



Synthesising the criteria of and for non harmful functionality of man-made systems

Arend van Campen^{1,*}

¹ Sustenance 4 all, Netherlands

*Corresponding author (Email: avc@sustenance4all.com)

This research focusses on the development and application of a measurement system for the functionality of anthropogenic designs. Man-Made constructions, systems, organisations or products often are negative interdependent (they benefit some, but at the cost of others – i.e., or profit for one at the cost of everyone: externalities). This study observes society thru the lens of information. Information doesn't seem yet being understood as a physical substance which warrants functionality of universal and natural systems. Nature can no longer be seen as matter and energy, but must be interpreted as matter, energy and information (Campbell Jeremy, 1982) [1]. Rolf Landauer stated that information is physical (Landauer, Rolf, 1991) [2] and related it to entropy which leads to disorder in systems, describing the measure of entropy in a number of bits which are binary units of information, and confirmed that entropy *is* information.

Preamble

The ability to communicate i.e. exchange and use information as the energy required to remain autopoietic (self-maintaining) applies to all physical, biological and therefore anthropogenic systems, because man is an intrinsic part of nature. Man-made goals are often ulterior motivated and therefore are or become dependent on non-communication which leads to an entropic (disorderly) state due to an energy i.e., a deliberate information shortage a.k.a. as lying which defines entropy. We are living in a society, which finds itself in a harmful crisis of perception (Capra, 1991) [3] because people do not understand the significance and meaning of information as the energy that forms, builds and maintains order and safeguards functionality. Life sustains life itself. Living creates and sustains negative entropy a.k.a. negentropy or order, in an entropic universe. Life somehow escapes the 2nd law of thermodynamics since life started to emerge.

Disinformation

When we observe how disinformation is used to manipulate reality while this is physically impossible but potentially harmful, we can use this science to learn. It will become demonstrable that ideological goals, which depend on information deficit (lying or the suppression of information) can't ever be achieved.

Unfortunately such goals have been and still are being enforced causing great harm to all living systems.

Cognition, according to research by Humberto Maturana [4] and Francisco Varela, means in short the processing of all relevant information with the environment in order to be sustained. They found that cognition is inseparable from autopoiesis.

Social Cognition Niklas Luhmann, sociologist argued that the basic idea of autopoiesis also applies to non-biological, social systems, producing their own elements (Seidl, David, 2004) [5]. He understood human made organisations and society as polycentric collections of interacting social systems (Monkelbaan, Joachim, 2019) [6] through communication. i.e. cognition and distinguished three types of social systems: interaction (conversation), organisations and function systems (systems of communication).

The Universe is a physical system that contains bits of information. Each elementary particle carries bits of information. Electrons carrying information work together in a systematic way to perform a quantum logic operation. A computer and our cell phones operate like the universe because they are part of it and to operate they must obey the same physical laws. Computers and the universe are information processors. Quantum computing is currently made possible by information; the universe already works that way. (Lloyd, Seth, 2016) [7].

Quantum information processing analyzes the universe in terms of information: the universe consists not only of photons, electrons, neutrinos and quarks, but also quantum bits or qubits. Professor Lloyd says the universe is a giant computer, processing information in quantum bits (qubits). The universe, a computer, the human body, the environment, businesses; all living systems are information carriers, receptors and/or transmitters. The information they carry can be understood as meaning, observed and understood by human consciousness and processed by its brain thru perception by all senses. Without the human ability to interpret information and meaning, the usefulness of bits of information can't be detected. Therefore it is of importance to learn how people perceive reality. Fritjof Capra talks about a Crisis of Perception (Capra, 1991, 2016) because he states that people perceive our world as something outside of them. This mind-body paradigm persists.

This study will test Symbolic equations for Anthropogenic Entropy (disorder) and Negentropy (Order). (Van Campen, 2017) [8].

Information deficit \triangleq Entropy Metaphysical Equations

Entropy or disorder occurs by a false perception (P) of life: symbol Ankh – information deficit (i) outside the limitations of reality (R) Realiteit (Truth) = **outside boundaries of functionality = dysfunctional, potentially harmful**

$$\infty = ((\text{Ankh} + i) \leq R) \times P$$

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Negentropy or order occurs by a correct perception of life (P : symbol Ankh + sufficient relevant information (i) within limitations of reality (R) Realiteit (Truth) = **inside boundaries of functionality**
In fact: **non harmful functionality** depends on the quality and quantity of information!

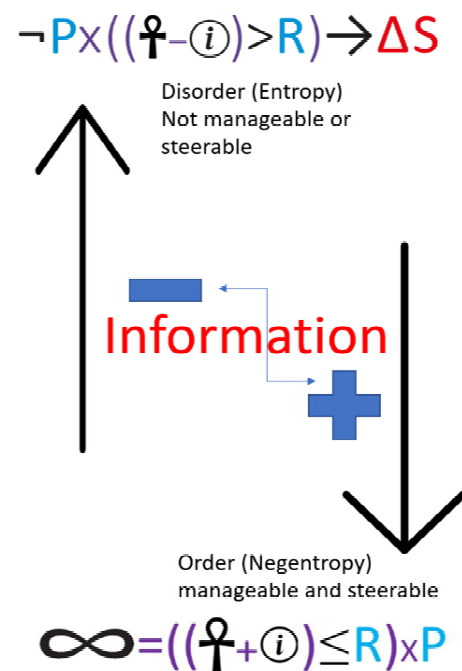


Figure 1. Symbolic representation of the relationship between information, entropy and reality.

The process of understanding what information entails starts with the description of the two laws of thermodynamics. Information understood as energy obeys the same laws of physics. 1st and 2nd law of thermodynamics (Clausius, Rudolph 1865) [9]. There are two kinds of processes, heat and work, that can lead to a change in the internal energy of a system. This is the same as saying that any change in the energy of a living system must result in a corresponding change in the energy of the surroundings outside the system. In other words, energy cannot be created or destroyed. Information influences matter and reality because it always is a part of them. Matter, energy and information form one physical reality, i.e., a trinity. Information can't be disconnected nor separated from the physical reality. This means that man can't escape reality, because he is always a part of it, whether he prefers it or not. With physical information in the form of feedback as an influencing energy through cognition, processes that use all available and

relevant information are adaptive whilst processes that not use all available relevant information become non adaptive. Entropy is the measure of order or disorder in a process or living system by the availability or unavailability of energy=information. Information answers to the same law of physics, namely that natural entropy can be influenced by information, which is used by our universe and planet to create order and structure. Information can't be destroyed because it is connected and a part of quantum reality i.e. the fabric of existence. Universal simplicity and elegance apply as follows:

When one observes the current state of our global society one can understand that anthropogenic systems are causing disorder. Without having to mention all that has gone and is going wrong, you the reader will know what is meant. This study is an attempt to synthesise the causality by following the first goal of the School of Athens which was; Seek knowledge of Cause: Conclusion: information deficit. Can it be so simple? Yes! By developing and completing 4 projects based on synthesis, rather than analysis, this research aims to scientifically and empirically demonstrate that this statement is correct.

Regulating complexity is impossible. Regulating reality, which is based on information deficit, is impossible. We observe that a societal surreality is regulated by the suppression (re censoring) of information. This is unachievable because of the law of physics, which says that information can't be divorced from the physical reality (Khalili, Jim, 2016.) [10] Therefore societal systems that lack information and that are enforced by regulations are doomed to collapse which history confirms.

Social Entropy in Open Systems

Kenneth D. Bailey corroborates the unlimited application potential of his Social Entropy Theory [11]. The relationship of the first and second law of thermodynamics is not just physical, applicable on closed systems, but also related to social, so called open systems. Closed systems where laws of physics apply can't be separated from open social systems, because the same laws of nature apply to both. When information deficit occurs, energy deficit occurs which means that 'work' can't be done, hence functionality ends.

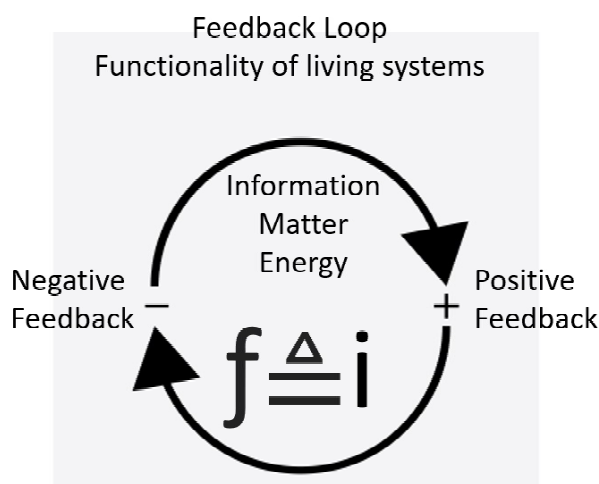


Figure 2. Feedback loop of functionality of living systems.

Greek, Roman and Italian civilizations collapsed due to untruths, which are equal to information deficit. Now, just look around; our social cohesion is being destroyed once more by disinformation. All nature requires of man is to tell the truth.

Note

At the time of writing this article an entropic acceleration in the Netherlands can be detected. A perilous debate amongst governmental officials and political parties is ongoing to determine whether a political party and an officially approved Dutch TV channel can be outlawed by an opposing majority. This is what Socrates and Aristotle warned us about. Democracy can become a dangerous form of rule, because the information of a minority can be

forbidden by censorship of a majority. This means that an information deficit will result in an energy deficit to do work, i.e., compromising the country's functionality. The questions to ask: '*cui bono?*' and '*quis custodiet ipsos custodes?*' *Who gains and who will guard the guards?* If you have understood this article you will immediately realise that the probability of functionality of the Netherlands as a cohesive society can therefore no longer be certain. In other words, The Netherlands as an anthropogenic system will become dysfunctional.

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