

Rivers of knowledge: demarcating science with Indigenous voices

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Abstract *Part of this text resulted in a lecture presented at the opening of the 20th National Science and Technology Week of the Oswaldo Cruz Foundation in October 2023. It is the reflection of an Indigenous historian on her professional trajectory, considering the racism in force in the scientific community and the paths that the Indigenous knowledge rivers have traveled to demarcate writing as a field for securing the rights guaranteed in the 1988 Federal Constitution, constituting a space of resistance for the continuity of the Brazilian Indigenous peoples' plural existences.*

Key words *Indigenous health, Racism in science, Indigenous knowledge*

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“Agony of the Pataxós”

Sometimes
I look in the mirror
And I see myself so far away
So out of context!
It seems like I’m not from here
It seems like I’m not from this time.

Eliane Potiguara (2019, p. 63)¹

Part of this text resulted in a lecture at the opening of the 20th National Science and Technology Week of the Oswaldo Cruz Foundation in October 2023. This institution, it must be said, has been and continues to be part of my academic trajectory. I arrived here to do my master’s degree at Casa de Oswaldo Cruz, and years later, I returned for an international doctorate in Human Rights, Global Health, and Life Policies. It is interesting to be the main speaker and to be able to speak in the first person in the place where I started my reflections as a historian while deepening the strangeness I had already felt during my undergraduate years at the Federal University of Rio de Janeiro. It is also in this space where I have been growing as an intellectual. I am currently a History professor at the State University of Santa Cruz in Bahia. I collaborate with the National School of Public Health teaching, supervising several specialization courses focused on Human Rights and Indigenous Health and living the experience of being part of the Indigenous Voices in Public Health Group, an organic project of researchers linked to Indigenous Health and committed to Indigenous leadership to produce and disseminate rivers of knowledge. This is the formation of a network of Indigenous intellectuals from several peoples who were gathered in this institution, different tributaries from the most distant regions of this country and which I understand as a beautiful meeting of waters, a “happy encounter”, as well described by Elisa Urbano Ramos, Pankararu leader and anthropologist and elected chief of the group². I emphasize that these encounters have been counter-colonial³ and revolutionary movements. However, I must emphasize that this has not been a simple and fluid path, as Indigenous intellectuals face persistent ethnocentrism, tutelage in spaces of knowledge production, and a lack of dialogue with the diverse ways of seeing the world underpinning Indigenous ways of knowing². In the fight to guarantee the rights of all Indigenous peoples, writing has emerged with

the potential to reaffirm plural existence. Gersem Baniwa states that writing is “a tool for inclusion and equality with diversity and political and intellectual empowerment”². On this river path, we defend our records, ways of communicating and teaching and learning informed by the traditional ways in which people express themselves. Likewise, Elisa Urbano Ramos states that “these writings translate the language of our ancestors, communication through stories”². It is, therefore, evident how the fight for rights and cognitive democracy is necessarily linked to symbolic universes of Indigenous spirituality.

I spent a long time working in Basic Education as a History teacher. I had to face the challenge of transforming my practice, voice, and body in this traditionally colonizing and stereotype-reifying space: the school. This legacy of violence reproduced in school spaces was mobilized by a policy of non-existence that, historically, considered Indigenous peoples incapable and doomed to disappear, subjecting them to integrationist and guardianship policies by the Brazilian State. The result of this is that, even after the Indigenous Chapter was established in the 1988 Federal Constitution, a large part of Brazilian society is still unaware of Indigenous peoples. It does not recognize their names, finds the sound of their languages and music strange, and fantasizes about their traditions, which tells us a lot about what scientific and educational institutions have or have not taught about the reality of most of the population that recognizes itself as belonging to an Indigenous people.

However, first, I must say I am not here to speak alone. I carry with me many ancestral voices, smells of herbs and dirt, and the sound of leaves and branches crackling, and I bring a reflection on knowledge made up of movements and fluidity. “We have always been close to water, but it seems that we have learned very little from the speech of rivers”⁴. Eliane Potiguara’s opening verses in this text can be understood from two viewpoints. First, the persistent colonial strategy of locating Indigenous peoples temporally and physically in a distant past, reinforcing their absence in contemporary times. This erasure blinds the view of people who do not know Indigenous peoples. At the same time, it indicates how much this agony plagues Indigenous peoples throughout the Northeast, who are still invisible today, given their diverse phenotypic traits distinct from the stereotypes in this society’s imagination. According to the census, Bahia is the second state with the largest Indigenous population in

the country⁵. Its Indigenous peoples still demand that they no longer be “caboclos” and “mixed races” and resist in defense of their identities and territories.

I recall here the generalist and exoticizing representations disseminated through European travelers’ reports, writings, and paintings and the racial theories of the 19th century that affirmed the existence of insurmountable differences between the so-called races based on biology. I also recall the myth of racial democracy, constructed in the 20th century by Brazilian intellectuals⁶. I would like to point out how these ideas and theories, which originated in the field of science, have endorsed the silencing of a knowledge pluriverse. We need to reflect and debate on the generations of scientists educated from the blindness caused by racist ideologies.

These words may be uncomfortable, but they also invite students and researchers at this vital institution to navigate these rivers, listen to them attentively, and bathe in their waters. It is necessary to put into practice a science that can coexist and effectively dialogue based on the understanding of the multiplicity of existences and experiences, with faces and voices that have never been considered as researchers and scientists. When I speak of these rivers of knowledge, I denounce the silence and acknowledge the absences in this audience.

The colonizing process is permanent, and I ask, “How has the intellectual elite of this country mobilized to combat violence and silencing that has historically left Indigenous children and young people without prospects, resulting in a suicide rate three times higher than the national average?” We live in a reality where the native peoples’ cultures and all this confluence of different languages, customs, traditions, festivals, rites, and medicines still maintain, as rExistence, their ancestral memories alive. Even though they are considered sub-humanities, a concept that permeates the State’s relationship, far from being extinct, these cultures continue to heal from the violence of racism and renew themselves from their fields, from the movements of know-how present in a flour mill, in the sacredness of a herbal syrup, in the making of a maraca, in the songs, in the graphics that paint the bodies-territories from north to south of this country. Supported by their ancestry, they become students, political leaders, intellectuals, and, therefore, producers of knowledge, demanding the existence of their people, their dignity as Brazilian citizens, and the full right to difference, refusing the guardianship

that marked a historical genocidal colonial relationship.

Defending the Constitution means defending a framework that has given us back the ability to be considered thinkers, speakers, and decision-makers. The cry that echoes the “Nothing About Us Without Us” movement demands historical reparations from the State and places all institutions focused on producing knowledge as fundamentally strategic spaces for exercising citizenship and cognitive democracy⁷. Thus, Indigenous peoples continue to mobilize Mother Earth while fighting for the guaranteed constitutional right to demarcation.

Indigenous male and female shamans continue to mobilize healthcare, those who heal, plant sowing healing, sing evoking healing, and teach Western society that older adults are living libraries that need to be cared for, loved, and preserved, as they are the same ones who continue to teach the younger ones to revere traditions, save their seeds, and learn by listening to the waters of the rivers.

I want to draw special attention to midwives. I recently visited two Ticuna communities along the banks of the Solimões River at the invitation of Fiocruz. This river still flows through me and makes me remember and revere the wise Ticuna, Kokama, Kambeba, and Kanamari women who help give birth, who mobilize their dreams and the knowledge of their ancestors, the elements of their territory, in order to continue existing. These women’s work refers to a movement of life, a people’s continuity; therefore, they dedicate themselves and mobilize an entire cosmological repertoire to make the birth of a child and their people’s continuing existence possible. These women belong to the Purple Cotton Association and mobilize in their hands the wormseed, purple cotton, capybara teeth, chicken fat, besides many other secrets. They mobilize gestures, looks, affection, work, and time! When they help give birth, they become the ‘godmothers’ for the families of the babies who are fished out of the creek-wombs. It is an exercise in self-government where all the children of these peoples who come into the world are received by the hands of wise women, holders of the traditional knowledge of their peoples, handling with great skill their language, the elements of Nature that ritualize this moment that is a celebration of life and resistance.

I remember a speech by Ailton Krenak about the COVID-19 pandemic period, in which he pointed to “new ways of doing politics [...] emerging from fields that are still invisible” and

how this way of governing involves affections and solidarity”⁸. Rivers of knowledge flow through ancestral rivers and the voices of grandmothers, leaders, and each member of an Indigenous community, from territories, whether demarcated or not, to urban centers. Knowledge is produced, life is reproduced, and books are published from Aldeia Maracanã in Rio de Janeiro, Parque das Tribos, Manaus, and many other living organisms mobilized by Indigenous resistance.

I think I am here especially to talk about an urgent matter: We need to paint the walls of schools, universities, and research institutions with genipap, annatto, clay, and Blume and to multiply knowledge that includes not only words but also rituals, gestures, and enchantments. No longer a monocultural science but a science that dialogues with diversity, with the existing Indigenous pluriverses in favor of life.

The Indigenous movement urgently calls for the defense of Mother Earth. The Special Report of the Intergovernmental Panel on Climate Change showed how protecting forests contributes to agriculture and food security and prevents extreme weather events⁹. However, the Indigenous movement that declared a Climate Emergency at the Terra Livre Settlement in 2023 shows how the lives of Indigenous peoples are under threat and how their relationship with Nature is being altered¹⁰.

These cultures of the Indigenous peoples have echoed a different understanding of rivers, mountains, and forests for centuries. They do not see them as resources, but I am talking about groups that talk to the Watu River, the Rio Doce, considered a grandfather for the Krenak culture, talk to the sounding stone like the Puris in the Serra da Mantiqueira, understand that the sun can flirt with the moon, like the Sateré Mawé people of the mid-Amazon River region, and those who tell stories of times when the mountains were still asleep underground and when they woke up they brought the eyes of the waters from the depths, like the Taurepang people of Roraima and parts of Venezuela and Guyana¹². I cannot fail to mention the power of Makunaima's stories for the Macuxi and Wapichana people, so well claimed by Jaider Esbell's art. Regarding Makunaima, most Brazilians only know the story told by Mário de Andrade, disconnected from any Indigenous context. Jaider Esbell makes a reading of this story, provoking society to decolonization, transgression, and the dimensions that make sense when one thinks about the spiritual power of grandfather Makunaima, restoring the

fluidity of the myth and speaking of a time when everything could be everything^{11,12}.

The production of knowledge that has an ancestral Indigenous river as its tributary is in full swing: there is a dialogue with Western production, also with an affirmation of its epistemologies, new methodologies, and know-how that are inscribed and written in Portuguese but also presented in other languages, and already composes a field of resistance established by Indigenous intellectuals arising from affirmative action policies and who enter the spaces of knowledge production to fight for their writings and demarcate territories of knowledge, facing head on the challenge of overcoming a racist and exclusionary society. According to Gersem Baniwa, since 1988, Indigenous peoples “have been insistently fighting for their rights to think, to speak and to be heard, to be seen and to decide their destinies”².

As written in the Letter of the First Indigenous Women's March held in Brasília in 2019: “*It is not enough to recognize our narratives; it is necessary to recognize our narrators*” (Letter of the First Indigenous Women's March, 2019)¹³. The presence of women who reaffirm their strength within the Indigenous movement from the political and intellectual fields is significant. The generosity of listening, the attentive look, the “feeling-thinking”, to use an expression by Fals-Borda¹⁴, are urgent to allow the narratives of Indigenous peoples to emerge, combating the silencing of the cultures of more than 1.7 million Brazilians belonging to more than 300 peoples, singers and dancers, but who also fight for the recognition of their identities and their leadership as historical subjects. Repositioning these contributions in academic cartography is to combat the modern ideal of humanity that, throughout history, has excluded non-Western identities and non-scientific knowledge, besides promoting plurality in the education and research environment now claimed as territories for exercising cognitive democracy.

André Fernando Baniwa argues that interculturality is a life practice; that is, it presupposes the possibility of interaction and coexistence between cultures and identities (Baniwa, 2019)¹⁵. So, I issue a challenge: How can we create favorable conditions for sharing knowledge and good relationships between science and Indigenous peoples? How can we educate society to understand that Indigenous peoples are part of the history of this country? How can we educate for interaction and the defense of cultural diversity

when training scientists? How can we promote Indigenous intellectuals as authors, researchers, teachers, managers, and intellectuals of reference? Promoting citizenship and cognitive justice necessarily involves recognizing the historical injustice committed against Indigenous peoples and overcoming it with effective public policies.

Science is an essential tool. Schools, universities, and research institutes are strategic spaces. Recognizing how race has been used to distinguish the knowledge socially valued in this society is necessary. Being part of this place requires the courage to face the fact that knowledge systems have historically operated to undermine Indigenous well-being.

Returning to the visit to the Solimões River. Talking to an Indigenous nurse, she said that in a specific situation involving the birth of a Ticuna child, the doctor complained about the presence of the midwife and stated that it would hinder his work. I remember once again the women who deliver babies, and I celebrate the Indigenous midwives of all the Indigenous peoples of this country. Although they stand on the sidelines and are rejected, they remain steadfast in ensuring the primary constituent elements of the well-being of their people and, therefore, also ensure their power within their cultural contexts. I have learned about courage from the stories of these women.

Recognize and strengthen the narrators who come from Indigenous peoples. Let them also be crossed by rivers of knowledge. Let them be bothered by the monocultural and monolingual format that erases the multiple Indigenous epistemologies. Let them be affected by the absence of Indigenous intellectuals in their research spaces.

I would like to remind you here of a special edition of a prestigious scientific journal, *Nature*, which in October 2022 launched a special issue that, for the first time, featured guest editors, Black researchers, and researchers to address an unavoidable issue: racism in science. The journal acknowledged its contribution to racial segregation throughout its more than 150 years of existence. Its editors stated:

At the same time, science must be open to bringing in new voices and viewpoints and working collaboratively with scientists from Black, Indigenous, and historically marginalized communities. There must be room for more than one story, explanation, and perspective¹⁶.

What its editors called “self-perpetuating discrimination” is evident in the marginalization of

Black people, Indigenous people, and other minority groups based on the uses that scientists and institutions made of research. Realizing that a journal of this size recognizes that it built a racist legacy by publishing Francis Galton’s work on eugenics and, for more than a century, continued to publish materials that always devalued life is an important step and a warning to the Brazilian research community. The editors demand that academic spaces be submitted to decolonization, acknowledging a history of exclusionary scientific production.

This issue presents the stories of two Indigenous women, researchers in the field of Indigenous health, discussing their experiences and professional trajectories affected by systemic racism. These experiences need to be shared abroad. Nadine Caron, Canada’s first Indigenous surgeon, says she has to face racism when addressing managers and coworkers who insist on imposing priorities for Indigenous healthcare when she proposes to develop genetics research. Chelsea Watego, in turn, has been a leading figure in Australia’s Indigenous health studies field. This researcher emphasizes the colonial perspective that affects Indigenous peoples and, especially, Indigenous intellectuals within academic spaces. Watego draws attention to the role of race as an intellectual project in producing health inequalities, how much the health field needs to commit to the survival of Indigenous cultures and the Indigenous intellectual sovereignty.

Nadine Caron and Chelsea Watego also teach me about courage. I have never had an Indigenous male or female professor in my academic career. Perhaps those who are part of academic spaces do not understand what it means for racialized people to be in spaces where absences have always been glaring. In the cartography of cutting-edge academic knowledge, the memories and stories of those who recognize this territory as Pachamama have never been present.

Today, we demand writing as a movement of resistance and life continuation, which must combat a very restrictive science. This movement for Indigenous intellectual sovereignty has been growing in Brazil; some rivers of knowledge insist on defending their worldviews. As Ailton Krenak explained, it is necessary to “evoke the worlds of affective cartographies”⁴. We, Indigenous and non-Indigenous scientists, need to counter-colonize by enunciating the cartographies of Indigenous pluriverses where the rivers of knowledge can teach us about the very healing of science.

It is urgent to choose the path of science that dialogues with different cultures and knowledge, recognizes plural epistemologies, is aware of structural racism, combats exclusion, and promotes the meeting of waters. Researchers already state that the way of doing science for all people will only be possible if all people are involved in science. This is a path to build a more publicly trustworthy science that informs public policies in a fair, democratic, inclusive, and ethical way¹⁷.

In one of his books, Daniel Munduruku¹⁸ tells us that his mother would rest his head to pick lice and do it so lovingly while telling stories and talking about the traditions of her people. He would fall asleep because, as he explains, stories need to continue in dreams. I hope I have told a good story here and that it continues in the world of dreams to become a reality for Indigenous intellectual sovereignty.

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Article submitted 15/09/2023

Approved 29/02/2024

Final version submitted 20/04/2024

Chief editors: Maria Cecília de Souza Minayo, Romeu Gomes, Antônio Augusto Moura da Silva