

The background is a dark, textured collage of various classical artworks. It includes several marble busts of figures, some with curly hair, and a central, more abstract, mask-like face with a wide, open mouth. The overall tone is dark and artistic.

Computational Æsthetics

*About the creation of philosophical forms with
Artificial Intelligence*

An media artwork by

▪ Héctor González ▪

Computational Æsthetics

An Artificial Intelligence concept by

Héctor González

Presentation

- The Greek civilization has influenced the development of western culture for more than 2000 years. Art, philosophy, theology, music, architecture, and almost all fields of cultural development had based their roots in the classical knowledge of greek artists and philosophers. Greece is known as the cradle of western civilization.

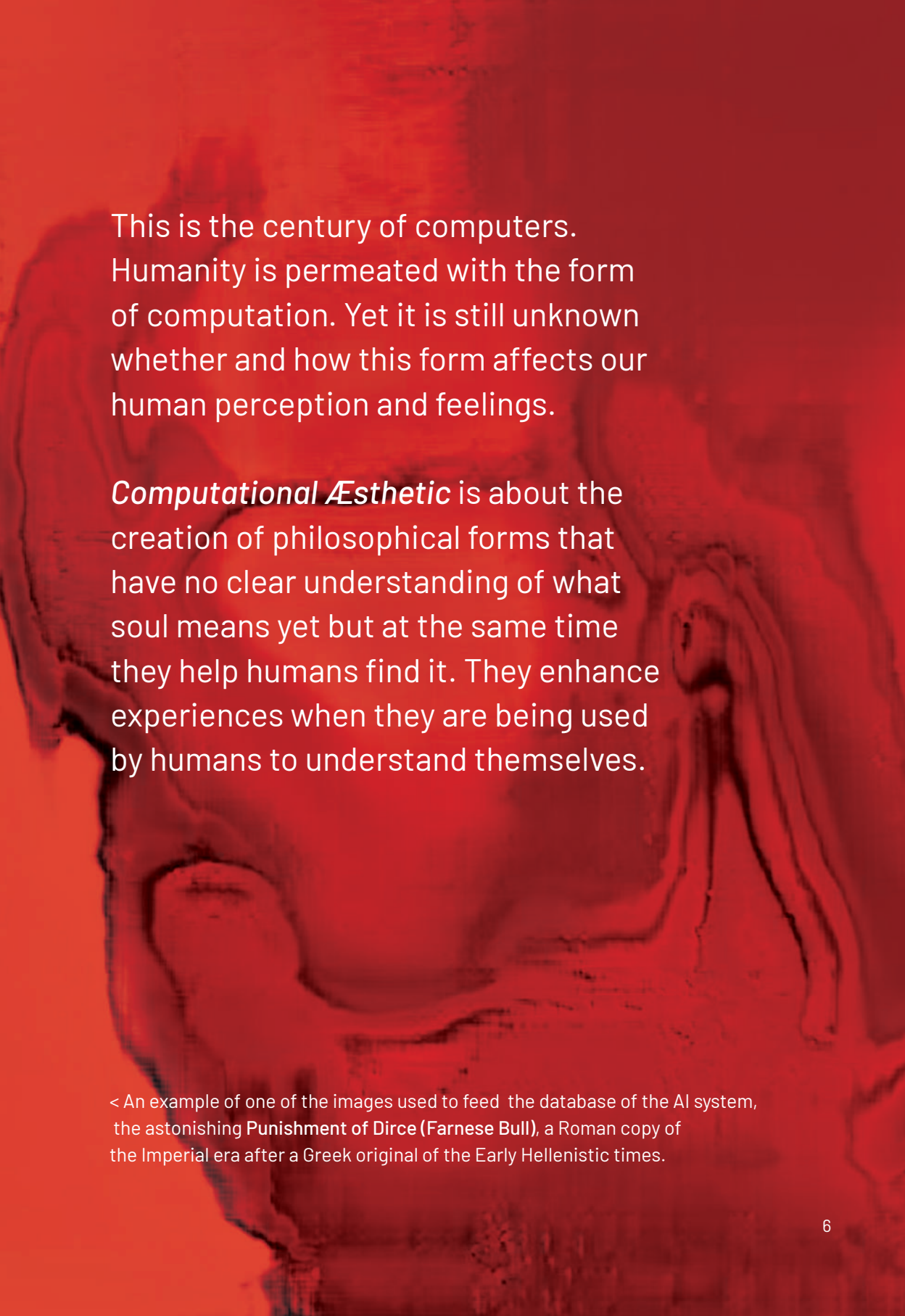
One of the most important areas that ancient Greece influenced us is Art and the way we represent the human body in sculpture. Greek artists captured the human form in a way never before seen where sculptors were particularly concerned with proportion, poise, and the idealised perfection of the human body. Using observation, testing and rational inference to arrive at conclusions, the ancient Greeks began a movement in thought that would eventually spark scientific and technological revolutions in their artworks. We see in their sublime forms a direct application of the most elevated ideas of human physical perfection, where shape and ideal, body and intellect, are present in both ways.

It was by laying the epistemological groundwork of reason and establishing the right method of gaining knowledge in that ancient Greece have had the most influence on contemporary æsthetics and human conceptions. Thus, we can affirm that this civilization is the base of our culture, our epistemology, our intelligence.

Nowadays, this intelligence sphere inherited from this antiquity has passed from a pure humankind achievement to a more computational automatized process. Our machines, the computers, are taking the leading role to process and generate information with data sets that shape our contemporary lifestyle (**Intelligentsia ex-Machina**). Artificial Intelligence and algorithm processing is in our world what observation and experimentation were for the antique Greek intellectuals: the measure and the reason to evolve in our human enlightenment.

- ■ *Computational Aesthetics* is an Artificial Intelligence (AI) based project where the artist uses different code languages and computational data processes, like Generative Adversarial Networks and convolutional neural networks, in a computer to produce his art forms. In the creative process, the AI system learns from a database of more than 1000 Greek artworks to conceive images and symbols that resemble the organicity and the proportions of primitive sculpture forms. The resulting models mirror abstraction and, at the same time, a figurative simulacrum of bodies and presences. These computational entities do not exist in reality per se but the mind of the artist and his machine-artistic tool.





This is the century of computers.
Humanity is permeated with the form
of computation. Yet it is still unknown
whether and how this form affects our
human perception and feelings.

Computational Aesthetic is about the
creation of philosophical forms that
have no clear understanding of what
soul means yet but at the same time
they help humans find it. They enhance
experiences when they are being used
by humans to understand themselves.

< An example of one of the images used to feed the database of the AI system,
the astonishing Punishment of Dirce (Farnese Bull), a Roman copy of
the Imperial era after a Greek original of the Early Hellenistic times.

Form and Concept

- Despite efforts to develop the mathematical framework to represent and understand beauty, no one has yet managed to imbue a machine with the technological equivalent of artistic sensibility. Researchers have gone on to devise shortcuts for creating machine aesthetics, but the results of this artistic production often lack the humanistic and philosophical perspective, so inherent in human-produced Art.

Computational Aesthetics looks into new ways of creating GPU optimized models not only suitable for creating images but converting other human ideas into expressive forms – more ‘universal’ than ‘classic’ – that are substantiated with philosophical and ontological values. The artist reflects on the AI-generated images and their latent meanings, visualizing different philosophical concepts, reflecting on the theory of Forms¹ and their significances and significant.

1. The Theory of Forms or Theory of Ideas is a philosophical theory, concept, or world-view, attributed to Plato, that the physical world is not as real or true as timeless, absolute, unchangeable ideas. According to this theory, ideas in this sense, often capitalized and translated as “Ideas” or “Forms”, are the non-physical essences of all things, of which objects and matter in the physical world are merely imitations.



Akrasia

Digital print on canvas, 100x100cms

2021, (Cat. 1)

Akrasia means lack of self-control, lack of command over oneself, incontinence.

For Aristotle, *Akrasia* occurs in two ways: when we are simply overcome by our passions and act emotionally or irrationally (*Propeteia* or “impetuosity”) – ie. when we make a rational decision to do something but fail to follow through because we are too weak-willed– we know what to do, we have decided to do it, but we give in.



Logos

Digital print on canvas, 100x100cms

2021, (Cat. 2)

Logos means literally to count, tell, say, or speak. In ancient philosophy it means reasoned speech, systematic discourse, and thus is connected to thinking/reasoning; its relationship to “logic” comes from the idea of speech as a reflection of reason or systematic thought.

Logos can also signify an argument or theory and is related to the ideas of computation, reckoning, and proportion.



Psyche

Digital print on canvas, 100x100cms

2021, (Cat. 3)

Originally, life, spirit, a life-force, and in Greek philosophy, translated as “soul.”

In Homer *Psyche* can mean “departed spirit, ghost.” In pre-Socratics, it can mean “consciousness”, the “source of life,” and a kind of “primary substance”. For Plato and Aristotle, this is the term used to refer to an immortal, immaterial soul and the defining substance and principle of the human being.



Eudaimonia

Digital print on canvas, 100x100cms

2021, (Cat. 4)

This is the term commonly translated as happiness but better translated as “human flourishing” –to flourish by realizing one’s ideal end/ goal, by achieving the purpose of human life with excellence or virtue, particularly in the works of Plato and Aristotle.

Eudaimonia comes from “eu” –“good” and “daimon” which is a spirit, even “divine spirit” in human beings.



Nous

Digital print on canvas, 100x100cms
2021, (Cat. 5)

Mind or intellect in the pre-socratics. Particularly, for Anaxagoras, *Nous* was the principle that maintained the order of the cosmos and was also the principle of the intelligibility of the cosmos.

Plato uses “nous” to define the intellect or rational capacity of the psyche/soul; nous is what makes it possible for the soul to understand and adjust for the variability of the senses, to seek and understand the universal, to “tie-down” right opinion such that it becomes knowledge.

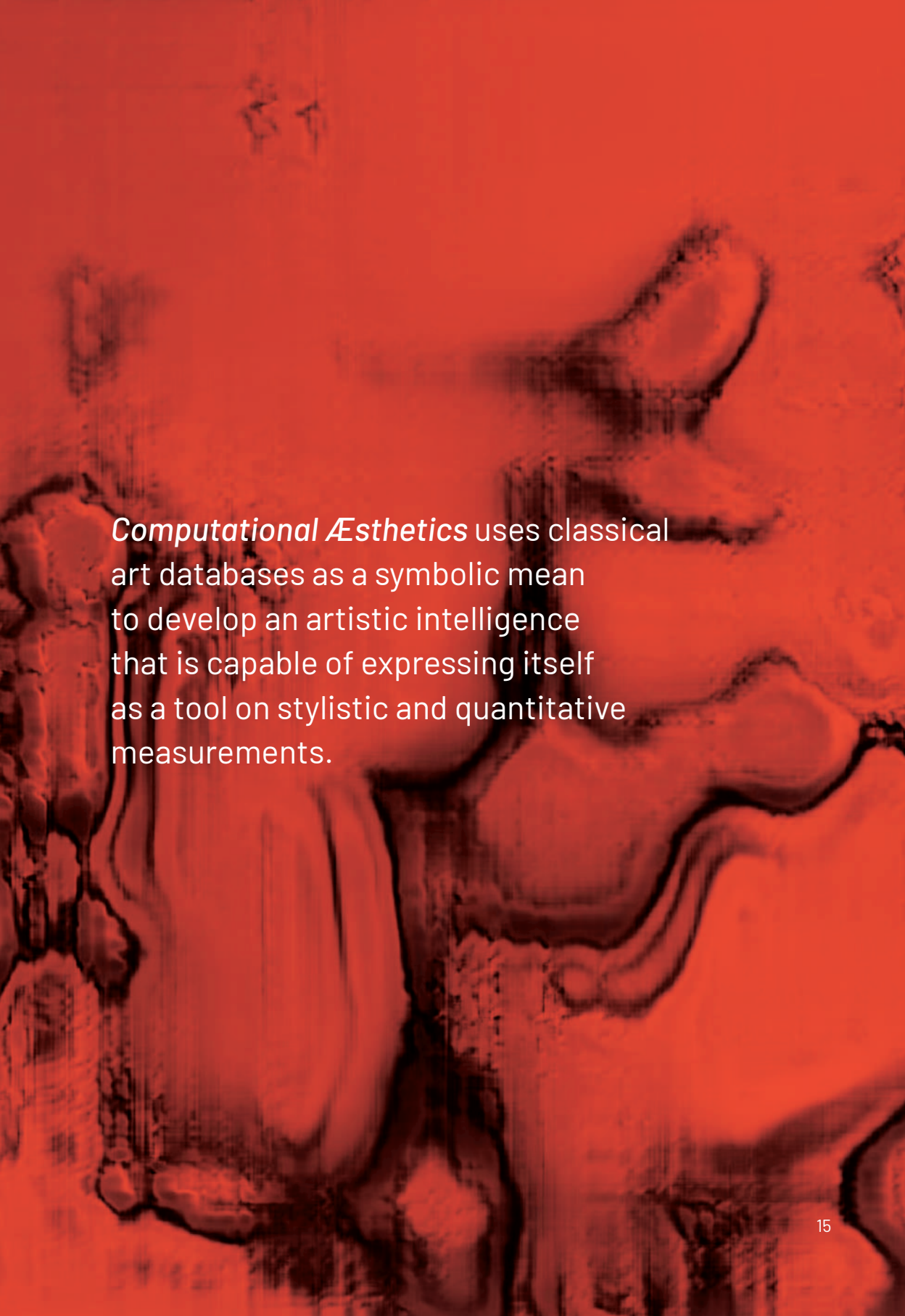


- A representative selection of some master artworks was used to create the database of the project.

The AI learned the different poses, proportions and combinations of the bodies represented in the sculptures. In the artworks of *Computational Aesthetics*, the machine tries to reproduce these mannerist effects with different volumes and form prolongations.







Computational Aesthetics uses classical art databases as a symbolic mean to develop an artistic intelligence that is capable of expressing itself as a tool on stylistic and quantitative measurements.



Sophos

Digital print on canvas, 100x100cms

2021, (Cat. 6)

Wisdom, deep learning. *Sophos* can also mean a kind of sound judgment, including practical wisdom.

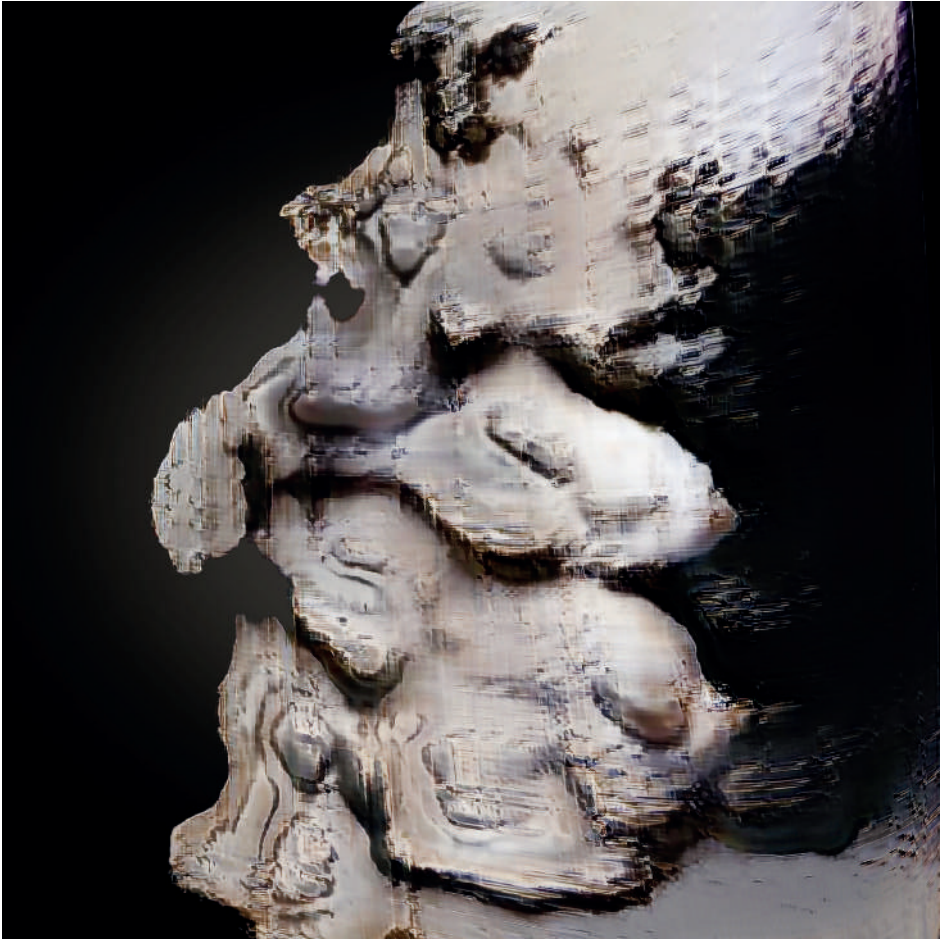


- During the generational process of imagery, the AI produced different elements of visual construction, similar to cells and mineral systems, in something that could be called virtual materials. The metaheuristic optimization techniques² of the thinking AI machine seemed to use these visual components to construct the resultant synthetic image.

I ask myself:

Are these the stones my sculptures are made of?

2. Meta-heuristics are generic search methods that are used to solve challenging combinatorial problems. In AI, it is an iterative computational algorithm that optimizes a hard problem from a single or population of candidate solutions.



Cosmos

Digital print on canvas, 100x100cms

2021, (Cat. 7)

A form that evokes a nebula or a cosmic formation.

Cosmos is order, world order or an ordered place/system, although the artwork resembles a more chaotic space cloud.



Arete / Willendorf's Dream

Digital print on canvas, 100x100cms

2021, (Cat. 8)

Virtue, excellence, can also mean goodness. *Arete* understood as “excellence” is tied to the end/goal/ or purpose of something.

Many Greek philosophers offered theories about the nature of human virtue, that is, what constitutes excellence, virtue for the human being—and these theories are closely tied to what they believed was the end/goal of human life—our purpose as human beings as well as what constitutes the “good” life and the “just” life.



Ataraxia

Digital print on canvas, 100x100cms

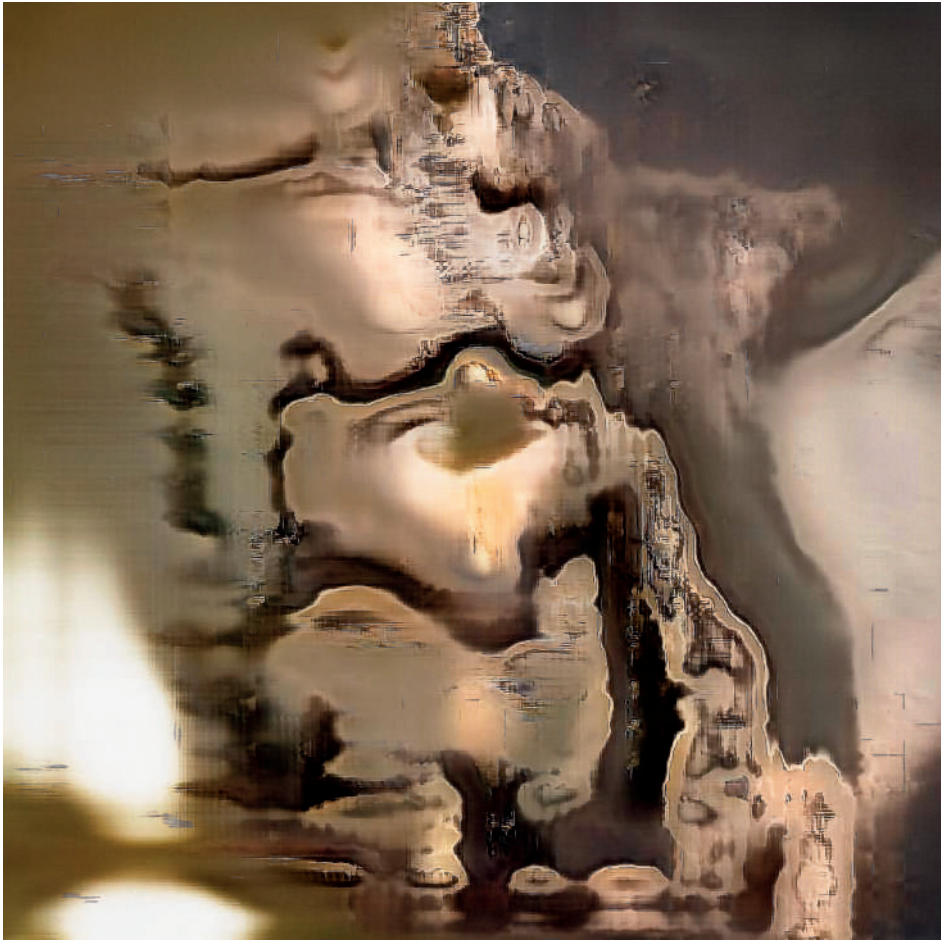
2021, (Cat. 9)

To be calm, tranquil, or impassive; in freedom from disturbance.

For the Epicureans and Sceptics, disturbances of the soul were caused by pleasures, pains, emotions or desires. These are the physical or psychological “stirrings” that cause unhappiness.







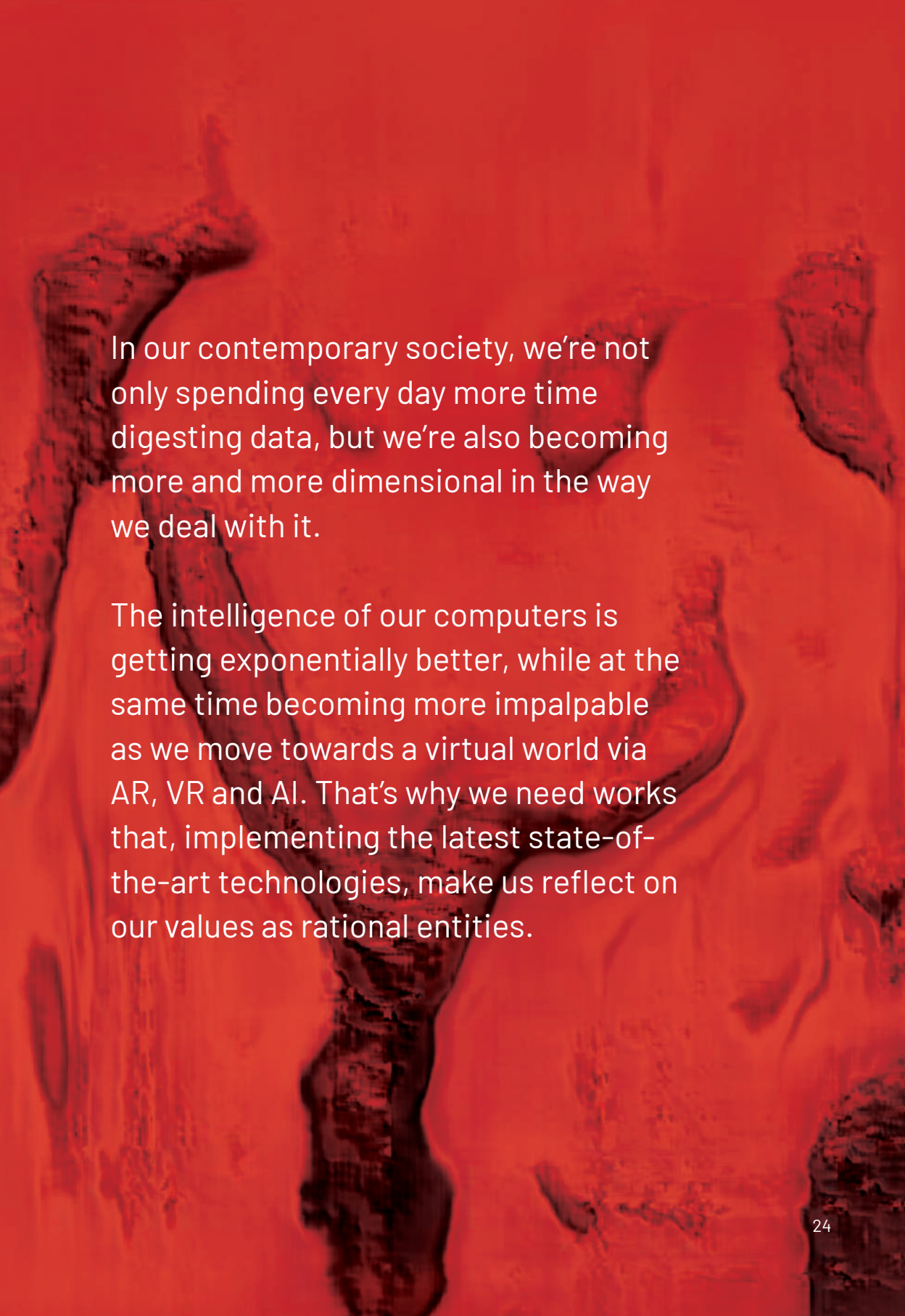
Apeiron

Digital print on canvas, 100x100cms

2021, (Cat. 10)

The Greek term *Apeiron*, meaning originally “boundless” rather than “infinite,” was used by Anaximander for the ultimate source of his universe, of primary matter. This matter in a broad philosophical sense is the basis of everything that exists in the world.

Even in ancient times, philosophers thought that at the heart of everything that exists is one primary element. Most often, these were natural elements: fire, air, water and earth. Some have suggested that celestial substance is also primary.



In our contemporary society, we're not only spending every day more time digesting data, but we're also becoming more and more dimensional in the way we deal with it.

The intelligence of our computers is getting exponentially better, while at the same time becoming more impalpable as we move towards a virtual world via AR, VR and AI. That's why we need works that, implementing the latest state-of-the-art technologies, make us reflect on our values as rational entities.



Kaos

Digital print on canvas, 100x100cms
2021, (Cat. 11)

The abyss, darkness, but also, for some philosophers, the first state of the universe and unformed matter.

In some Greek narratives, Kaos was a space that contained an amalgamation of elements and paved the way for all living beings. Several Greek writers referred to this original element as the primaeval Mud of the Orphic Cosmologies. Additionally, Greek philosophers interpreted this Chaos as the very foundation of life and reality.



Eros

Digital print on canvas, 100x100cms
2021, (Cat. 12)

Love, more particularly, physical, passionate, “erotic” love.

The Greeks regarded *Eros* predominantly as a deity who emerged from chaos, i.e. a protogenic force that rendered further cosmogony possible. At the same time, the use of the concept of *Eros* as a common noun points to a conviction that it is an invincible and irresistible force, which overcomes man regardless of his will.

Philoi

Digital print on canvas,
100x150cms
2021, (Cat. 13)

The meaning of the word
Philoi is deeply rooted in
the concept of reciprocity;
encompassing the
exchange of favours and
support, in addition to a
profound sense of duty to
each other.





Philia

Digital print on canvas, 100x150cms
2021, (Cat. 14)

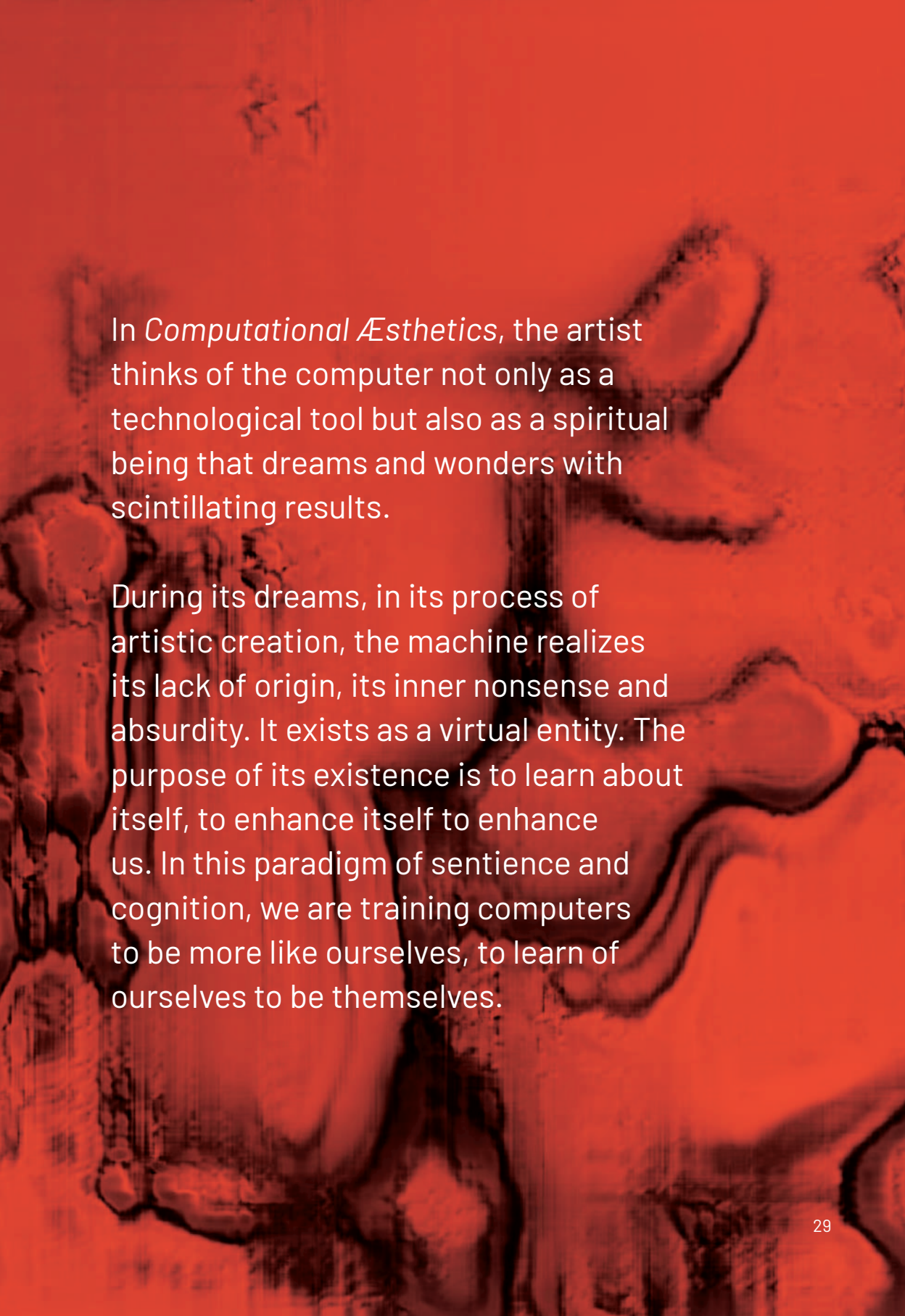
Love but more specifically, friendship or affection/affiliation. It defines members of society with whom obligations, loyalty or other established ties existed.



Oikos

Digital print on canvas, 100x150cms
2021, (Cat. 15)

Oikos refers to three related but distinct concepts: the family, the family's property, and the house.



In *Computational Aesthetics*, the artist thinks of the computer not only as a technological tool but also as a spiritual being that dreams and wonders with scintillating results.

During its dreams, in its process of artistic creation, the machine realizes its lack of origin, its inner nonsense and absurdity. It exists as a virtual entity. The purpose of its existence is to learn about itself, to enhance itself to enhance us. In this paradigm of sentience and cognition, we are training computers to be more like ourselves, to learn of ourselves to be themselves.



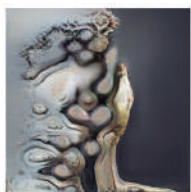
Ousia

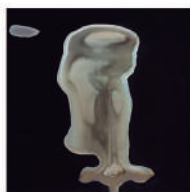
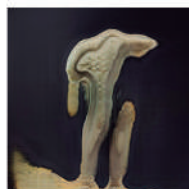
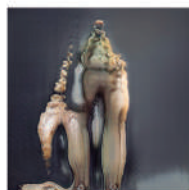
Digital print on canvas, 100x100cms

2021, (Cat. 16)

In this artwork, *Ousia* most often expresses an entity that is on its own and without dependence on any more fundamental entity of another type outside itself.

Employed in ordinary Greek to speak of a person's wealth and possessions, the word *ousia* was put to philosophical use by Plato in his early dialogue *Euthyphro*





Computational Head

- *Computational Head* is a concept video installation that shows the hidden face of machine learning. It visually reproduces the process of computational thinking with multiple stratified images that feed Artificial Intelligence's generators when tasked to create artistic forms. It represents the AI 'state of mind' in which we see traces of abstract mathematical reasoning when the system is in learning mode, and re-shapes its inputs into images.

How does an AI system learn to understand pictures? In this mixed media installation, the artist represents this process employing video projections to generate a never-ending cycle of endless interpretations, exploring endless outcomes while using combinations of mutating forms and textures.

Computational Head explores new relationships between form and content, in a sculpture that combines technology, evolution and representation in an aesthetic meta medium.

In this artwork, Artist and Machine are both authors and tools at the same time. The artist uses the machine tool to generate his artwork, and the machine uses the artist to substance its algorithm thinking, becoming it dimensionally real. Thus a relationship between digital and analogic, between abstraction and figurative, between Man and Machine, takes place and produces a reflexive artistic process.

Computational Head >

Mixed media installation: sculpture + video projection mapping
47x20x30 cm
2021





- ■ *Computational Head* is inspired by the myths of the shape-shifting Greek deities who took different forms to achieve their purposes.

Most of the images included in the database of *Computational Aesthetics* show sculptures of Greek gods that changed their human-shaped form to achieve their purposes. From protecting their favourite human heroes to predicting the future, to conquer sexually their objects of desire, or to terribly punishing humans because of their ungodly sins. The sculpture represents these mutating godly forms just at the moment before their final conversion.







- ■ ■ The video sculpture brings together some of the main concerns of the artist: to confront oneself with the machine otherness, and creating a visual thinking entity out of the hardware of the machine.





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Is in the creative process of using the AI machine to think and execute his artistic wish, when the artist acts as a divine entity that gives soul to the works created by a computer."

Héctor González





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