

Parallel Session 23: ¿What are we talking about when saying "public dialogue"?

**POPULAR RESPONSE TO SCIENCE AND TECHNOLOGY ISSUES IN
BRAZIL: CONSEQUENCES OF THE LACK OF PUBLIC
ENGAGEMENT**

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Abstract

In this paper we analysed three study cases in which conflicts were raised as a popular response to governmental actions involving science and technology issues in Brazil: the first attempts for introducing the decimal metric system in the country in 1860s/1870s; the 'Riot against Vaccinations', in the beginning of the 20th Century; and the contemporaneous GM crops controversy. We discuss also some consequences of the absence of public engagement in science and technology issues that have a significant social impact.

Key Words: Public participation in science and technology; public engagement in science and technology; popular response to science and technology.

Text

The objective of this paper is to historically analyse the dynamical process in the relationships between science, technology, and public in Brazil. We focused on cases in which can be observed complex social processes as result of the introduction of new systems, equipments and behaviours linked to scientific and technological advances with a significant social impact. The attitudes, the participation and the eventual reactions of the public toward governmental actions involving science and technology has been barely studied in Latin America.

In this study, we are especially interested in situations in which controversies are raised resulting from the gap between the proposals formulated by scientific or

political elites, and the interests, expectations and demands of other sectors of the society. The study of some of these cases can support a deeper understanding of the social relations and of the factors, impasses, challenges, and implications related to the processes in which the use of science and technology are deeply imbricated. In our presentation we will discuss also some consequences in Brazil of the absence of a public engagement in science and technology issues that have a significant social impact. We studied three of these cases in which conflicts were raised as a response of the public to governmental actions involving science and technology issues.

Initially we considered the episode for introducing the decimal metric system in the country in 1860s/1870s. Many scientists and intellectuals participated of the campaign for the adoption of this system, which was turned obligatory by law from 1872. However, the public administration didn't held properly its informational and educational function and there was not any attempt for engaging the public in the process. As consequence, a violent riot began in the Northeast region featured as a cultural resistance to a technical novelty, imposed no considering the social, economical, and cultural context. The resistance began in November 1874, mainly with the participation of small farmers and owners of small trades. The background context was the miserable situation of the population, the bad economical situation in the general scenario, religious-related issues, and obligatory military recruitment. The symbolic action of the revolvers was the destruction, in public squares, of the new measure system standards – that's why the event is known as 'Revolta dos Quebra-Quilos' ('Ryot of the Broke-Kilos'). The distrust and resistance exhibited by the population, as well as the general acceptance of the traditional system of weight and measure system, hindered the quick acceptance of the new system.

Another event that exhibits the complexity of the relationships involving science, technology, culture, beliefs, scientific and technological conceptions, and power happened in 1904, with the so-called 'Revolta das Vacinas' ('Riot against Vaccinations'). It is linked to the important work of the Brazilian scientist Oswaldo Cruz for eradicating several transmissible diseases. The ryot was held in Rio de Janeiro and its tragic final result, after eight days of confronts between military forces and the revolted population, was about 300 deaths and 100 wounded people. Besides, about 1,000 people was put in the jail, half of them deported. The ryot began as a reaction of sectors of the population against a legislation aimed to obligate the vaccination against smallpox. The multifacetal causes of this event have been discussed by several authors and include aspects such as legitimate defense of civil rights; political, ideological and moral issues; violence attitude from the people responsible for vaccinating the population; disrespect of cultural traditions; reaction of sectors of the population against the accelerated urban transformation.

The third study case refers to the present state of the affairs on the public engagement concerning to GM food and crops, which has been growing considerable controversy in the last years. Since 1998, attempts to produce GM

crops on a commercial scale have been made but growing and selling GM crops have been prohibited. By 2003, the controversies were especially significant: In February it was found that major proportion of Brazilian soya crops were transgenic due to illegal planting in Southern states. Shortly after an announcement to maintain the ban, the government decided to allow the sale of GM soya for animal and human consumption, sparking protest within the government and from environmental groups, as well as in sectors of the population. The decision was initially limited to the 2003 harvest. Last February, a new biosafety legislation was approved by the Chamber of Deputies, which broadened the permissibility for the sale of transgenic soya to the 2005 harvest. The legislation, which remains to be approved by the Senate, evoked a new wave of protests.

These three study cases show the Brazilian authoritarian tradition, several times supported by a excluding perception of many scientific community representatives, hindered a larger participation of the public in science and technology issues.

One general aspect that clearly comes forth of the analysis these cases is the high level of exclusion of the local population from the discussion on the fundamental issues involved in the process. Besides, the local population is often kept without information and outside the decision process and of the search and implementation of alternative solutions. Very often, the population only receive information – in a very limited way – in the moment in which they are directly reached by the process. The absence of a public engagement in science and technological issues, confirmed by the inexistence of efficient mechanisms for popular participation in Brazil, has been constant throughout the Brazilian history.