

2014-12-01

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<http://hdl.handle.net/10026.1/18287>

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10.1386/tear.12.2-3.423\_1

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# Reflections on art, nature and technology: the role of technology, algorithm, nature, psyche and imagination in the aspiration of an aesthetic experience

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## Abstract

*There is something frustrating in the concept of algorithm that can even worry: its limitations. An algorithm does not need the time to define itself, it possesses in its structure everything that defines it and can work exclusively in a site, such as a computer, which is itself another finite system. Whenever a particular algorithm will be executed will always be inexorably equal to itself because the number of possible states is finite. A logical-mathematical algorithm is essentially very different from a living being, which reveals its being only in the passage of time, in the relationship with the environment, in the happening of events. On the contrary there is a strong relationship between living things and the art, since art essentially needs time to express itself. The art has a time dimension, if for no other reason, because the purpose of art is reaching human beings. But art, through technology, can also broaden its horizons. Art can make use of the technology and can do exactly as the man whose expression is, to grow, to expand, to discover new identities, to conduct an investigation in those distant places, on the border with the irrational.*

**Keywords:** body; nature; poetry; emotion; technology

## Reality and the inner world

Nature has always been a source of inspiration, contemplation and wonder. There is a magical and fantastic energy, that we can perceive just opening our eyes, a vision that cannot disturb our mind, our consciousness and the perception of ourselves. So in some circumstances we can see and understand that there is a special feedback inside out or better yet, continuousness between the outside world and our inner world. The common experience of everyday life is about the external world often experienced as real, concrete, solid, physical, even true; whether the inner world, by contrast, is often experienced as imaginary, ethereal, made of thought, mind stuff not even true. I think in this detachment lays the conceptual conflict between objective and subjective, between others and myself. Western knowledge, culture and science, for centuries were and sometimes still focused on the study, analysis, understanding and description of the objective external world, separating it from the inner subjective world. The physics, the study of the universe, matter and processes that animate matter are existential practice that have characterized the human species at least the last thousand years. The discovery of other worlds, the study of celestial bodies, their movements and their relationships has attracted and inspired, sometimes even led the human mind, but where this knowledge is implemented? Where is realized? Where does it take a shape? Where it becomes a substance?

Today, we can assume that eventually, every process of knowledge, takes place in the neural patterns of our mind, takes the form of thoughts that are nothing more than activity of cells and particles of matter of our brain, so all knowledge, all science, any religion is at the end a mental activity, activity of neural discharges, electrical impulses that flow in axons and dendrites of our neurons. There, in those hidden places of our minds are revealed and implement the motions of Saturn, the phases of the Moon, antimatter, sunspots, the speed of light, the orbits of the electrons in an atom, the cosmic gravitation, love, pain, loyalty, deceit and all this thoughts develop and associate these with other truths. The real images we have of the world, the tree in front of the house, the shadow on the sidewalk, the sharp edge of the gate, the solidity of a table, are also, in the end, the expression of this mental activity.

Therefore, any investigation of the world, any contemplation of the universe may be nothing less than an investigation into our own inner world, in our mind, giving rise to neural pathways and real sensations that in no other place for us may be formed in any other place can happen. In fact every reality that cannot exist in our minds cannot be implemented there. Art as mimesis of nature can only be an expression of our inner reality of our condition as thinking beings, each carrying our own universe from which we cannot escape, from which we are inspired and in which we find every gesture, every moment of our consciousness, every sense.

## The role of technology

Almost every work of contemporary art, as well as the aesthetic dimension and the experience of a meeting with a creative act of its author, brings the attention on a question of focal importance in the generative practice: the weight and meaning of technology and of investing in its implementation and the fact that technology tools sometimes even constitute the substance and the essence of art. Frequently, in front of works in which we see a significant technology investment it can be difficult to grasp that deep breath and the sensitively capability of

revealing life and meaning in art in a flowing way. I therefore wish to direct our observation deep and so to be able to observe and grasp the thread that unites this dimension (technology and its use) to a gesture of poetry, to an inner vibration capable of grasping a truth hidden in the folds of succeeding reality. It is important that we are not misled by the common thinking that what is technological is something with regards to a cold world lacking of passion and warmth, a world away from the spirit and also from the poetry, music, art and emotions. The deep bond that unites these dimensions is precisely the substance of the psyche that is then shared ground, the humus in which all the human energies, their origins, their expressions take place. The mathematical thinking, the logical mind and technologies match with what belongs to the sphere of human emotions, feelings of wonder, because they are all identical elements of the same substance. They are all that we can know or reach from the world of reality, living in our psyche, that is our world, essentially the only possible world. What is not part of our psyche is entirely invisible to us, unattainable and we might even say non-existent. It looks so surprisingly intrinsic the correspondence between all that exists and our consciousness, our psyche and our thinking. The universe, as we know, it is nothing more than the expression of our thoughts and it is in this dimension that the profound link between emotion, art, mathematical thinking and technology articulates itself. In this regard, the philosopher and mathematician Douglas Hofstadter, referring to his most important work says:

*I realized that for me, Gödel, Escher and Bach, they were only shadows cast in different directions by some central solid essence. I tried to reconstruct the central object and came out this book. [...] In a word, GEB is a very personal attempt to say how it is that animate beings can come out of inanimate matter. What is a self, and how can a self come out of stuff that is as selfless as a stone or a puddle? What is an "I" and why are such things found (at least so far) only in association with, as poet Russell Edson once wonderfully phrased it, "teetering bulbs of dread and dream" — that is, only in association with certain kinds of gooey lumps encased in hard protective shells mounted atop mobile pedestals that roam the world on pairs of slightly fuzzy, jointed stilts?*<sup>1</sup> (Douglas Hofstadter 1979: P1-P2).

So there is a deep emotion that resonates in our minds, which sometimes wakes up in front of something of which we can be aware, of which we can perceive existence. When the very existence of this reality hinges in our psyche and raises in a part of it (a part that was previously dormant or never born) happens a sort of revelation, it happens something insinuating, making its way into our mind, a sort of epiphany, that (by activating unknown aspects of our thinking) is placed in a dimension even mystical and almost divine. Accordingly to the movie *Medea* (Pierpaolo Pasolini, 1969) in which the Centaur Chiron tells to a Jason still a child, the story of the Golden Fleece:

*Everything is holy! Everything is holy! Everything is holy! There is nothing natural in nature, my boy, keep that in mind. When nature will seem natural all over and start something else, goodbye sky, sea goodbye ... Look behind you, what do you see? Has it something natural? No, it is an appearance that you see behind you, with clouds reflecting in the still and heavy water at three in the afternoon. Look over there that black stripe on the sea and pink shiny as glass. Those shadows of those trees and reeds, at each point where your eyes look is a hidden God, and if by chance there is no God, he left there the marks of his sacred presence, or silence, or the smell of grass, or fresh water*<sup>2</sup>.

The beginning of everything is here, what our mind feels is the mandatory condition of every day life, as every other aspect of life, finding in what mind feels the true and only way of knowing. This is the profound astonishment, poetry that is intertwined in the plots of chaos and irrationality. In the chaos lurk the mysterious laws that bind all things existing to each other in an immense flow, elusive, irrepressible and enchanting, with its inexorable force capable of seducing our minds, a force even able to justify it. It is no surprise, therefore, the desire to bring the emotion, the aesthetic and poetic into mathematical formulas or even into the electronic and digital technologies, because they also exhale the scent of the psychic universe to which belongs our consciousness. Nevertheless, in the act of creation I would note a difference, significant in my opinion, among the use of technology and the use of any kind of algorithmic processes.

### **The algorithmic generation**

There is something frustrating, in the psychic sense, in the concept of algorithm that can even worry: its limitations. In its stream of logical-mathematical operations, whatever its purpose, an algorithm already enclose all the conditions to let us know its outcome, its essence, its work, its value and identity. An algorithm does not need time to define itself, to express itself, to be, to know and be known. Possesses in its interior, in its exact structure all that defines it completely. It is a system fully defined, completely finished and which can work

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exclusively in a world, such as a computer, which is in itself another finite system. Whenever a particular algorithm will be executed will always be inexorably the same because the number of its possible states is finite. A logical-mathematical algorithm is essentially very different from a living being, from what lives and what reveals its being, nature, identity only in the passing of time, in the relationship with the environment and in the happening of things; it is totally different from events in the continuous quantum collapse of their systems, moment by moment, never statics, always changing and evolving. This contrast creates a strong relationship between living things and the art, since art essentially needs time to express itself. Art has a time dimension, if for no other reason, because the purpose of art is a living man who lives in quantum time. But art for the human psyche is a living thing, a kind of mysterious creature and unpredictable just like a living creature can be, this is why the human psyche reflects itself in art capturing through it, a vision of itself. So art and algorithm are very different things especially in relation to our mind. But when algorithms are used in technology and are applied to technology then the situation changes. The art, through technology, can broaden its horizons; can open up to reality, to different pathways not previously imaginable. Art can make use of the technology and can do it exactly as the man of whom technology is expression and can use it to grow, to expand, to discover new identities, new possibilities. Art can use technology to conduct an investigation in those distant places on the border with the case and the irrational, where irrational combines with order, and this is, under every aspects, a survey conducted in our psyche, in our inner world and any findings are therefore discoveries of human thing. In essence, any form of technology can provide an opportunity for the growth of knowledge. In contrast, an algorithmic process, because of its finite nature, where it is not just a mean (included in a technological tool or device) but it becomes the essence of a work, will become the limit of that art piece transferring to it all its predictability in essence. It will give to the art piece its finite and concluded character hardly usable by the human psyche to be mirrored, so difficult to perceive as something living.

### **Psyche, imagination and desire in the aesthetic**

Although it sometimes seems there is a long and complex journey that separates us from the pleasure of understanding, still remains a sense of beauty, wonder and a sense of astonishment in front of every manifestation of the psyche, even if it is a mathematical formula, the development of a number or a technological evolution. Technology and its evolution is an expression of the effort (sometimes a lighting) of human intent to achieve something that at that time still did not belongs to him, it is an expression of the ability to dream and imagine; maybe that is the way how, day after day, takes place the metamorphosis of knowledge. Here we cannot but bring to our mind Jung process of individuation that Nietzsche expressed trough Zarathustra:

*Man is a rope stretched between the animal and the Superman—a rope over an abyss. A dangerous crossing, a dangerous wayfaring, a dangerous looking-back, a dangerous trembling and halting. What is great in man is that he is a bridge and not a goal: what is lovable in man is that he is an over-going and a down going<sup>3</sup>. (Nietzsche 1892: 14-15)*

There are desires that belong to our history, human history, perhaps we can never fulfil but those desires will be less important for us. They will fulfil, in any case, a fundamental task of developing our personal resources, the energies of our mind, which will trace the route. If we humans run to try to fly until when exhausted we will give up, of course we cannot escape a sense of frustration, but at the same time, we cannot fail to recognize the beauty of life and the inherent strength of our desire of flying.

### **References**

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Paola Lopreiato is a PhD student in New Media Art at the University of Plymouth (Planetary Collegium). She received an MPhil in composition from University of Sheffield. Her works have been exhibited in: Italy- Marino

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Marini Museum, Festival della Creativita; UK- University of Chester, University of Bournemouth, Sheffield Drama Studio, Belfast SARC; USA- SEAMUS, New York City Electro acoustic Music Festival, NYU; Canada- Winnipeg University; Corfu-Academia Yonica; Mexico- Fonoteca National; Slovenia-Ljubljana ICMC; Australia- Perth ICMC, Istanbul Halka art Project. Her research includes multisensoriality and technology. She is also teaching at the conservatory of Perugia. ([www.paolalopreiato.com](http://www.paolalopreiato.com))

## Notes

<sup>1</sup> Douglas R. Hofstadter, *Gödel, Escher, Bach: an Eternal Golden Braid.*, Basic Books, New York, 1979, pp 1-2

<sup>2</sup> Pierpaolo Pasolini, *Medea*, 1969

<sup>3</sup> Friedrich Wilhelm Nietzsche, *Also sprach Zarathustra: Ein Buch für Alle und Keinen/Thus Spoke Zarathustra: A Book for All and None*, Penguin Books, London, 1978, pp 14-15