

Art and Science

My last contact with any science was in the area of what at that time we called *human sciences*, and more specifically, *philosophy*.

In 1966, after four years of dedicating my time exclusively to philosophical thinking, I delivered the final thesis for my degree. The title of this thesis was "Art as Knowledge".

Forty-five years later, in preparation for today's meeting, I unburied my thesis again. In it, I found a paragraph that I believe still describes the way to get closer to the reality of understanding the difference between a scientist and an artist: "In the aesthetic relationship, the subject is facing the object with the totality of his human experience, not only with intelligence, but also with sensitivity and emotion."

At that time, I decided to become a sculptor, the profession that I still do today.

To aesthetically interact with reality, I chose sculpture, perhaps the cultural work that is furthest away from science.

Since then, as a sculptor, my only certainty of the path that I had chosen to follow involved me "with the totality of my human richness".

After almost 50 years of living this path, I look back on science, and I don't think that I can bring anything to this meeting of artists and scientists without first telling you how I walk my path, submit my "log" as a phenomenological discussion, and then reflect on my specific process of creativity.

Over the last five decades as I worked in my studio, there was no time for such questions. I also did not have a moment to review or reflect on the body of ideas generated by others thinking about the phenomenon of art and analyzing, from the outside, the journey of an artist.

My impression is that, in their thinking and writing, such outsiders have lost what it means to be an artist. Aestheticians, art historians, psychologists of art from the past have generated a body of ideas that has evolved only within itself, generating independent thinking that very few times comes back to the phenomenon. I would say, in an irreverent way, that this thinking is of very little use for us

...creativity, representation, abstraction, imagination, intuition, aesthetics, beauty, semantics, semiotics, symbol, metaphor, appearance, visual perception, art, image, technical, nature, language, composition,

During these years I was learning all the basic trades to, as Neruda said "*Entrar en la Materia*" or, in English perhaps, "Enter Matter": carver, mason, something of a geologist and a botanist, a blacksmith, a potter. With each craft, I uncovered different facets of a great truth that surrounds us, without words, without books.

That truth, which I found in stone, water, clay, bronze and iron, began to have characteristics of hardness, elasticity, softness, fracturing, weight.....

Today, I see, to abandon science, rather than looking for another form of knowledge, I was trying to find another way of seeing, a way of perceiving - that my eyes were being opened little by little by the millions of peculiarities that the craft of sculpture offered me.

Little by little I realized that only beauty, the great "attribute of being", was able to order the new reality in which I was moving in sculpture. Sculpture allowed me to take a step forward from pure contemplation and to enter into a dialog with nature, a conversation with it, but also as nature talks to me, as it "moves" me, opening nature to see its interior, to order it in my own way, changing its place, and even its country. Changing its form, increasing its volume, changing the way it looks

----- Sourcing in nature, like a drop of gold – Beauty.

I discovered that the whole of reality is made, before anything ---of matter --- then human beings ---face or clad or cover it ---temporarily with words. But nature is a--material state, and will exist before and after us, when our words, spoken or written, are only dust in the wind.

After, when all the humans are gone, the "beautiful, great truth" will be forever available for those who come, written on stones under the light.

"Matter was, and always will be, speaking its own language." This is the principal on which I base my life as a sculptor.

My work is to learn "the language of matter" and then communicate with these words. I discovered at the same time a way to telling what I have seen, the beauty that I found. It was a slow learning of this language, whose words are as precise and accurate as those in a dictionary. Stones each have a precise and exact nature – granite, andesite, basalt, marble, each one with its own message - its hardness, fracturing, specific weight. I do not know how much there is of them, and how much there is of me in my sculptures, after thousands of hours in my workshop, but finally these stones are telling their own story, their own origin, without losing in the process their own speech, the brightness of their crystals, without ever becoming common—places--- such as

happens with our words. For this I went to the origin, I looked into matter the way a fox burrows into its den, and I related with matter in its more wild state, in the same way the planet---offer it----, without being touched by human hand and before industrial manipulation.

I live and work in my own quarry. I look out into the neighboring forest, my own wood, and I get the steel in large pieces that I then model and dimension in the red hot heat of my forge and with my power hammer.

My English maestro, the late sculptor Sir Anthony Caro, told me in a recent letter that a sculptor has to be obsessive with his profession, "you have to live sculpture, think sculpture, dream sculpture".

I agree, but in order for that to happen, the sculptor has to first live matter, think matter, dream matter, just as a poet has to live words, think words, dream words.

If I could define my life as a sculptor, this field that is so far from science, I would say it has been only a co-existence, a living together with matter. ..

It was so big and fascinating a field that was opened to me and, by being captured by its light from the start, I haven't had time to be thankful for the science that surrounds me, those that enable me to create my work in such a large scale in my studio.

Science has also widened all the horizons of everything I see and touch - science that grows exponentially while I work.

I also studied conceptual aesthetic trends, those thinkers taking positive steps to try and bring science and art together. I don't think they have been able to do this properly, but only have complicated things by trying to equate art with science - they make everything stiff, like cardboard, converting visual arts in the most rigid, academic---exercise--.

What was left--- in me by ----philosophy, the only science that I know and then abandoned. What was left for me with philosophy, after having remained implacable with no compromise in my position?

I've only conserved the light given me by fundamental intuitions. This is the starting thesis of every philosopher, the lights that give rise to illuminating questions, that none was able to answer. Perhaps it is through the intellectual silence that I imposed on myself that I discovered a profound and deep intelligence in matter, one that has a distinct advantage over us, the human race, scientist or sculptor.

A stone, a piece of marble or granite, lives in peace in its stillness, silent in the coherence of its crystals -----transparent quartz, feldspar or lime, showing generously, permanently, and democratically, without a ticket for entry or for copyright .

A piece of stone, lives without explanations, without having to justify or defend itself, does not have a curriculum to follow, or a career to run. And knowing --- that---all the wisdom of the universe is saved within it.

Everything is best explained by the last Pieta de Rondanini by Michelangelo in Milan, for me a sculptural work of the greatest spiritual depth that I have ever known.

I will describe Michelangelo's process.

A giant shield of limestone constitutes a large part of the northern territory of Italy from the Venetian Dolomites. This limestone shield, many kilometers thick and containing millions of cubic meters, is formed by the sedimentation of living matter, millions of little shells sedimenting and recrystallizing for millions of years. I know this stone very well because many years ago I started a sculpture school in marble on the Adriatic coast - Kornarija.

At the same time Christopher Columbus was traveling to America, Michelangelo was extracting from the quarries of Pietrasanta a block of marble for his last Pieta.

Michelangelo was very old at that time. He took the block to his workshop, and, hammer in hand, he transformed three tons of crystalized matter from geology to culture, and he died in the attempt.

The Pieta of Rondanini for me is work of the greatest spiritual depth in Western or Occidental sculpture. This work reorders our art toward both the past and the future, and as a consequence changed the life of all sculptors, me included. The power of this statue lies in the fact that the sculptor has added to the stone all the wisdom he acquired in his life in the quarries. Half of the value is given by the molecules in the piece of marble, the other half by a man who learned to speak "marble" as well as or better than as he spoke "Tuscan".

Rather than seeking an understanding of the material world, one that we will never understand and a journey of exploration that never ends, what we are looking for is simply to be there, inside of the stone, within its lighted temple, to be there all the time that we can, molding the inside of the rock, looking by osmosis for the peace -that lives in it

After so many years of coexistence with matter, living together with the stone, summing up the hours I realize that I have lived many more hours with matter than with humans, in an active life with matter – carving, breaking open holes, reducing to dust, removing the outside “shell”, welding it back together, riveting, being a lot of times rejected by it, and then returning to model it with big chisels, precision tools, cutting tools, diamond grinders, oxygen cutters, ancient metal wedges, or simply hand to hand with clay in the old craft of pottery. Changing its scale, improving it with cranes and trucks, in very complex assembly programs in conjunction with engineers, both structural and metalworkers.

Also in my coexistence with matter I have lived long periods of silence, with quiet hands, where I have done nothing but observe. For this I constantly take trips into the Andes Mountains.

At this time in our talk I can see nothing but difference between science and my art, and I am thinking it would be more useful for this congress of thinking about the topic of art and science to delve into these profound differences, into the abyss that separates our ways, to talk and hopefully the scientists will show us their ways, display their experiences, so we can also wander around in their yard, between their fragments, their doubts and their conclusions, and pick up whatever can be useful for us as artists. I believe that Art has to do only with unraveling the mystery of what we are doing in this world, walking around in a labyrinth. I would like to know how scientists do the same.

To go deeper, living together with my art and its consubstantiation with matter, I have changed my position and I am now on the side of nature, the mother of all the incarnations of matter.

Angela Lieble, the Chilean painter and muralist, said the following, and it expresses very well why I changed sides:

In my painting everything in nature looks to man.

In the way that after a day of work, industry stops and the machines fall silent, looking to man, waiting for him.

Looking for a human that has not come yet.

I think and work in a factory of light, a creator of trees and mountains.

Species that live in peace.

All this industry stops and waits to catch up to a man’s obsession.

Focusing and looking at its old growth, in the way it has done many times before.

Knowing that life is death, evolution and life.

The universe knows how to overcome its crisis. And it does this because the formula of life is written in its molecules, the same stubborn life that is the wonderful destiny of matter.

I changed my side, little by little, what the poets called my "position", my "poetic position".

What was the position of Gabriela Mistral when she wrote her "Sonnets of Death" ? Under the ground, six feet under the ground.

What was her position in her ---- poem----- "In Desolation"? : Under the snows of Patagonia, under a "wave of salt water" very close to Cape Horn.

Where was Gabriela before taking her pencil in hand, before putting the notebook on her knees?

And here is the big difference.

Mistral is a perfect traveler, moving like mist, capable of traveling legitimately, passing through the pores of the stone, breathing under the sea and the earth and living to tell the story, to tell in her poetry what she saw.

Because of her nature as an artist, an accomplice with nature, she came to the side of the giant, and she worked in confidence in his shade.

The artist, when he is born, has "written in his molecules, the formula of life, the same stubborn life that is the wonderful destiny of matter."

His first brave step is to accept that fact. The second and unique work that lasts for all their days is to live in peace knowing it. And with his work to unravel, in what way life wrote in the molecules of his being, a part of his formula - his "position".

Here is the biggest cliff or gap between art and science, and we will never be able to talk together without recognizing and studying in depth the fact that a scientist cannot have such a "position".

Perhaps at the beginning, in the hypothesis. But then, during his entire life, the scientist has to fight against "position", to leave his brain in peace, and to be effective in his judgment.

I repeat the words of the muralist Angela Lieble:

"In my painting all nature looks at man".

A scientist is a man looking. The impressive image from Angela Leible – all of nature looking at the same time, that giant looking to a man's obsession, that at the same time he is looking at him - this is an artist.

Angela is only following with her painting the position of Emerson, the founder of American culture, both north and south, also Whitman, Gabriela Mistral and Pablo Neruda in Chile, and recently Angela's southern master, the poet Jorge Teiller:

"If ever my voice ceases to be heard, think that the forest speaks for me with its language of roots".

In summary, to describe the gap between scientists and artists, it is not what we look at, we are all looking at the same things, but from where we look at what we look -----

We are on different planets, and before we conclude I must go deeper into the question:

From what planet are we looking, today, at each other? I want to give you a glance from my journey of work, from my place on the planet, on this side, as a sculptor, which, like a stone, did not have to start with a hypothesis and then prove it with reason, or make logical steps or define with formulas the result of this search.

For my work, that serves no real purpose, only leaves a testimony of a moment when a man understands his matter... ..