Scientific Art

Theory and Manifest

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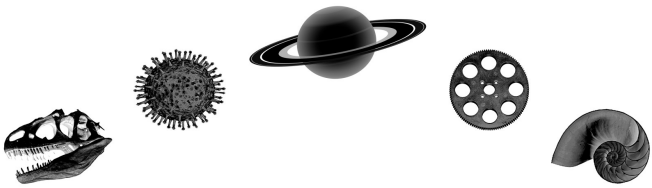

Anamura Alententa – Francisco Mora Lucas

Prologue.

For years astronomy has been one of my greatest passions, which I have not been able to develop as perhaps I would have liked due to its great difficulty. I have to admit it: mathematics is beyond my understanding. But this does not prevent me from enjoying the wonders of the cosmos.

It was back in 2014 when, as a musician, I decided to write a musical album inspired by the cosmos, and I wondered, as an art history student, if there were paintings depicting such landscapes. And that's how I discovered the art of a great artist and biologist, Corina Chirila, who gladly let me use one of her wonderful artworks, *Horsehead Nebula*, for the art for my album *Dreamlands*. What began with Corina continued with other wonderful artists such as Chad Glass, whose artwork *Embrace of Ixtab* is one of the most intelligent pieces of Scientific Art that one can think of, Ed Hengeveld and his portraits of astronauts, thus forging the theme of the space portrait, Deneb Arici from Italy, with its spectacular galaxies, having in my possession a sketch of his masterful *Milky Way*, even by the renowned artist Ron Miller, the path of Astronomical Art was forged, but there was no unitary theory.

In the same way, these artists had certain concerns towards other branches of science that theoretically go beyond the limits of Astronomical Art. Images of embryos by Corina Chirila come to mind as I write these words, or Luke Jerram's impressive glass sculptures, about microorganisms. A different genre was being forged: Biological Art.

Another of the genres that encompass Scientific Art and which is one of the genres that, despite the fact that it has gone quite unnoticed, is in a very advanced phase, is Paleontological Art. Many are the artists who are inclined towards the flora and fauna of past ages of the Earth, having as a point of reference the animals that both scholars and children like: dinosaurs. But they are dinosaurs represented with a rigor and delicacy typical of each artist.

Once these three genres were established in Scientific Art, I was faced with the problem of certain manifestations that seemed to touch these genres but which by their very nature go beyond their conception. And the Robotical Art emerged, focused especially on robotics, technology and computing, and also the Mathematical Art, focused on the use of pure mathematics, due to the fact of mathematics, one of the most complex arts to understand, since at the same time, the most abstract art of those included in Scientific Art.

In this book, I propose the genres establishing a theory that limits them but at the same time liberates them, because as soon as you begin to investigate each genre, the viewer will realize that many of the artworks could be included in several of the genres established. And that's the beauty of art, and what art historians have been doing for so long. Establish boundaries that are then broken, either by artists, historians, or the viewers themselves.

I hope those who read this book enjoy it as much as I have enjoyed writing and researching it. This book focuses on theory. The artists featured here are just a small sample of what's out there. It is everyone's job to meet and be found, a task that will only take time, at least while we are all under the same stars.

Index of Chapters.

Chapter I

Introduction to Scientific Art. What is Scientific Art?

A definition of the artistic movement known as Scientific Art could be made with these words:

"Scientific Art is all that art that uses science as a purpose and an end, not just as a means. The themes of the artworks of Scientific Art are linked to it, since in short, Scientific Art is the artistic manifestation of Science. But we must not forget that, due to its artistic nature, complete precision is not necessary."

It seems an extremely long definition, perhaps, but we are faced with complex terminology. Once everything is clarified, at the end of this point, a simpler definition will be given.

The term *Scientific Art* encompasses the five genres that are based on science to exist, completely directly, although the artists themselves do not do so directly. The five genres are Paleontological Art, Biological Art, Astronomical Art, Robotical Art and Mathematical Art, and each one will be explained in its corresponding section. Each of these genres is based on science or has science as a fundamental pillar, even when what is being represented is completely imagined. The characteristics of each genre are linked to the name of Scientific Art due to several points to consider.

The society of XXI century is technologically advanced enough to allow each of these genders to exist. In fact, there is a culture and a visual tradition regarding

some of them. It is the ideal time for the existence of these genres, and the term *Scientific Art* is responsible for uniting them, because once their study is seen, all these genres go hand in hand in many of their characteristics. And it is something normal, because they are a product of science.

In conclusion, a simpler definition of what from now on is called *Scientific Art* is:

"Scientific Art is the manifestation of science in art, precise or imagined, whose existence is made possible by the technological advances of the XXI century culture."

1.1 Brief history of science. The most relevant scientists.

In this introduction of the so-called Scientific Art it is necessary to briefly talk about the history of science, and highlight the brightest minds in our world. The summary belongs to Felipe Andrés Giraldo Arévalo, a really complete text that illustrates with great accuracy what this section intends to express.

It all started with the need to communicate. Without this great invention, today we could not understand each other. That is why thanks to language we can express ourselves, teach, and be taught. The language began as some sounds, laments, moans, yes, very expressive and passionate. As it developed, we got to the word and the concepts. And this is how man communicates and builds his world. That is when we begin to move forward. With fire we reach the Paleolithic and with the inventiveness of the human being we advance to the Neolithic, where the villages, agriculture, livestock, textile manufacturing, pottery, and the development of many of the primitive tools arrive. The ancient world gifted us with many decisive technological advances in humanity. From Mesopotamia we have the legacy of the