Alberto Nieto (2015)
La ciencia no puede ser sin pecado un adorno
Montevideo: Parque Científico y Tecnológico de Pando, 312 p.

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The peculiar title of Alberto Nieto's new book brings up an old and important debate, not only for the national context of Uruguay, but for current Latin American studies of scientific development. The major strength of this book is certainly that it is grounded on Nieto's background as a natural scientist chemist who takes the time to reflect critically on science policies, innovation and related actors that position science as a strong weapon for development. Despite having published extensively in renowned scientific magazines, Nieto is better known for his political interventions and for occupying different positions in agencies concerned with the development of science in Uruguay. This is more than a mere anecdotic fact. The book itself is a compound of what some scientists really do beyond their daily work, thinking about their own practice. Nieto brings together a variety of articles he has published in the local press throughout his career, especially after his return to Uruguay following the dictatorship that took place in 1973, to talk about a topical issue for the country: the relation between scientific innovation and development policies.

This review will present three different features of the book: a detailed picture of the title, an inquiry about the target readers of the book, and a suggestion that could work as a critique of how Nieto presents the problems of science, innovation and development.

The author expressed his general stance on this relation by means of the book title, arguing that science cannot be an "embellishment" without being a "sin". In the following, I aim at revisiting the author's main argument on scientific production beyond the book title. This peculiar expression is taken from a verse by Spanish poet Gabriel Celaya, a well-recognized poet of the postwar period, and a symbol of what, in those times, was called "social poetry" or "compromised poetry". In this matter, two kinds of deductions can be reached: (1) science is not different from art, so both should not be considered as an embellishment, and (2) if science should not be considered

a sin, it should act as a compromised science.

The examples he uses in the book to show how some products of science in Uruguay help to solve practical problems give us the key to understand the deductions proposed. In chapter two, questions such as: "how can we use new scientific knowledge in the production of goods and services in Uruguay?" (46), or "how can we add value to scientific knowledge?" (67), or "how can this knowledge serve the development of the nation?" (77) arise as problems related to the use of science – they shape what science is: a particular activity valued by the uses of its products. In provocative words, the science represented in the book is put forward as a triumphalist activity that only shows the benefits, the positive results. As Nieto declares, there is a potential impact between technological innovation and the population's quality of life (but only if science does not work as an embellishment).

Nieto's notion of science defines this activity for its results, not for its practice. This is the traditional perspective of what science is, also called the received view in science philosophy literature (Suppe: 1989) – a notion mostly defended by scientists and attacked by science sociologists.

This is why Nieto's book seems to particularly address politics or business leaders. All of the 312 pages of the book are thought to point out the benefits of science to society, as well as [to] promote science as a strong practical tool for development and leave behind the idea that science, like poetry, is useless. So now the question will be: who has to be convinced?.

Nieto's target seems to be the political system. In Uruguay, this social actor still retains the main power for development. The word "entrepreneurship" plays an important role in chapter three, where implies "assuming risks", "dream[ing] about big reliable achievements", but also "mak[ing] them come true with daily persistency and creative work" (99). In entrepreneurship's slang, the idea of failure or making mistakes is simply not taken into account. And this fits in perfectly into the author's notion of science, as he entails successful results upon it.

Naturally, science is not a win-win activity. It is composed of big successes, but much more failures – and all of them are part of the same practice. And being a sin is also a big part of science production. Roughly, the "offence" of science in our days can be seen in the academic career for publishing, in the structure of projects for scientific activity, in the merit hierarchy of universities. Most scholars and scientists of our days work to fulfill these requirements.

The question that arises, then, is: who are the real sinners? Who is responsible for the fact that most of the scientific activity is living in sin? Unfortunately, the answer provided by the author is not original. As many scientists of Latin America, he also believes that the main reason why science is not useful for the nation's

development is the neglected attitude of politicians, businessmen, or even society. From a scientist's point of view, failing to recognize the importance of science has been a common attitude of politicians and society in general. Classical works of Latin American tradition asserts the idea that science has never been a valued activity in our continent (Herrera 1971; Sabato 2004; Vessuri 2007). In this respect, I believe that Nieto's position follows the "old tradition". While the book provides an accurate analysis of the *status quo* of scientific production in Uruguay, the author does not seem to be able to take on a more constructive perspective beyond blaming the political and economic system. What is missing here is the acknowledgement that science becomes a sin not only because of the uses that society, politics or economy make of it. Rather, it should be first and foremost the scientists' task to take responsibility for their own product. Nieto's book would have benefited from asking how the exact manners of scientific production, and how the ways that scientists value their own work, contribute to the production of a "sin-science".

In this relation, my suggestion is that scientists are so highly estimated for their own activity that they cannot realize that perhaps they create the problem of "embellishment's sin" themselves. If science is a sin, it's not only due to the uses society makes of science products, or the status that the political system brings upon the results of scientific practice. If science is a sin, it's also – and maybe mostly – because the scientific community has been responsible for developing an activity that works isolated from society. I believe that this is the main reason why science is an embellishment: our scientific and academic communities uphold a cloistered activity. If we consider the way our scientists value their work or the standards that perform current members of scientific community are the main sinners.

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