

THE TIMING OF THE CHANGES IN THE GEOGRAPHY OF OUR SCIENCE

In times gone, the events and the changes, and above all the information about them, followed a rhythm that was markedly slower and certainly keeping in step with human existence. The effects of the events that were taking place became apparent after a latency that permitted to adapt and understand the different situations that happened along the life of individuals and of history.

Nowadays, in contrast, the information that we receive about the most diverse happenings is explosive, instantaneous and global. We become acquainted, in the blink of an eye, of the facts taking place in any remote corner of the world, which occasionally are of a positive nature but generally are negative. Good examples of this are the wars and the political changes that take place without pause in many latitudes.

However, the changes in productive systems are much slower to be generated and to be destroyed. Cultural changes, on their part, are even slower to take place; culture is long-lasting, it takes even centuries to develop and lasts as much as the peoples, and sometimes outlasts them after their disappearance.

Science is in some intermediate point. It takes several decades to develop a productive scientific system that is able to have a sufficient effect on society, the economy and the wellbeing of the people. This depends upon the harmonic development of multiple elements. It requires the existence of an educational establishment of adequate quality from the initial levels to the highest echelons, of an appropriate infrastructure with the needed financial resources for its operation, of the international cooperation and exchange, of industrial development, and of the innovative and entrepreneurial capacity of the people.

To achieve a notable scientific level requires several decades of efforts, and it is in this manner how large countries like Argentina, Mexico and Brazil, in Latin America, have reached the level of scientific productivity they have and that, although it is short of that of countries

of the first world, includes research groups with noteworthy performance in some fields of knowledge, as well as a growing industrial development. For the small countries, to reach the needed critical mass is much more difficult and it is usually isolated individuals who become notorious in the different fields of science. Amongst the latter countries, Venezuela stood out for reaching a relevant regional position in the second half of the last century, certainly energized by the abundant fiscal resources obtained as an oil producing country.

On the contrary, very few decades are needed in order to destroy the scientific establishment of a country. In Venezuela, for instance, in less than twenty years, through the ideologization of education and the militarization of the country, by asphyxiating financially and morally the centers of higher education and research, restricting individual liberties and controlling industries and media, it has been possible to produce a massive emigration of scientists and to reduce the number of publications with a vertiginous speed, a situation that is to continue and be even more accentuated in the near future.

It is in this manner that the regional map is being modified. Emerging countries, such as Chile, Colombia and Ecuador, progressively increase their presence in the universal scientific literature, while Venezuela follows a rapid and regrettable descending course. But such situation is not manifest exclusively in the decay of scientific output as measured by publications. At the same time, with the same rhythm, almost forgotten diseases, such as malaria and diphtheria, reappear, newborn mortality increases, industrial production declines to unthinkable levels, hyperinflation ensues, the population emigrates...

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