

The two velocities of technology and nature: a conversation with Adolfo Pérez Esquivel

A. Pèrez Esquivel¹, R.M. Pulselli² and F. Rossi³

¹Faculty of Social Science, University of Buenos Aires, Argentina.

²Department of Chemical and Biosystems Sciences, University of Siena, Siena, Italy.

³Department of Physical Chemistry, University of Palermo, Italy.

INTRODUCTION

The real world is a place of interactions, exchanges of information and co-evolution. It is this co-evolutionary component that generates quality and beauty. Dynamic, mutable, evolutionary forms are manifestations of the creativity of nature. Complexity, multiplicity, diversity and evolution in time are part of nature and the basic values on which the aesthetics and fascination of life is based [1]. Science can decide to study and go with these aspects of nature or to work against them, which it has often unfortunately done to further the mechanistic levelling culture of 'progress'. It runs the risk to separate the time of humans from the time of nature, the historical time from the biological time, as Enzo Tiezzi affirms [2]. On the other hand, science can restore a new alliance between humans and nature, as Ilya Prigogine, Nobel Prize winner for Chemistry in 1977, highlighted in his book with Isabelle Stengers titled *La Nouvelle Alliance* [3].

A widespread opinion on the role of science and the entity of scientific progress today reveals a kind of unconditional faith in human means. Technological progress, triumphant in this era of electronics and communication, tends to be confused with the development of scientific thought. On the wings of enthusiasm, science avoids the path of the pioneer, that of discovery, which climbs, dips, curves and narrows before opening to the world, in favour of the straight, fast road to Eldorado. There is the doubt that too much leeway has been given to demagogy about the cultivation of profit and the commercialization of ideas. The world seems to have fallen under the spell of western dream vendors with their magic flutes and charmed snakes.

We present visions, expectations and perspectives of science – and, in particular, epistemology of science – through a conversation with Adolfo Pérez Esquivel, who was awarded the Nobel Peace Prize, especially for his commitment to human rights.

INTERVIEW

Riccardo Maria Pulselli & Federico Rossi (RMP & FR): A demand of recent years is that of giving a direction to science, especially because one tends to confuse science with the technology that is capable of offering very quick and simple solutions, though technology doesn't provide many answers. On the contrary, technology often leads to homologation. I'm thinking in particular of a passage from one of your countless writings:

The equilibrium between man and nature has been broken. Science and technology have caused an acceleration of the natural cycle. Every being has its own cycle and this acceleration has changed life's objectives and conditions, resulting in marginalization. The main novelty of

technology is the acceleration and velocity of time. [...] Time in technology is different from cosmic time, as well as from human time and because of that, technology has the awesome power of modifying not only human nature, but Nature itself. [...] We cannot forget that technology allows for a geometrical progression of acceleration. This compels us to address the current situation. [...] This situation leads to the human being becoming more and more divorced from nature, because of the use and abuse of natural resources by developed countries in particular, and their responsibility for the transfer of pollutants to developing countries. The application of these policies gives priority to financial capital over human capital in a process of accumulation but no redistribution of goods and resources, losing harmony between human beings and nature. Time becomes a critical factor in the production process. It is now evident that in all cost-benefit relations, the time factor intervenes decisively and a new system of individual and social values operates under the surface. The great danger in the current millennium is that the fast world and the slow world are out of phase [4].

Ethical epistemological foundations that establish the direction in which scientific research should be oriented are needed. What do you expect from scientists? How can one work with science? How can science integrate itself with political science and with many open questions such as the socio-political problem of hunger?

Adolfo Pérez Esquivel (PE): In the current world, that in which we live, I would like to talk about intercommunication. I don't like the word globalization, I like integration much more. Integration, the intercommunication inside that which is thought means leaving behind the specialized man who, as Ortega said, is the real ruin of the community. The Cartesian thought is like fractioning, breaking up thought. I believe that currently, at the international level, we tend towards thought that is holistic, integrating, interdisciplinary, in which a change of mentality from the specialized scientific model to only one discipline can be accomplished.

What science does in this direction is very important, but often it is as if it was closed up in its own thought, so it changes certain things but it doesn't allow the general knowledge of populations to evolve. Most of all, I believe that it is important that science can reach the people, even those who are not scientists.

This can be seen by observing science and technology, acceleration and speed. It's as if there were two phases between technology and life, because the time and rhythm of human beings and of nature are different, and the acceleration provoked by technology breaks this rhythm. It is important to ask oneself how to newly recover balance, because otherwise we will surely end up being slaves of technology rather than making use of technology for a better world.

I believe that this is the great challenge. The challenge is the thought of being able to newly retrieve the harmony and balance of science, technology, and human beings with nature, that which we, in Latin America, call our Mother Earth – *Madre Naturaleza* – because she is the one to give us life. I believe that it is important, within this holistic thought, to start seeing the integrity of the whole again, biologically as well, in the sense that a biological chain based on biodiversity exists, and that is what maintains balance. If this biological chain should break, it would be a disaster, and in part we are living some of these disasters – earthquakes, floods – every time that the balance between nature and human beings is broken.

Another important point is that human beings have transformed themselves into the most dangerous evil on the planet, one that is capable of self-destruction. Apparently, this has an aim, and is done in the name of development. But what is development? When one speaks of sustainable development, one means the balance that allows one to gain from the earth's cycles and that is capable of benefiting human beings without destroying our Mother. I believe that this is the challenge of science. A challenge

between science and technology, between acceleration and time, in a cosmovision of the universe. If we want to change.

Many years ago, I was very interested in the thought of Teilhard de Chardin, when he spoke of a *cosmogensis*, *biogenesis* and *noogenesis*, i.e. of an interrelation, and I believe that this manifests itself in that which is a holistic thought, an integration, and not in the construction of thought that is the consequence of Cartesian thought.

RMP & FR: There's the need–desire to recover the integration that exists in nature among things, animals and people. This need has something to do with the rediscovery of values that existed in the indigenous populations of Patagonia, populations whose traditions have been lost, but that have much to teach us. Values that can be recovered. Is there also scientific significance in the desire to recover the history of Patagonia and to restore the balances that have been lost?

PE: Many things have been active for a long time. Today, the ecological movement is in all parts of the world, worried about damage to the environment, the problem of water, contamination, deforestation. The first ecologists were the original populations. In their vision of the world, the cosmovision, from primitive times to today, the original populations hunted in order to eat. They didn't speculate. The doors of their homes were imbued with magic contents, they gave them the symbolic force of Manà, and when couples married they invoked the gods of Nature to help them. When the indigenous peoples went to sow corn in the earth, they first turned to Mother Earth and asked her permission to plant the seeds.

The original populations, in Patagonia those of the Mapuche, but all over America, have another form. The tree, the river, the seas are all part of the same thing. I believe that this is important. If we don't know how to respect this, we are causing damage to ourselves and others. I learned this from my grandmother who was a Guaraní Indian, who never wanted to speak Castellano; she spoke Guaraní and she had a very particular vision of Nature. She knew when it would rain, when to sow, when to harvest, when the good weather or bad weather would arrive, and she had respect for animals. One does not kill in order just to kill. If you look around you now, in this hall, there are deer antlers. They are sports trophies [*hunting trophies were exposed on the walls of the hall where we were recording this interview*], not for feeding, but for destroying. When indigenous populations fish, they fish in order to eat, but they don't destroy. This civilization destroys, and it favours financial capital over human capital as well. This is fatal.

We have much to learn from the original populations, natural ecologists. It's a life lesson.

From this lesson, scientists and researchers can contribute by learning to better and more fairly take advantage of the cycles, the *recursos*, that Mother Nature gives us, certainly not in order to destroy them and exploit them economically, but in order to search out this harmonious relationship, this unity with nature. It's important that science can transmit this knowledge to the population. The indigenous populations know so much about natural medicine. From the plants, from the trees, from the land, they draw their medications, and the essence of their comprehension of medicine is the healing of the spirit, not only the body.

RMP & FR: We have sensed that research and the respect for human rights passes through the restoring of identities, of the sense of belonging of populations to the territory. Therefore the territory also becomes a very important factor for policies towards the protection of human rights, democracy, or this sort of principles. How much is the research of identity important today? In your training, there is a history of architecture and art. Can art, in some way, have a link or a role in the communication of the identities and of the principles of science and of human or ecological rights? How much could this have influenced your training? Are beauty, science, and therefore art, concepts that are intercorrelated?

PE: For me there's no difference. It's what we were saying about the specialized man. I have a more integral vision of the question: my art holds much of Latin America, the populations, the indigenous populations, the farmers, the women, the problem of the land, all that represents spaces ... including the architectural space inside the human being. It's what Lao-tze said in his philosophy: 'a glass isn't glass but emptiness'. It's the space that it contains, not the container. This environment that we find ourselves in, it's not the walls but their contents: space!

The relationship between time and space. This is also involved with communication. How we develop, integrally, that which we were talking about before, the relationship of the human being with nature. I write a lot and persistently and I am creating some works. They are distinct languages, different, but the contents, what one wants to say, the message is the same. We can say it with words ... A great pedagogue, Pablo Freire, a great thinker, said that the opposite of love is not hate; the opposite of love is the fear of loving. Fantastic! We enter into something and only search for a utilitarian purpose and don't give it a social, cultural, living content, and so what we are doing is useless.

The word itself is important. There are words that are empty of content, in all languages. For example, the word Democracy is a word that has been emptied of its contents. What is Democracy today? Casting a ballot in a box? Electing a political leader? For us, democracy means equal rights for everyone. When we see what is happening with children who die of hunger, scarcity, poverty ... the FAO says that throughout the world 35,000 children die every day from hunger ... that's terrible! Therefore, if we don't think that what we are doing has a deep social benefit, a deep perception of life ... we must think about strengthening that which is humanity; Humanity (in the sense of Pietas – humanity as a sentiment). We are not things, we are human beings.

However, you see that, in this society, there's a difference between the role of the character and the person; they are two distinct things. Characters are like the actors of the theatre, of the cinema. The Greeks used masks in theatre, the mask also served as an amplifier of sound; they didn't have this microphone [*we're recording with a microphone*] and all this technology, so they used masks. But when they finished acting, they took their masks off and went back to being people. On the contrary, in this society, there are those who always keep their masks on: these are characters and not people. So their whole life is about hiding the person behind the mask. Is this concept clear? It's as if the character predominated and not the person. And they don't want to go back to being people because they are afraid, they prefer to hide behind the character.

I believe that if we want to change society, in something that is missing, we must do it as people and not as characters, because we often make mistakes because we are seeking the character and not the person: what is the difference between these? It's not the profession: doctor, engineer, Nobel Prize winner ... So what are we looking for? If we don't grow as people, we're lost! We aren't developing life.

The scientific field also deals with this. We need to start recovering the most essential part of the human being; that is the first step towards freedom. The spirit of freedom is that man and woman are recognized as people! And this being people is possible when we recognize people, individuals, in our neighbors as well. Freedom begins with reciprocal respect. This is the spirit of freedom!

RMP & FR: One last very brief question: Are you optimistic? Do you trust that sooner or later there could be a radical change?

PE: I have been to Iraq, to Africa, all over Latin America, and I see what is war, what is hunger, what is death, but at the same time I discover what is Hope, what is Light ... there are many people in all parts of the world who are involved in building a better society, and this is fantastic.

I believe that what is important in order to keep alive this spirit of struggle is Resistance! Social, cultural, spiritual, political resistance ... Resistance. I've already said it before, it's in the spirit of

freedom. I don't resign myself and I will never resign myself to being a slave. The spirit of Freedom. Because without freedom you cannot have the ability to love, and without love life has no meaning. Therefore, there are many possibilities for changing things. I meet with many indigenous populations, organizations, social and religious sectors. I know that there are people who ... have a lot of strength in order to continue.

REFERENCES

- [1] Tiezzi, E., *Beauty and Science*, WIT Press: Southampton, UK, 2005.
- [2] Tiezzi, E., *The End of Time*, WIT Press: Southampton, UK, 2003.
- [3] Prigogine, I. & Stengers, I., *La Nouvelle Alliance*, Gallimard: Paris, 1979.
- [4] Pérez Esquivel, A., Patagonia Declaration. From the first international conference on management resources, sustainable developments and ecological hazards – *Ravage of the Planet*. Bariloche, Argentina, Wessex Institute of Technology, 2006.