

# How does Citizen Science relate to the colonial critics of International Relations? A view over Latin America

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**Abstract.** It's consensual that the International Relations epistemology, in many of its theoretical chains and most traditional ways of analysis, has a state-centric, contractual, Caucasian and hegemonic bibliography. The pillars of this discipline rises from a kind of intellectuality that adopts essentially a *top-down* approach, and therefore reproduces colonial discourses. Citizen Science - a recent scientific method that considers ordinary people as active subjects of science production, making science and reality observations an accessible possibility to a public not necessarily formally inserted in the academic field - appears as an alternative to promote inclusion and decentralization of hegemonic narratives in International Relations. By mapping the increase of Citizen Science in Latin America and in which fields the practice is spreading, observing indicators, reviewing the main Citizen Science platforms and, alongside with other author's contributions, this research aims to identify tendencies of Citizen Science in Latin America, in special in Social Science segments, in order to prove that advocating toward it is an efficient way to break the Eurocentric theoretical tradition in International Relations.

**Keywords.** Colonialism, Epistemology, Latin America, Anthropology, Political Economy, Social Science, protagonist, active subjects, bottom-up, science production, mapping, inclusive narratives

## 1. Introduction

What is it about the scientific field that makes it so intangible and inaccessible, so far away from the common citizen? Why do we only link the production of science to scientists? In times where facts are relativized and Science is put in danger due to *fake news* and the post-truth Era that humanity faces now, the potentials of this brand-new epistemology can easily be put in doubt.

### 1.1 Definition of Citizen Science

According to National Geographic, "citizen science is the practice of public participation and collaboration in scientific research to increase scientific knowledge. Through citizen science, people share and contribute to data monitoring and collection programs". This tendency is a phenomenon mainly in North America and Australia, but not yet have conquered the common sense understanding in the Global South.

So why is it so important that we expand the practice worldwide? Certainly, the terminology needs to have

a serious meaning, the advocacy here is not to banalize the world "science" and misrepresent its definition, but to address it with a different approach. Citizen Science aims to rebuild the way we perceive science, and become active subjects, instead of passive, distant, lay observers.

The emerge of awareness in citizens, implies in citizen science. Giving a broader role, allowing active and close participation in science to ordinary people contributes towards the end of the stereotype of science as a rigid, unachievable and inaccessible field. To break the alienated cycle, we need to change the norm that rules the scientific world. It's necessary that we create a more direct flow of knowledge between researcher and citizen, a holistic way to produce science based in genuine observation and experience.

There is a democratic element within the Citizen Science discussion. Spreading a common sense of awareness, it's like when all individuals together, get to revendicate their rights and monitor their surroundings. Its relying on the power of crowds, instead of being completely dependent on one

individual or one institution geniality, or heroic tendency.

## 1.2 Latin American social studies and Citizen Science

If the Citizen Science (CS) *per se*, is still a scarce method in the Global South, trying to specify the search even more by looking for social science protagonized by citizens in Latin America is even harder. By observing the main CS platforms such as SciStarter, Zooniverse, Inaturalist and also some local sites that register those type of activities, such as Plataforma de Ciência Cidadã and SiBBR, the main conclusion is that mainly Geography, Biology and Medicine are fields explored in Latin CS – further, this research will touch the importance of those projects.

Although the majority of CS projects in those subjects follow a global tendency, the lack of projects aiming to take advantage of local citizens social views and experiences to produce CS in a Social Science discipline, was an interesting highlight and the starting point of this research.

## 2. Hegemony in Social Sciences

In *Perspectivas Pós-Coloniais e Decoloniais em Relações Internacionais* three authors sketch a critic to International Political Economy epistemology and Liberalism, in an attempt to deconstruct predominant conceptions that guide the International Relations (IR) discipline. In that sense, the authors seek to prove that the mainstream lines and traditions tend to reproduce homogenized perspectives, ways of perceiving the world that do not respect – or even considers – structural, historic and cultural differences. As the occidental culture, since hegemonic, is the lens in which the world is looked at and interpreted, a “difference” was a tool forged in order to justify dominance, in a very ideological and strategic way, towards the triumph of Liberalism.

The authors explore artificial disengagement between the non-occidental person from completeness, evolution and development, and the gradual incorporation of this ideal to the scientific field. Since the XVI century, with the consolidation of the westphalian state, the spread of this interpretation in anthropology funded a canonic, colonial sight in the perceive of “the other”.

Therefore, the mainstream interpretation of “the other” or “the different” as barbaric, primitive and , by consequence, subaltern, comes from a time where frontiers and territorial lines were being defined, and the concept of international was being outlined (RAMOS, CORRÊA, SCOTELARO, 2021, p.108).

Thus, this canonic tendency of the IR discipline that is, to lay over an “individualistic methodology” - evident in analysis that contain clear traits of racism - blurs processes that perpetrate relations of

dominance and inequality. The mere construction of occidental identity as superior and self idealized, is in the center of the consolidation of the unitary model of civilization and development. This perspective, which adopts the ambitions and visions from the dominant, as if it represents the whole, is a colonialism result.

In that regard, this anthropologic debate that recaptures the ethnocentric and racist basis of IR canones, relates a lot to the *Modernization Theory*, which contributes for the isolation of IR epistemology in a colonial island, as far as it reduces the concept of “development” to a modern civilizatory project projected by the Occident towards anything or anyone that escapes the caucasian model. In *Race and Development*, Robbie Shilliam points out to the fact that modern problems that affect citizens, such as climate change, violence, economic insecurity, social inequality, etc. Are not addressed under an optic that centralizes the racial matter. For Shilliam, this approach is essential, and on purpose is being depoliticized. He argues that race is not a superficial, individualistic and identity debate, but a fundamental pillar or interpretation of the world.

Accordingly, by recalling the origins of the “civilizatory mission”, materialized by colonialism, going through the impacts of slave atlantic traffic, the development of Iluminism, the Cold War period and so on, specially looking into Latin America, race permeates the concept of “development”, and public policies, alongside with the production of social sciences, with its elitistic *top-down* approach, seems to neglect Shilliam’s argument.

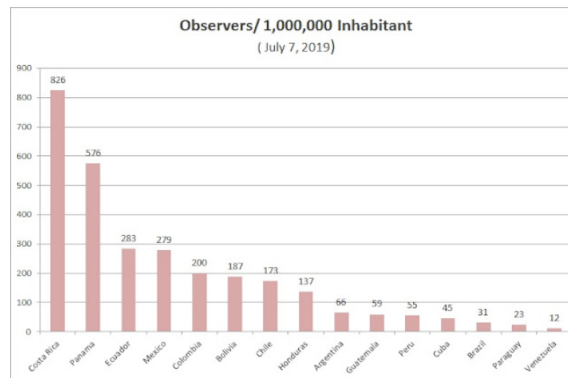
One of the main discussions in IR is the role of institutions. The Critical Theory was articulated by Robert Cox and puts itself as a critic to classical scholars of IR, such as Neoliberal and Realist lines. Cox questions the Realist presumption that a theory can be interpreted in a neutral way. For him, every theory has a touch of personality and point of view. Also, he criticizes the neoliberal tendency of accepting the *status quo*, with reform proposals quite weak. The Critical Theory, in that sense, rises to give the right importance to social forces, and seeks to understand the global order starting from them, therefore from a non-dominant, holistic and intersectional point of view. The Critical Theory is the approach on which Citizen Science should explore when dealing with social sciences affairs.

Therefore, the main reflection all this literature provokes is: how can Social Science be made by dominant groups, to dominant groups, describing dominant views, be useful and tell a story about subaltern people?

## 3. Mapping Citizen Science in Latin America

As mentioned above, the main platforms that conduct the disclosure and management of CS projects show very little amount of projects in Latin America,

as evident in **Figure 1**. Among those existent in the region, it's important to recognize the merit in those initiatives, bearing in mind that geographical, as well as Biology and Health-related researches have a special impact over the Latin American communities in which they take place. Measuring quality of water and air, the incidence of diseases related to tropical bugs and pests, the flow or river life, observation of local fauna behaviour against climate change, etc., all those contributions are specially praiseworthy in a region where there is relevant state negligence, where the local authorities do not prioritize education, sanitation or even basic rights to the local populations.



Font: <https://www.inaturalist.org/posts/26023-a-look-at-citizen-science-in-latin-america>

**Fig. 1** - Engagement of the population with citizen science

Although the number of projects seem to expand throughout the region and increase the level of coverage, in terms of areas of research, it seems a little harder to imagine the participation of the marginalized groups in this process. The success in this kind of process depends on many factors – access to the platforms, basic knowledge in the segment of the research, time to dedicate, etc. The tab “users” in Plataforma de Ciência Cidadã shows the profile of the main participants in Brazilian researches, revealing the lack of universal representation among the participants. University Students and privileged (financially, educationally and geographically) people tend to have time and interest to be part of researches. However, the community that most needs the results of these researches is not being able to participate actively in the process of it. So citizen science is growing and being materialized, but there is a deeper problem: who gets to be citizens in Latin America.

When amplifying this context, specifically in social science fields, it's easy to identify a further problematic in regards of the lack of an organic, genuine and truly democratic participation of people in the production of science that tells a story about them and will benefit them somehow. Propositions of Julieta Pina-Romero, Luis Reyes & Arturo Valejo, in *Citizen Science in Latin America and the Global South*, falls under this circumstance. The authors make a classification of CS in Latin America, based on the level of engagement with political-scientific

institutions. They bring examples of papers that have complete *top-down approaches*, or *cooperative interactions* (between citizens and hegemonic producers of social science), and at last, *Science on the margins* – “where science and knowledge are created and live out their epistemic lives independently from institutions” (Pina *et al*, 2022).

The science “on the margins” the authors summarize the 2022 research on the citizen's family roots. The research included methods like collecting, archiving and analysing family documents and legacies that, in Peru, are kept in private databases. The independent work “conducted looks to highlight the nuances that laypeople may bring to mainstream science by being personally implicated and committed in the matter within the framework of “undone science” (Frickel *et al*. 2010) – in this case, the incomplete bio-digital understandings of community, ancestry and heritage. (Pina *et al*, 2022)

Beyond the examples given, the classification proposed by the authors is potentially an enhancement mechanism, that can be used as a guidance to increase inclusive researches. If the aim is to decentralize the academic social science field, then focusing on the second and third classifications, *cooperative interactions* and *science on the margins*, the whole norm can gradually evolve into a new way we perceive science.

Giving space for the subaltern to speak, describe their reality, analyse the statistics they are part of and accept the fact that social science is a multi-faced narrative, that precedes theoretical lines and premisses that guide economic and political policies, can be part of Citizen Science. The lack of demonstrations like this is verified in Latin America, but worldwide there are successful examples of social and political sciences that have counted on experiences similar to what CS does to collect data.

The East Timor independence, facilitated by a United Nations intervention, is a close example. This occasion cannot be properly characterized a citizen science project, since it was way too complex and not officially a CS activity. But the way the *peacebuilding* operated, with active participation of the citizens to decide the democratic model they desired in the nation, was internationally recognized. Public active participation in policymaking is perhaps the reason the mission is called successful. A remarkable name in this process, the Brazilian diplomat Sergio Vieira de Mello, informally disposed of CS methods to comprehend the nations' pains and needs, he advocated vividly towards fieldwork, and the abandonment of extreme bureaucratic ways of producing political science, specially by United Nations and public sector institutions and intellectuals.

## 4. Conclusions

It becomes clear that CS is yet a broad field to be explored. It's a different, new and necessary approach to science. The way it proposes a

democratization of knowledge and protagonism to ordinary voices gives hope for the future. Science is postulated as a tool for human evolution, therefore its main objective is to be useful to mankind development. The revolution that citizen science is promoting will change the common sense of the next generations, making their mindsets closer to science, aware of their surroundings and the possibilities in observing reality. The power of this model of education and perspective building is unmeasurable, and it's the only alternative for a future world, as the vigent model, with alienated citizens, rigid segregated fields of knowledge and lack of representations and listening, is doomed to exhaustion and catastrophic end – nature-wise speaking.

In regards to the social side of citizen science, the urge points out to a place where science is no longer an elitistic, segregated field. If the benefits of CS need to be perceived in social science, then the action needed is to decentralize the narratives and allow the marginalized to take an active role in producing science. The particularities of Latin American economy, politics, social organization diversity and many more topics that fall under the social science umbrella, need to be explored by a diverse range of Latin Americans, so the history gets the level of truth it deserves.

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