentally non-verifiable or 'non-vulnerable' theories. Their view was that physics only makes real progress if it can predict the *behavior* of matter more accurately. Over time, improving phenomenological models became synonymous with 'understanding' things. Detecting *the why* was referred to the field of philosophy or religion. That according to the contemporary scholars still there is no reason to change this attitude is illustrated by a statement of the physicist Richard Feynman in his book Q.E.D.: "Even the best (quantum) theories do not succeed in accounting for the existing particles, but they suppose the existence of countless other particles that have not been found" in which he admits: "The description given by the physics of nature is rather messy...". His introductory note is quite disconcerting: "I only describe HOW nature works. WHY it works this way is a completely different question. I can't give you the answer to that. Nobody can do that anyway."

And last but not least, let's consider Jacques Monod. In his book 'Le hasard et la nécessité' he uses his own discoveries and those of genetics combined with the concept of the theory of evolution to sketch how the purposefulness of adaptation could be explained, according to him, purely scientifically. Doing so, he thought he would draw a line under the ideas about vitalism that were flourishing at the time.

Furthermore, some reductionists write in his footsteps "...many philosophies, visions of life and religions remain attached to animistic ideas, whereby the principle of objectivity is not accepted. It is often said that history has a plan (Marxism), or that the universe unfolds according to a certain plan. Monod sees a serious threat in the gap between these ideas and the starting point of science. Society would benefit from knowledge ethics that respects the principle of objectivity, in which knowledge and values are not mixed up."⁵⁴

Monod's allegations are of the same (unscientific!) order as the ban on Galilei, Minkowski's commandment and later the Copenhagen Interpretation: "No more searching or discussing now ... the final truth is as follows ...". With the insights and new concepts provided in the article, we hope to contribute to (re)open(ed) debate and research on dogmas that lead to stagnation.

⁵⁴ Translation of the Dutch page in https://nl.wikipedia.org/wiki/Toeval_en_onvermijdelijkheid

Appendix: brief overview of the theorems set out in this article

Theorem 1

According to the theory of relativity it is possible to make connections between separated areas of spacetime. If such phenomena can be generated in real life, we call them **C-filaments** because of their connecting properties.

Theorem 2

The uncertainty principles describe how matter relates to spacetime, more specifically, they describe the minimum conditions for the presence of matter in the Here and Now. They describe how far causal, understandable, mathematical certainties reach. As such **the uncertainty principles describe the limits of what we call determinism.**

Theorem 3

The concept of **determinism** coincides with the predictable, the reversible and the repeatable. The concept of **indeterminism**, on the other hand, coincides with the unpredictable, the irreversible and the unrepeatable.

Theorem 4

The discovery of the phenomenon of **entanglement** indicates that separate particles, which at one time were part of a single configuration, remain connected under certain circumstances as if the in between space did not exist. This is the result of the existence of a feature that transcends spatial and therefore also material boundaries: **Non-Locality**. We can call this an intangible property.

Theorem 5

In the uncertainty principles, the location (Here) can be replaced by the course of time (Now). Uncertainty about the course of time then means that the position in time is no longer defined, so that the existence of yet another property with an intangible character can also be taken into account: **Simultaneity**.

Theorem 6

The properties Non-locality and Simultaneity are emulated by C-filaments.

Theorem 7

Prigogine showed that self-organization occurs in indeterministic circumstances. Then C-filaments are generated and C-zones emerge. Indeterminism is responsible for the temporary presence of irreversibility that made Prigogine suspect that it is time itself that has an irreversible character.



Theorem 8

C-filaments emulate Non-Locality and Simultaneity. These drive **three actors**:

- 1) Non-Locality holds the role of collecting information from the near as well as the far surroundings: **spatial feedback**.

The action of Simultaneity can be divided into two components:

- 2) the feedback linked to the past and thus the **time-bound Feedback**. Through this actor, systems show a feedback mechanism in time or **cybernetics** (that which steers).
- 3) a **Feedforward** directed by a future potential. Through this actor, systems show a Feedforward mechanism or **odegotics** (that which guides).

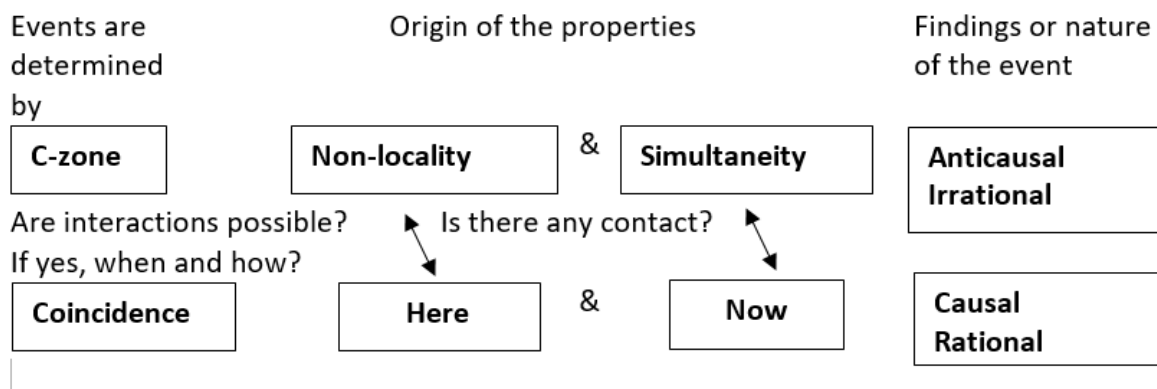
Theorem 9

A distinction in the reach of C-filaments gives rise to different levels of organization:

- a) C-filaments which come back in the nearby surroundings and which have an immediate and organizing influence: this is the beginning of generating a **C-zone**
- b) C-filaments that have a slightly larger reach and pick up information and energy from the more distant surroundings to form the organizing effect of the C-zone
- c) C-filaments that look for equal systems to exchange information and energy in order to become strong together. By equivalent systems is meant, that they are composed of equivalent components or materials and that they correspond in their shape
- d) C-filaments that scan the 'survivability' of a system by connecting with future potentials

Theorem 10

There are events in the lower material layer that are triggered by interactions with the upper intangible (transcendent) layer.



Summarized:

Ectropy, basic intelligence and **self-organization** are produced by C-zones.