

# Reality as a Complete Network of Information

By Nelson Guedes

**Abstract:** This paper provides an introduction to the nature of reality based on a metaphysical theory of everything grounded on networks of information and interaction. I will cover some of the basics, such as the relationship between mathematics and reality, and a brief explanation of the nature of mind, body, and consciousness. My practical goal is to develop an informative theory that serves as a foundation and a guide for the unification of multiple disciplines and, thus, be instrumental in the development of science and of new technologies such as advanced virtual reality, quantum computers, and distributed government systems as well as integrated networks of disciplines and polymathic artificial intelligence.

A comprehensive analysis of mathematics leads us to the realization that reality follows the same underlying principles of mathematics which Gödel, Leibniz and Newton explored. Reality is complete to the degree that we perceive it. The completeness of reality is derived from the limits of our perception. Anything that we cannot perceive in the incomplete infinite reality which we live within is due to either the limitations of information in the universe or due to a limitation of our perceptual capacity imposed on by our neurological capacity to sense information from our environment. Therein lies Hume's missing shade of blue. From a subjective point of view, the incompleteness of reality and our inability to perceive the continuum as a complete infinity is a limitation of our sensory organs and our brains' limited capacity to process information. Reality is defined by the limits of our perceptual and epistemological capacities.

Reality is formed by a complete network of information, and that completeness can occur at any scale insofar as the system that perceives the information is capable of

organizing it and making sense of it. That is, the information which we perceive and attribute to the reality around us and the reality that we feel within themselves is conscious to the degree in which it is organized and to the degree that we are capable of measuring and organizing it, since everything that can be measured and organized can be made sense of and, thus, perceived.

Everything that exists is a form of information. Qualia is nothing but a language that our minds created to represent sensory information. Our thoughts are nothing but a language that our minds created to represent itself, as reflective information. As an integrated information processing system, our minds measure and organize every information that it is capable of capturing. The more information that it has and the more effective it is capable of organizing it, the more complete the picture it is capable of creating and the deeper the level of consciousness it is capable of achieving. Consciousness is, thus, the degree to which information is networked into a conception of reality.

It is clear from our bodies that it is extended and that it has the same properties that all the matter around us has. In that sense, there is no difference between us and the world around us. The difference comes from the fact that we can feel our own bodies and move them. These additional properties we attribute to our minds. Our minds are thus realized not only in our heads but also in our whole bodies. Since we have both a mind and a body, as we categorize them with their respective properties, it follows that the universe at the very least has the innate potential capacity to produce a body with a mind. If the universe is capable of producing a body with a mind, then the properties of the mind must be innate in the matter, as a potentiality rather than an actuality, but in it nevertheless. The mind is, thus, an evolved property of what we recognize as “matter”. What follows is an overview of the process by which inert matter becomes conscious.

We can consider how our minds are extended throughout our bodies. Our minds are networks of information that represent the world around us and within our bodies. Information within us is interconnected primarily through our nervous system. Each cell of our bodies shares information through a combination of biological systems such as the nervous system and the endocrine system. Our bodies can only be known through our sensations which are themselves forms of information, and as it has been shown before by philosophers like Hume, we have no access to anything beyond our sensations, we have no notion of “matter”, only ideas, information. If we are purely made up of information, then there is no reason to expect that the rest of the universe is made up of anything else. What we perceive as “matter” is just another kind of information.

There are significant differences between our idealized bodies and the world around us, however. The inanimate objects around us are made up of bits of information that are not themselves connected to each other. We are connected to them because we have senses and a nervous system that makes connections within us and between us and our environment. When we perceive an inanimate object via our senses, the object shares information with us, thus becoming a part of us. When I look at my computer as I type, the computer becomes a part of me, an extension of who I am, it becomes a part of my reality. The information that was inert in the “matter” becomes active as it is transmitted to my mind, and it becomes a part of the network of information that composes my mind.

Having said that, the objects around us don't have those connections, either within themselves nor between us and them. They are composed of information but their information is not connected. They only become a part of us when they become connected to us through our senses. This implies that we are just like the objects, composed of bits of information, except we evolved connections between our bits of information, creating networks of information. Thus, consciousness is an

interconnected whole of information which is continuously being expressed as conscious existence.

What we refer to as “matter” is composed of information but those bits of information within objects are not interconnected. We call this object an inert “matter”. Matter is, thus, unconscious existence. All existence is then made up of information some of which is conscious and associated with the mind and others which are unconscious and associated with matter. Both mind and matter are made up of information, the only difference is that the information within matter is not connected while the information within the mind and, thus, the body is. The conscious and unconscious information interact when our bodies interact with the environment through their senses. Our senses are a part of our information systems which create a nervous system connection between our bodies and the environment around us. This means that when we perceive the world around us, the world around us becomes a part of us. They become an extension of our individual universe. Our existence is, then, confined within our own universe expressed as our consciousness through our unique personal connections between us and the information around us.

Our experience of the world around us is defined by the connections we make with the world. Those connections are made by information that connects us with the external environment and information that connect us through our internal environment. The study of these connections is the domain of phenomenology. Information of the external world is defined relative to the sense involved in the experience. For instance, our visual sense can perceive visual information that connects the information in our environment with our own “internal” information network through a piece of information perceived as a photon that carries visual content, itself a bit of information, from the object observed to the observer. The observer then takes that visual content and transmits it through its own channels of visual content, our neurons, which then

connects to transmit the information to our brains. Thus, all our experience of existence is experienced as our consciousness.

Remember that we are conscious connections of bits of information and that when we perceive our environment the environment becomes an extension of our consciousness, itself becoming a part of us. From this, it follows that interactions between humans create an entity which is defined by the shared consciousness of both humans. It becomes a separate consciousness in itself, though incapable of sensory perception in itself. When we communicate, we create a shared consciousness which belongs to both of us, and this is true regardless of the senses we use. When I give a flower to my girlfriend, I am not simply giving her a flower which exists independently from me and my girlfriend. When I do so, I am sharing my consciousness with my girlfriend, through the action of giving her a flower, which connects our mutual experience of reality, creating thus a shared reality which exists as an extension of our mutual consciousness. Very romantic.

It follows, then, that what we perceive as matter and mind are just different ways of perceiving the same reality distinguished only by their inner capacity to transmit information. The real problem is not rather one or the other exists, it is just that the manner by which we distinguish them makes them seemingly incompatible. Both matter and mind are made up of information which flows between its parts. The more information flows between the parts of an integrated information processing system, the more integrated the system becomes and, thus, the more conscious it becomes. The more conscious a system becomes, the more it is capable of perceiving what we call “reality”, which is merely a complete network of information.