Editorial – Issue 35 – October 2021

Brazilian society is going through a transition period in which antagonistic visions of the future debate the best way to move forward. In the sociopolitical context, actions are demanded that bring more tangible results than those to which society has become accustomed. However, to obtain results that can be perceived as more concrete, it is understandable if a simplistic view becomes attractive, often a mere repetition of a linear and direct model, which can be reduced to receiving an input, processing it, and generating an output. It is quite possible that this type of model is suitable for different situations in society, of a simple and operational nature. This is not the case, however, for processes that require elaboration, such as those based on scientific processes. Processes that involve issues related to society, such as scientific and technological development, have demonstrated, over time, that they present great complexity and demand an understanding that lies beyond what is accessible to the average level of knowledge of each epoch.

Brazilian science is part of the great project of an independent and self-determined nation. Due to its importance and its characteristic of being always at the forefront, it must not be subjected to retrograde limitations. We must not give in to the easy temptation of imposing solutions that have been attempted in the past but failed. When society comes face to face with the behavioural phenomenon that the broken windows theory seeks to describe, it ends up attacking itself, regressing in its level of development, undoing important achievements, and destroying its own values. The broken windows theory is the foundation of the American model of public safety. The theory's basic concept is that disorder encourages criminality. The name comes from a social psychology experiment conducted by Stanford University. In this well-known experiment, two identical cars were purposely left on the street, as if they were abandoned. One was placed in a poor neighbourhood with a higher rate of occurrence of social conflicts, and the other was placed in a wealthy and quiet place. In a few hours, the car in the poor neighbourhood began to be vandalized, while the one in the wealthy neighbourhood remained intact. When the car in the poor neighbourhood was already destroyed, the researchers broke a window in the car in the wealthy neighbourhood, which until then was intact. From that moment on, that car began to be vandalized as well, suffering the same destruction process to which the car from the poor neighbourhood was subjected. The conclusion is that it is not poverty that causes the phenomenon, but aspects of human psychology and social relations.

But why mention the broken windows theory? Merely the perception, or perhaps just the feeling, that we are living something similar to the Stanford University experience in the sociopolitical context of the country. Until recently, the technological development policy could be associated, by analogy, with an abandoned car on the street in a wealthy neighbourhood and, therefore, intact. From the moment one of its windows was broken, a progressive process of vandalism began. Science began to be seen as something harmful, something that carries within it a pernicious addiction, an impeccably articulated plot to deceive and subdue society. Scientific processes are now considered as if their main objective were to deceive and ensnare people. Likewise, policies to encourage culture and technological development are now considered to be totally ineffective, promoter of laziness and responsible for the deterioration of society's values.

Once the first glass is broken, the necessary support from society can be obtained to destroy the rest of what has been painstakingly built over the years. There is no questioning, only the willingness to use spurious tools to do what everyone else is doing, namely, destroy. There is no critical thinking, let alone the willingness to analyse the most important issues that shape the country's evolution, by means of a foundation free from sociopolitical bias. In the mind of a portion of society, science, now contaminated by the great world-orchestrated plot, must not be used as a basis for the solution of relevant problems. People working in the areas of science and culture are selectively discriminated against and harassed by this group for their access to the use of incentive laws, as if they were improperly appropriating wealth produced by others. In a modern state – what is it to be modern, what is it to be postmodern? –, society's resources are invested in incentive programs, not spuriously, but rather because the nation needs it, because the country wants to invest in intellectual production. This is not an improper allocation of economic resources, but an investment in the Society's well-being. However, once the glass is broken, for a segment of society there remains only the repression of disorder. Is this the only solution we expect to our complex problems? What future will this bring us? Let us consider history and its enlightening examples!

When the vision of the future is fragile, scientific research resources are cut off as soon as a difficulty materializes. A clear example is the crisis caused by the pandemic. We have witnessed this practice being repeated to exhaustion in our country. In the context of the electricity sector, amidst the pandemic, the chosen option was to practically interrupt a virtuous cycle of development, brilliantly promoted by the regulatory agency, through its R&D programme, responsible for a large part of the country's scientific production in the energy area in the last twenty years. Are we going to lose these achievements made with resources from the Brazilian society? Instead of promoting efficiency in crisis management, the optimal allocation of resources and the country's sustainability even when subjected to crises of this magnitude, the choice was to withdraw resources from the programme, which is largely responsible for the technological progress of the sector. Were this not in itself a mortal blow to the programme, there is a greater number of people touting the “simplification” of the R&D programme, with the intention that the resources start to be used in projects of another nature. As can be clearly seen, it is enough to break a glass to promote the rise of thoughts and attitudes contrary to true scientific and technological development.

The world, together with its components which have their own characteristics, and which interact with each other in multiple ways, is not simple. Anyone who followed the recent Nobel Prize this year knows this well. To understand the phenomena and their interactions and to develop robust, non-palliative solutions for the most diverse problems, it is necessary to dispense with simplistic views and face the systems' intrinsic complexity. A nation cannot reach a different position in the world by always doing more of the same. It must embrace complexity, pay attention to scientific rigor, delve into the mystery of the unknown, deal with uncertainties and devise new paths. Only in this way, based on science, it will be possible to aspire the conquest of a differentiated position. Only in this way, with systematic investment in scientific knowledge, can such a position be sustained. Therefore, this is not the time to turn away from what has been achieved by the Brazilian Society.

This issue of Espaço Energia brings us three interesting papers. The first presents an evaluation of the Brazilian environmental legislation and its licensing instruments regarding the effectiveness of solar photovoltaic projects for the protection of the environment in its different legal dimensions. The second paper presents a study of the impacts of five types of energy generation externalities in the tariff, also analysing their negative effects and benefits for society and the environment and proposing methods of valuation of externalities through their direct inclusion in the benefit-cost ratio of the enterprises. The third paper deals with alternatives for the treatment of vinasse (residue) from rice ethanol, specifically concentration and spray drying, with the aim of generating a product with high protein content for the manufacture of animal feed, thus closing the cycle production of ethanol.

May the papers published in this issue of Espaço Energia be of value to our assiduous readers, whom we would like to thank for their support and interest. We thank all contributors, especially the referees, without whom this journal could not exist. May the reading help us, in one way or another, to consider our future and act to ensure the evolution of the electric sector and the nation.

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Members of the board of editors