

Measurement is the process of quantifying our experience in the world. Lord Kelvin, Scottish scientist, said in the 19th Century:

When you are able to measure that which you are talking about, and to express it with numbers, you get to know something about it; but when you cannot measure it, when you cannot express it with numbers, your knowledge is scarce and unsatisfactory. Measurement can be the beginning of knowledge.¹

Other definitions of measurement are:

Stevens: The act of measuring is the attribution of numerals to the objects or events according to laws or rules.

Galtung: Measurement is a process of units classification according to certain chosen characteristic.

Cármines: Measurement is a process where abstract concepts are linked with empirical indicators, these processes that suppose a previous operations planning, of classification as well as of quantification.

Hempel: Measurement is the assignation of classes as a logical act. That is, to divide a cluster or class of objects into sub-classes. The classifiable objects constitute the elements or members in the cluster, while the universe of the discourse is the cluster itself. Even if the most elemental classifications refer to concrete objects, the abstract entities are also susceptible of classification.²

I start with these definitions, since my artistic production sprang from my interest in making evident everyday events in my exercise of dwelling, covering and living the space, which in-

stead of comprehending it, I was striving to apprehend it. I found out that in my work I was trying to grant values to experiences and objects as a way of rendering evident the unobservable, making personal interpretations of these situations by means of perceiving and quantifying their evidences, that mean for me the results of my own work. By reflecting on this constant in my practice, I discovered that I was trying to measure what was happening in my surrounding as recourse for understanding my relationship with space, time and objects. This led me to bring near the concepts and processes of measuring to my own artistic practice and to apply them inside my production as tools for designing patterns, systems and instruments of measurement that could provide me with a different kind of information regarding my surroundings, while we quantify it. By calculating, we understand something from what we are evaluating. By comparing one thing to another in order to abstract it into numbers, we are using that number as a symbol that substitutes what we calculate. This process of taking something from the real world that is totally inapprehensible, such as space and time, and to synthesize it, translating it into a numerical expression, means to me a medium to obtain extra information that enables us to classify, order and grasp that which is so essential to life.

From this exploration regarding the subject of measurements, I integrated elements of this practice into video works, and started working on different media involving measurement units and procedures within my work. Initially, I made comparisons between one pattern and another, and between a unit and another, comparing weight, distance, time and volume,

documenting the procedures of these comparisons into video. Later on, I continued applying non-corresponding measurement units to measure, arbitrarily, weight with minutes, distance with liters, volume with lineal meters, for instance. I built works where the process consisted in making exact patterns of a meter of different materials and to wait until the measurement of it is modified according to its manufacture. In the development of these works, there was an intention of exploring measurements and processes, leaving aside the criteria used rigorously in sciences in order to make experiments in the field of artistic production, simply searching for the exercise of getting near, from my artistic production and my tools, to the fact of measuring my everyday experience.

The measurements constitute one of the basic ingredients of experimentation³. In the processes of my work, I like to use the term experimentation as a part of a personal way of tackling the artistic production, plastically researching on the units of measurement within my work as elements that represent and abstract part of the world.

D.C. Baird defines an experiment as a process of identifying a portion of the world that surrounds us, knowing through oneself and submitting to a comparison or proof this portion of the world in order to obtain information from it and to interpret it.⁴

I am interested in how this concept can be applied to a broader variety of activities, ranging from the scientific to the ordinary, covering the necessities of someone into any kind of research regarding the world, where I think the artistic production may be inserted. According to this, within the context of my production, I consider that experimentation is what enables a situation where certain elements are

brought into play, plastic as well as belonging to the world of measurements, with a certain degree of likelihood that certain unexpected things may happen, in order to live, observe and document that which happens within that moment, and to become part of my artistic production.

This production procedure, based on the approach to the way in which space, time, volumes, etc., are measured, proposes to consider within the artistic creation those tools of approach, observation and experimentation, in order to make possible an analysis platform of the surrounding with the measurement instruments, and thus to foster the acquisition of certain kind of emotional and sensorial information, different from the one our senses can provide us.

Those who have had the opportunity of going through the field of measurements, regardless of specialty or discipline of science and technique where he or she has developed, I can very much clarify that to measure is to learn.⁵

To measure is to learn: If we establish, as a similarity, that the process of measuring, the final result and the measured value, is a means to enlarge and complement man's sensorial capacity, we can say indeed that to measure is to learn. Continuing with this reasoning that to measure is to learn or to obtain knowledge of a certain thing, we come to know such thing, and therefore we enter into a series of facts related with each other that lead to the improvement and constant growth of our understanding.

The measurements have meant to me a way to approach to the knowledge of what I can live through my artistic practice, giving it a personal organization and materialization. Both the units

and the measurement instruments are a point of view in which I can quantify something of what exists; thus I recognize the world by interpreting it in numerical values. Through these procedures I obtain further information of what I rate, and I consider that, at a certain extent, it expands my knowledge of itself. This approach is part of my desire to explain and understand what is displayed in front of us. The problem is therefore to try to understand space, time, and how matter works, in order to understand how I function in the world.

By researching into the subject of measurements in my work, I constantly wondered if there was any point in trying to formulate questions that have already been answered by science through its rigorous methods, and if it was valid to take some of these systems into my artistic practice. It is in this point where I found certain parallelisms in the way in which we artists produce, and how science works.

Science entice us to look for answers, more in order to satisfy our emotions than to shed light on its significance; and it is even more feasible that we will not be able to elucidate what we are looking for.⁶

In the book *The Direction of Time* it is explained the way in which the scientific procedure, from the speculation regarding a specific problem, can be possible in order to find new questions and, having this, new possibilities of looking at the same problem:

The procedures of human thought do not follow the guidelines of calculating machines, which have an answer to every problem. We cannot answer every question, but instead, we are often able to give answers to problems that are not correctly raised. Looking for answers we discover new meanings, and we discover

what it was that we were asking. This is the scientific procedure.⁷

In science, very often, just as it is explained, there is not a clear question posed. However, the process of trying to speculate regarding an idea, gives the possibility of developing answers that will finally lead us to find more questions. I personally consider that this point is where my research stands, regarding the reconsideration of a specific problem, namely, that of categorizing in personal orders materials and situations belonging to my own experiences.

Concretely, I find that in the artistic production and scientific experimentation there are similarities in the procedures of investigation where even if they may spring from a very clear idea, a concept or a situation, they do not always have a precise question, and however, in the process of production, more than often the answers are given to questions that were only mere intentions or ideas in the beginning, and which are delimited by the results to be found in the creation of works. In science as well as in art, these are different ways to tackle our experience of the world, to question that which is in it in order to find personal answers to situations that have been already analyzed. In my case, I consider I have found them.

Regarding the fact of trying to understand part of the world by means of art, I would like to quote a text that fires me with enthusiasm, since it highlights the fact that through artistic productions of other times, answers that offer more information of the world are obtained.

Edward T. Hall states in his book *The Hidden Dimension*, that through the study of man's artistic productions it is possible to learn much about the past and how man's perception changes while the nature of his perception consciousness

is modified.⁸ Hall points out that the History of Art and the study of artworks that were created in the past have made important contributions in fields such as Psychology, Sociology and in science, in consideration of mainly two issues. The first one is to examine, through the work of artists, the way in which the world was and is perceived, the way man relates himself to situations of his surroundings and strives to investigate the reasons why he uses art, in order to get closer to physical and social phenomena. The second issue is to analyze how, through the realization of artistic objects, man identifies and recognizes the world through his production process, reviewing as well the process that led man to understand representation as a way to know and apprehend such things that seemed formerly arcane to him. Hall observes how the artists' productions represent a rich and unexplored source of sound data about the way in which man understands things and confirms that the artist skill consists in the dexterity to distill and identify the essential variables of experience, which is translated into the artistic production.⁹

One of the examples shown by Hall is that of the man in the Paleolithic cave in which, like a small child, very obscurely seems to notice that such world could be experimented as something distinct and separate from his own self. He did not understand many of the natural phenomena, particularly because he had no control over them whatsoever. Perhaps, Hall states, art may have been the first effort to make experiments and try thus to control that which he did not completely understand, trying by means of the representation of an image, as a first step to analyze and comprehend the way the world around him functioned. Somehow, this points at the fact that art satisfies the human being's need to becoming objective before a reality that

surpasses him, in order to get close to it once again, after having experimented it to complete its information that so far had been merely sensorial. Likewise, the scientific method becomes essential, as an important tool in the process of obtaining information from the systems of measurement, just like artistic production as a way to learn from, and get close to the world.

In art there are plenty of cases of artists who cope with their artistic production taking elements from methods of scientific research. Applying a bit the procedure that science uses and trying to undertake a plastic investigation regarding that which is meant to be discovered, North American artist and writer Jimmie Durham explains in an interview how the scientific method has influenced his way of working since it works just like art in many ways, namely, questioning and experimenting what is in the world in order to understand how things really are.

Science is an analytic concept of questioning and experimentation, that enunciates and allows to see how the world functions and what happens in it. This is extraordinary, this is what man is really searching for in art. If we do not do that, we are not doing a real artistic project. In fact, I love science and the scientific method. I use a scientific procedure in my work because I believe that our work as artists is not to judge, it is not to find answers. It is to be analytic, to perform experiments that must lead me to the next experiment, then, this will not lead us to any simple answer. This is why I love science; it is something rational and, at the same time, it is something very emotional. I am not interested in separating art from the other sides of life, and neither to disconnect science from the other parts of life.¹⁰

Scientists are creators, and so are artists. Scientists look for an order in nature in order to

explain it in classrooms and books. Scientists build theories that are like fantastic tales. In their interest for expressing their individuality, artists create works rigorously, as if they were constructing a logical explanation of the universe. The relationship between artists and scientists probably lies in that both try to interpret and represent the world by means of what they experiment in it and try to translate it. From these interpretations, art and science emerge.¹¹ According to this, I consider that the procedures of science are not exclusive to it, just like the fact of considering activities related to everyday experience to be used in scientific calculations is not excluded. Properly, I am interested in taking up these elements that take part both in science and everyday experience, in order to include within my production processes a method of investigation that make use of the procedures of science, such as observation and experimentation; and thus establish a personal way of getting close to the knowledge of my surroundings, in search of a personal exploration that generates experiences based on one's own observation of things. Finally, everything is subject to be measured and to be calculated.

Notes

1. Baird, David C., *La experimentación: Una introducción a la teoría de las mediciones y al diseño de experimentos*, Prentice Hall, UNAM, México D.F., 1991.
2. Quoted by Bar, Aníbal R., *Un aporte a la discusión sobre el status metodológico de las variables y escalas de medición*, Cinta de Moebio No. 7, Facultad de Ciencias Sociales, Universidad de Chile, 2000.
3. Baird, *op. cit.*
4. *Ibid.*
5. Diaz, Jaime Restrepo, *Metrología. Aseguramiento metrológico industrial. Tomo I*, Instituto Tecnológico Metropolitano, Editorial ITM, Medellín Colombia, 2007.
6. Reichenbach, Hans, *El sentido del Tiempo*, UNAM Dirección General de Publicaciones, México, 1960.
7. *Ibid.*
8. Hall, Edward T., *La Dimensión Oculta*, Enfoque antropológico del uso de espacio, Instituto de Estudios de Administración Local, Madrid, 1973.
9. *Ibid.*
10. Murlvey, Snauwaert, Durant. Jimmie Durham, Phaidon Press, 1995.
11. Sergio de Régules Ruiz-Funes, www.redescolar.ilce.edu.mx