

# La cosmotécnica como método: más allá de las geoculturas

## Cosmotechnics as Method: Beyond Geocultures

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### Abstract:

This paper explores the notion of cosmotechnics in the context of the history of Latin American philosophy. Since the nineteenth century, Latin American philosophy has developed through an ongoing confrontation between conceptions of “civilization and barbarism.” This tension in turn has impacted the relationship between Latin American philosophy and technology. Consequently, a certain “absence of technique” is visible as a recurring *topos* in Latin American philosophies. To overcome this apparent absence, this paper criticizes the notion of *mestizaje* using Silvia Rivera Cusicanqui’s concept of *ch’ixi* (‘motley’) as an alternative framework. From this perspective, Guaman Poma de Ayala’s description of colonial violence reveals some hints for deconstructing the idea of “Latin Americanness”, while retaining the notion of *cosmotechnics*. Thus, this paper goes beyond *geocultures* and *metatechnology* by formulating a theory of cosmotechnics that is able to articulate politically antagonistic narratives in terms of technical materiality.

**Keywords:** cosmotechnics, *ch’ixi*, *mestizaje*, Silvia Rivera Cusicanqui, Guaman Poma, Rodolfo Kusch, geoculture

## 1. Introduction<sup>1</sup>

In this paper, I argue that rethinking the notion of cosmotechnics in the context of the multiplicities of Latin American<sup>2</sup> philosophies can be useful for expanding and problematizing the concept of *cosmotechnics* itself. The imperative of diversification of technology proposed by the philosopher Yuk Hui is extremely suggestive and philosophically sophisticated.<sup>3</sup> However, it tends to overlook some problematic aspects of “diversity” when considered as an abstract ideal. In this respect, I argue that Latin American thought can provide us with tools for understanding and articulating concrete forms of diversity.

In order to establish this claim, it is initially essential to provide a provisional definition of cosmotechnics. In an interview with Anders Dunker, Hui stated:

For the Greeks, “cosmos” means an ordered world. At the same time, the concept points to what lies beyond the Earth. Morality is firstly something that concerns the human realm. Cosmotechnics, as I understand it, is the unification of the moral order and cosmic order through technical activities. If we compare Greece and China in ancient times, we discover that they have very different understandings of the cosmos, and very different conceptions of morality as well. The arbitration between them also takes place in different ways, with different technologies. A cosmotechnic of the *tianxia*<sup>4</sup> type is no longer possible in a time that no longer has a conception of “Heaven,” as people did in the past. Like other big nations, China has satellites orbiting the Earth. The heavens have become a secular place, utilized by humans, and can no longer play a role as a morally legitimizing power.<sup>5</sup>

What is clear is that cosmotechnics implies: (1) “the unification of the cosmic order and moral order through technical activities”;<sup>6</sup> (2) the relativism of the concept of technology through the interrelation

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1 Unless stated otherwise, all translations from Spanish are the author’s. English editions of the texts were used when available.

2 I use the expression “Latin American” in Kuan-Hsing Chen’s sense of an “emotional signifier to call for regional integration and solidarity” (Kuan-Hsing Chen, *Asia as Method: Toward Deimperialization* (Durham: Duke University Press, 2010), 213, and not in an identitarian or essentialist sense.

3 Anders Dunker and Yuk Hui, “On Technodiversity: A Conversation with Yuk Hui. Anders Dunker Interviews Yuk Hui,” *LA Review of Books*, 2020, accessed February 10, 2021, <https://lareviewofbooks.org/article/on-technodiversity-a-conversation-with-yuk-hui/>.

4 An old Chinese concept meaning “everything under heaven,” which denotes the whole kingdom or the world and has been associated in recent times with the philosopher Tingyang Zhao.

5 Dunker and Hui, “On Technodiversity.”

6 See also Yuk Hui, *The Question Concerning Technology in China: An Essay in Cosmotechnics* (London:

between technical activities and cultural worldviews; and (3) that cosmologies are historical and change over time (e.g., as in the Chinese conception of Heaven). However, these three main characteristics cause some difficulties: What is a cosmological order and how can it be recognized? In his book *The Question Concerning Technology in China* from 2016, Hui started his reflections by discussing mythical cosmologies as a manifestation of a local *Weltanschauung* (worldview). But are cosmologies not already mediated by technology? The unification of cosmology with ethics “through technical activities” is itself paradoxical; hence, it is difficult to define “technical activities” if there is no universal understanding of “technicity.” In other words, Hui seems to reintroduce the idea of universality into cosmotechnics. This is, of course, not just Hui’s problem, but a legitimately intractable philosophical puzzle.<sup>7</sup> As an alternative, one of the powerful features of the concept of cosmotechnics is its capacity to articulate the idea of a *co-origination* of myth and technology.

Hui invited others to follow in his footsteps: “This task is not limited to China, since the central idea is that every non-European culture must systematize its own cosmotechnics and the history of such a cosmotechnics.”<sup>8</sup> When giving examples of cosmotechnics, Yuk Hui highlighted Polynesian navigation<sup>9</sup> and Chinese Medicine,<sup>10</sup> but also “Amazonian” and “Mayan” cosmotechnics.<sup>11</sup> Without doubt, it is imperative to systematize, document, archive, expand, and teach Indigenous philosophies of cosmotechnics. This would contribute to diversifying academic curricula (as an institutional goal), re-valorizing and re-dignifying underrepresented knowledge and groups (as a cultural goal), and elaborating new concepts and the new political and technical practices inspired by them (as a material or political goal). However, instead of focusing on a single local cosmotechnic philosophy, this paper engages with more general questions regarding the status of Latin American philosophies, arguing that this complexity and heterogeneity (of what we call Latin America) should be investigated cosmotechnologically in order to identify some of its particularities. Concretely, I argue that it is important to introduce postcolonial

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Urbanomic, 2018), 19.

7 Indeed, it could be said that myths are already technical. As Pavanini argued, we should not fall into the fake dichotomy of seeking a causal relationship between technology and culture (Marco Pavanini, “Cosmotechnics from an Anthropotechnological Perspective,” *Angelaki* 25, no. 4 (July 3, 2020): 26–38, 33).

8 Yuk Hui, “Cosmotechnics as Cosmopolitics,” *E-Flux Journal* 86 (2017), accessed February 10, 2021, <https://www.e-flux.com/journal/86/161887/cosmotechnics-as-cosmopolitics/>.

9 Yuk Hui, *The Question Concerning Technology in China*, 26.

10 Dunker and Hui, “On Technodiversity”.

11 Jorge Fontevicchia and Yuk Hui, “La cosmotécnica no es nacionalismo, no es fascismo, no es una identidad política,” *Perfil*, 2020, accessed February 10, 2021, <https://www.perfil.com/noticias/periodismopuro/yuk-hui-la-cosmotecnica-no-es-nacionalismo-no-es-fascismo-no-es-una-identidad-politica.phtml>.

concepts into the discussion so that we may better understand not only the nature–technology–culture relationship, but also the relationship between land and work (production relations).

The article is divided into four sections. Following the introduction, the second section shows that the problem of technology in Latin America can be characterized by its rhetorical absence, which was forged simultaneously by colonization and anti-colonial resistance. This dual contradiction is exemplified by the concept of “*mestizaje*,” which occupies (for better or worse) a central place in the history of Latin American philosophies. Section 3 reflects on the role of technical activities in Guaman Poma’s *First New Chronicle and Good Government* to point out how we can uncover an awareness of the tension between Andean and European technology and a seminal notion of geoculture (the unification of soil and culture). Section 4 then discusses the many spatial connective metaphors that support a non-fixed understanding of cosmotechnics.

## 2. Problems Concerning Latin American Philosophy

The next task is to consider some methodological implications and apply them to the formulation of cosmotechnics in Latin America. Hui himself offered “some notes on method” that are useful. He identified three methodological preventive recommendations; that is, three things which should be avoided in any such an investigation: (1) assuming conceptual symmetry between Western and non-Western terms (as, for example, in equating *physis* with *ziran* or *pacha*);<sup>12</sup> (2) using static and isolated categories, in opposition to which he proposes creating relational genealogies of concepts; and finally (3) adopting a postcolonial attitude that focuses on narratives.<sup>13</sup>

The problem is to apply these instructions to Latin American contexts. Firstly, there are multiple manifest differences between the colonial history of China (which Hui studied) and that of Latin America. The Spanish colonization of the Latin American territories, which began in 1492 with Christopher Columbus’ mission, was marked not only by genocidal violence against the native population, but also by the cultural annihilation that this brutality entailed. The conquest inflicted a deep wound on the consciousness of all the so-called Indigenous peoples. Also, *mestizxs* and the conquerors themselves suffered from a kind of schizophrenic alienation. It therefore seems meaningful to understand the genealogy of cosmotechnics as heavily influenced by the power dynamics of the *conquista* (conquest).

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12 All possible words ‘equivalent’ for ‘nature’ in Greek, Chinese and Quechua.

13 Yuk Hui, *The Question Concerning Technology in China*, 53-57.

In fact, the encounter between European and Abya Yala (the American Continent) is central to the history of Latin American philosophy and must be investigated to reconstruct the cosmotecnics embedded in Latin American philosophies. The violent encounter with Europe caused a dislocation between local and European cosmotecnics. This spatial and temporal interruption precipitated the emergence of a certain inferiority complex. The Argentinean philosopher Rodolfo Kusch explained it, with some irony, as follows:

The stagnation of philosophizing among us, the impossibility of advancing, or undertaking a philosophizing, is surely due, as is often said, to an absence of technique [*técnica*] for it. In general, the technique of thinking comes at the end of the process and not at the beginning. Philosophizing itself is, in a way, independent of the technique of philosophizing. But why then the requirement for a technique?<sup>14</sup>

Thus, having a technique seems to be a condition for having a philosophy. One of the central obsessions of Latin American philosophers during the twentieth century was the search for a philosophical identity—a parallel quest to the constitution of national identities in the territory. This was, of course, a strategic necessity triggered by the political hegemony of North American and European thought, and similar trends were evident in Africa and Asia. To oppose colonial and neocolonial dynamics, or simply to vindicate their own positions globally, authors as diverse as Juan Bautista Alberdi, José Vasconcelos, José Carlos Mariátegui, Leopoldo Zea, and Augusto Salazar Bondy, among many others, reflected on the *possibility* of developing a Latin American philosophy.<sup>15</sup> This necessarily involved a consciousness of difference. By addressing this issue, the philosophers were implying an awareness—sometimes critical and sometimes nostalgic—of a distance between Western “Philosophy” (with a capital letter) and Latin American thought. Kusch summarized this as the “absence of a technique”; that is, the technological “backwardness” of America that enabled the conquerors to impose their own culture and technology on the newly annexed territories explained—according to the logic of Western cosmotecnics—the inferiority of Latin American philosophy: it lacked a technique for thinking.

For Kusch, the absence of a “technique” for thinking was a product of the fear of chaos; that is, the fear of “barbarism.” Latin Americans could not face this chaos. One aspect of “barbarism” was its unpredictability. It constituted a sinister dark force that shared its uncontrollable vitality with existence and, hence, conflicted with modern technology.<sup>16</sup>

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14 Rodolfo Kusch, *Geocultura del hombre americano* (Buenos Aires: F. García Cambeiro, 1976), 9.

15 See, for example, Jorge J. E. Gracia and Iván Jaksic, *Filosofía e identidad cultural en América Latina* (Caracas: Monte Avila Editores, 1988).

16 Kusch, *Geocultura del hombre americano*, 12.

“Barbarism” in the context of Latin America is linked to indigeneity. This *leitmotif* can be found, for example, in Domingo Faustino Sarmiento’s book *Facundo: Civilization and Barbarism* (published in 1845). Sarmiento, an important intellectual and reformer, who also served as president of Argentina and was well known for despising “Indians”, wrote: “If the glimmer of a national literature momentarily shines in new American societies, it will come from descriptions of grand scenes of nature, and above all, from the struggle between European civilization and indigenous barbarism, between intelligence and matter.”<sup>17</sup> For this first generation of national intellectuals, the Indigenous element was thus an extension of the landscape; natural unformed matter that should be “civilized” by European culture. This was also close to the position of Alberdi, a contemporary of Sarmiento, who saw the imposition of Europeanization through positivism and industry as the only medicine for “retardation.”<sup>18</sup>

In reaction to this positivist movement, many Latin American authors came to view European technology suspiciously. For the Mexican philosopher Samuel Ramos, the psychology of the technology of the White culture, oriented toward domination, did not adapt to the needs of other peoples: “They do not know that it is not enough to understand the technique in order to adopt it, but that it is also necessary to have the same spirit as the persons who created it.”<sup>19</sup> Very disparate authors, such as José Vasconcelos, Félix Schwartzmann, and Ernesto Mayz Vallenilla also shared, to different extents, a certain angst about technological mechanization and totalization.<sup>20</sup>

The opposition highlighted by Kusch between technique and “Latin-Americanness” is a rhetorical *topos* that reflects actual mechanisms of violence and oppression. “Latin American thought” is itself a technical construction that resulted from the violent confrontation between different worlds. But is this just a “narrative”? As we saw above, Hui’s third methodological remark advises us to avoid a “post-colonial” fixation on narratives. For Hui, a provincialization of Europe à la Chakrabarty is a matter of “narratives” that “ignores the materiality of such world history, and takes the relation between technics and thinking, between *Dao and Qi*, to be a matter of texts alone.”<sup>21</sup> While a cosmotechnical perspective should be oriented toward a new understanding and rehabilitation of materiality, I assert that to reduce postcolonial theory to “a matter of texts alone” would be a mistake. The need for narratives is a very concrete and material requirement of postcolonial contexts, where the institutions of knowledge were

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17 Domingo Faustino Sarmiento and Kathleen Ross, *Facundo: Civilization and Barbarism: The First Complete English Translation* (Berkeley: University of California Press, 2003), 59.

18 See Gracia and Jaksic, *Filosofía e identidad cultural en América Latina*, 30.

19 Quoted in Gracia and Jaksic, *Filosofía e identidad cultural en América Latina*, 122 (from the book *El perfil del hombre y la cultura en México*, 1963).

20 See Gracia and Jaksic, *Filosofía e identidad cultural en América Latina*, 34-44.

21 Yuk Hui, *The Question Concerning Technology in China*, 302.

built according to European standards. Certainly: “There cannot be a discourse of decolonization, a theory of decolonization, without a decolonization practice.”<sup>22</sup> But a discourse is also a form of praxis. In one sense, Latin American philosophy was turned into a mere “narrative” (a literary or political discourse) and its role as “true philosophy” (and true paxis) was—and continues to be—negated: since it has no technique, it possesses neither materiality nor philosophical value. For this reason, the concern regarding “narratives” is understandable.

One of the most pervasive “narratives” is that of “*mestizaje*”.<sup>23</sup> Underlying its usage is a complex range of implicit assumptions and dangerous, but sometimes also productive, mechanisms. There have been many attempts in twentieth century Latin American philosophy to vindicate this concept. In the 1800s, Sarmiento, as quoted previously, thought that the mix of races was a symptom of the difficulties inherent in building a modern state on the continent, and he illustrated this with the image of a mythical hybrid—the Sphinx: “The day will finally come when they will solve that riddle, and the Argentine Sphinx, half cowardly woman, half bloodthirsty tiger, will die at their feet, giving the Thebes of the Plata [i.e. Buenos Aires] the high rank it deserves among the nations of the New World.”<sup>24</sup> Yet this situation was already starting to change and the spirit of indigenism and the discourses of *mestizaje* started to re-signify the mixed origins of modern American cultures.<sup>25</sup> The most well-known attempt in this direction is probably José Vasconcelos’ concept of the “cosmic race,” described by him (in a homonymous essay from 1925) as “the definitive race, the synthetic or integral race, made with the genius and the blood of all peoples and, therefore, more capable of true brotherhood and truly universal vision.”<sup>26</sup> It would be impossible to sum up here all the variations of the concept. It played, for example, an important role in the work of Kusch, who spoke of a “demonic” *mestizaje* expressing the struggle between human beings

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22 Silvia Rivera Cusicanqui, *Ch'ixinakax utxiwa: una reflexión sobre prácticas y discursos descolonizadores* (Buenos Aires: Tinta Limón, 2010), 62.

23 This term is hard to translate into English. Although ‘miscegenation’ would be one possibility, the connotations of *mestizaje* cannot be reduced to this definition. The term itself refers to the process of mixing and creolization in interracial/interethnic relations. In the context of colonization, these relations were in many cases non-consensual. In Latin America this included not only unions between the indigenous population and Europeans, but also with Africans.

24 Sarmiento, *Facundo*, 32.

25 An example would be the Peruvian thinker Manuel González Prada and his “Politeama Speech” in 1888.

26 Quoted in Gracia and Jaksic, *Filosofía e identidad cultural en América Latina*, 84. Here, *mestizaje* itself could be understood as a kind of technology. As Dalton writes: “Statistical articulations of *mestizaje*, which were steeped in theories of modernization, required Indigenous people to embrace modern culture by fusing their bodies with technology, a process that they could achieve through various means” (David S. Dalton, *Mestizo Modernity Race, Technology, and the Body in Post-Revolutionary Mexico* [Gainesville: University of Florida Press, 2018], 4).

and the wild landscapes of America: “The hostility of the cosmos, summed up in the landscape, distances the emotion from geometry, morality and the creative élan of culture, on the one hand, from the technical penetration of nature, and on the other, without a common and dialectical spirit to reconcile both.”<sup>27</sup> His 1953 book, *The Seduction of Barbarism: A Heretical Analysis of a Mestizo Continent* (a title that clearly referred to Sarmiento’s own work) condensed the “vegetal cosmogony” in the symbol of Quetzalcóatl in attempt to unify heaven and earth.<sup>28</sup> However, as it turned out, Kusch was more interested in portraying the ontology of the inhabitants of the city. It is in the modern city that the Latin American tries to suppress the hostility of the “vegetal world” through the “amorality of the machine.”<sup>29</sup>

Neither the “biologist” concept of *mestizaje* nor the “spiritual” one explored by Kusch are free of the risk of essentializing racial identities, or even worse, erasing Indigenous culture as something superseded by creolization.<sup>30</sup>

A more progressive vision is the one proposed by Gloria Anzaldúa, who tried to avoid the constant risk of romanticization through her figure of the “new *mestiza*”. This embodied and gendered concept articulates the experiences of Chicanas living “in the borders” between Mexico and the United States (US), but also the experiences of those who inhabit multiple worlds (of gender, ethnicity, and corporality) and face discrimination as a result. Anzaldúa wrote: “Multiculturalist mestizas want to connect to all our different communities: the job, straight, and activist communities. The mestiza is in a position to make links.”<sup>31</sup> The epistemological complement of the mestiza consciousness is the “*conocimiento*” (which she translates as “understanding”)—a kind of embodied and praxis-oriented shared spiritual knowledge. Although this does not refer to technology *per se*, it provides an opportunity to think about the possibility of a *tecnología mestiza* based on Chicano studies.

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27 Kusch 2007, 32.

28 “The proof of its failure is made explicit in that two-faced god who, under the name of Quetzalcóatl, unites, without fusing, the truth of the earth - symbolized in the *cóatl*, the serpent - with the truth of heaven - the *quetzal* that symbolizes purity spiritual to which the Mayan civilization aspired” (Kusch 2007, 33).

29 Rodolfo Kusch, *Obras completas: Tomo I* (Rosario: Editorial Fundación Ross, 2007), 56.

30 The concept of *mestizaje* offers a useful strategy for White Latin Americans scholars who are the descendants of European immigrants, permitting them to re-codify their own ‘mixed’ identity. Nevertheless this also involves the danger of erasing the racial component of the discourse of *mestizaje*, and therefore being ‘color blind’ to real cases of discrimination suffered by people of color on the continent.

31 “The New Mestiza Nation” (1992–2001), in Gloria Anzaldúa, *The Gloria Anzaldúa Reader*, ed. Ana Louise Keating, (Durham/London: Duke University Press, 2013) 212. I do not ignore the concern that Anzaldúa’s concept of “mestiza” has shifted over the years. The ‘new mestiza’ belongs more precisely to her ‘middle’ writings.

A last reflection on the concept of *mestizaje* that is pertinent to this non-linear genealogy is the one proposed by the Bolivian scholar Silvia Rivera Cusicanqui. One of the main concerns of her work, in her article *Andean colonial mestizaje: A working hypothesis* (1993), was to de-articulate the many epistemological and political problems of the concept of *mestizaje*:

I have defined *mestizaje* as an ideologeme that made it possible to carry out the forced incorporation into citizenship of indigenous populations through physical and symbolic violence (for example, in barracks and rural schools), combined with a telluric and ornamental vision of the Indian in the official discourse and in the public sphere of the state.<sup>32</sup>

For Rivera Cusicanqui, who identified herself as a *mestiza*,<sup>33</sup> the *mestizo* identity promoted by the official discourse operated to “domesticate” the Indigenous population and also to blur the racial conflicts in the political sphere: if everybody is a *mestizx*, then nobody is and even the non-*mestizx* Indigenous and Black identities become obliterated. The idealization of *mestizaje* covers a terrible history of rape and discrimination. The *mestizxs* themselves occupied a better place in colonial society than *indigenas* and *cholxs*.<sup>34</sup> The rhetoric of reconciliation offered by (some) *mestizaje* authors served for her only the logic of official multiculturalism. Instead, she revisited René Zavaleta’s concept of *sociedad abigarrada* (mottley society) and proposed, as a conceptual decolonization tool, the Aymara word *ch’ixi*, which denotes “a color product of the juxtaposition, in small dots or spots, of two opposite or contrasting colors.”<sup>35</sup> In this sense, contrary to *mestizaje*, *ch’ixi* emphasizes the co-existence of contrasting and contradictory elements in a society that do not necessarily mix. Rivera Cusicanqui moves one step backwards before accepting the idea of “a *mestizo* continent” to ask about the identities that remained excluded through the mechanisms of internal colonialism.<sup>36</sup>

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32 Silvia Rivera Cusicanqui, *Sociología de la imagen: miradas ch’ixi desde la historia andina* (Buenos Aires: Tinta Limón, 2015), 94.

33 See Silvia Rivera Cusicanqui, “Mestizaje Colonial Andino: Una Hipótesis de Trabajo,” in *Violencias (Re) Encubiertas En Bolivia* (La Paz: Piedra Rota, 2010), 64–110, 66.

34 See Rivera Cusicanqui, *Ch’ixinakax utxiwa*, 75. In Bolivia, ‘*cholo/a*’ is used to refer to *mestizo* individuals of Amerindian racial ancestry.

35 Rivera Cusicanqui, *Ch’ixinakax utxiwa*, 69. In her book on spiritual and ecological encounters in Cuzco, Marisol de la Cadena proposed Strathern’s ‘partial connection’ as an alternative to *mestizaje*: “The notion of partial connections offers instead the possibility of conceptualizing entities (or collectives) with relations integrally implied, thus disrupting them as units; emerging from the relation, entities are intra-related... instead of being inter-related, as in the case of the units composing *mestizaje*” (Marisol de la Cadena, *Earth Beings: Ecologies of Practice across Andean Worlds* (Durham: Duke University Press, 2015), 32).

36 That is, the oppression by *criollxs* or White Americans of indigenous peoples and people of color.

I do not intend to equate all these concepts of *mestizaje* to each other or to suggest a linear evolution, since all of them have their particular history and refer to certain embodiments and sociopolitical contexts.<sup>37</sup> Rather, the disparate discourses on *mestizaje* represent the internal contradictions within Latin American philosophy and, in this sense, also incarnate the opposition between technique and “the absence of technique.”

### 3. Resistance and dislocation in Guaman Poma

From the nineteenth century onward, Latin American philosophy perceived “technology” as something alien, and we should bear this in mind when investigating alternative cosmotechnics. However, it is evident that there are many excellent examples of pre-Columbian “cosmotechnics”. There is no need to expand on the well-known examples: dry stone wall construction, terrace farming, paved roads, llama-friendly stairways and suspension bridges, complex hydraulics (including aqueducts and irrigation), freeze-dried food, accurate calendars, etc. In fact, this kind of list tends to generate the illusion of a certain abstract set of things called “technology,” blurring their particular historicities. Each technology has its own history. Conflicts and migrations among the different peoples and cultures of the region are mirrored in material culture; hence, it is completely impossible to speak about “Latin American” cosmotechnics in general, simply because Latin America is formed of many and diverse cultures.

I will take as a starting point Felipe Guaman Poma de Ayala’s work *The First New Chronicle and Good Government* (*El primer nueva corónica i buen gobierno*, 1615)—a handwritten 1,188-page letter (including 398 pen-and-ink drawings) directed to the Spanish king (Philip III) protesting against the ruthlessness of clerics and officials toward the Indigenous population. As a descendant of Inca nobility, Guaman Poma (also spelled Waman Puma in Quechua), assumed the intellectual mission of decrying the injustice of the *conquista* and campaigning for Andean autonomy in the region in a multi-layered analysis that included theological genealogies, historical retelling, complex visual intertextualities, documentary, descriptions of customs, and subtle polemicization. One of the clear purposes of the text was to show that the Incas were descendants of Adam and Eve through Noah and good Christians,

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37 To do so would be what Tuck and Yang (2012) called “colonial equivocation”; that is, “calling different groups ‘colonized’ without describing their relationship to settler colonialism” (Eve Tuck and Wayne Yang, “Decolonization Is Not a Metaphor,” *Decolonization: Indigeneity, Education and Society* 1, no. 1 (2012), 17). So, for example, it is very important to understand *ch’ixi* in the conceptual framework of Bolivian history. Nevertheless, Rivera Cusicanqui herself provided the possibility of universalizing *ch’ixi* (see Rivera Cusicanqui, *Sociología de la imagen*, 207).

because even if they were “barbarians,” they had a natural knowledge of the creator;<sup>38</sup> therefore, using violence against them was unjustified. This was undoubtedly Guaman Poma’s way of negotiating with an asymmetrical power.<sup>39</sup>

Now, among the different levels of his multifaceted work, I would like to focus on the presence of “technology” and “technical activities” in Guaman Poma’s work. For example, one of the most suggestive images in terms of re-appropriation is Guaman Poma’s depiction of Adam (fig.1) using a *chakitaqlla* (or *chaki taklla*)—a traditional Andean foot plow—to prepare the earth.<sup>40</sup> The *chakitaqlla* is considered an almost unique tool, which originated in Pre-Columbian times. It is exceptionally well adjusted to the Highland Andean soil, and it’s use still survives today.<sup>41</sup> This plow is usually seen as a “symbol” of Andean agronomy due to its close association with the cultivation of potatoes and also because it is designed for team work—something that is visible in Guaman Poma’s other drawings, where a woman from “the first age of the Indians” helps a man with his work.<sup>42</sup> The Inca Garcilaso de la Vega, a mestizo, described this tool vividly:



fig.1 The first age of the world: Adam and Eve, in an Andean landscape.

They ploughed with a stick that was about a span in length, four fingers thick, flat on top and

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38 See Rolena Adorno, *Guaman Poma: Writing and Resistance in Colonial Peru*, (Austin: University of Texas Press, 1986), 34.

39 “By claiming to appropriate the conventions of the historiographic treatise, he [i.e., Guaman Poma] effectively usurps the right to speak in the privileged forum to which even the sympathetic Las Casas would have denied him entrance” (Adorno, *Guaman Poma: Writing and Resistance*, 35).

40 Felipe Guamán Poma de Ayala, *The First New Chronicle and Good Government, Abridged* (Austin: University of Texas Press, 2009), 18 (Drawing 7, 22 [22]). This pagination is the original pagination as it appears on the Royal Library’s website: [www.kb.dk/permalink/2006/poma/info/en/frontpage.html](http://www.kb.dk/permalink/2006/poma/info/en/frontpage.html).

41 See Daniel W. Gade and Roberto Rios, “Chaquitacla: the Native Footplough and Its Persistence in Central Andean Agriculture,” *Tools Tillage* 2, no. 1 (1972): 3–15.

42 Drawing 19, 48 [48]. See P. Morlon, J. Bourliaud, R. Reau, and D. Hervé, “Un Outil, Un Symbole, Un Débat : La Chaquitacla et Sa Persistance Dans l’agriculture Andine,” in *Comprendre l’agriculture Paysanne Dans Les Andes Centrales: Pérou-Bolivie*, ed. Morlon P (Paris: INRA, 1992), 39–86, especially 51–52.

rounded underneath. About eighteen inches from the end, two more sticks, well fastened to the first one, formed a sort of stirrup in which the man ploughing placed his foot, in order to plunge this spade-like object, which served as a plough, into the ground. They all worked together in groups of seven or eight, and it was marvelous to see the amount of work they accomplished with such poor implements, singing the while, without ever losing the rhythm. The women walked beside the men, pulling up the weeds with their hands.<sup>43</sup>

Guaman Poma's depiction of the *chakitaqlla* in the biblical account represents an interesting dislocation of geographies. If we observe the drawing in more detail, we find in the background, behind the two biblical figures, two mountain tops. This is not enough for a firm conclusion, but it is clear that we are being presented with a postlapsarian scene happening "in the world" (*en el mundo*), as Guaman Poma writes at the bottom of the drawing); thus, Adam and Eve could be anywhere in the world. Guaman Poma was not only suggesting that the Andean people were descended from Noah, but also introducing the theological irony that Adam and Eve were, in fact, Inca, or at least were using Andean technology. I would like to call this approach postcosmological, because Guaman Poma disrupted the certainty of a pure European or a pure Andean origin of the world through his double irony.

Nevertheless, maybe to please the Spaniards, Guaman Poma constantly reminded the reader about the ignorance of the Indians.<sup>44</sup> It was important for him to highlight the fact that, despite their limited knowledge, the Andean peoples were aware of God. He repeated in this sense the logic of a linear development of technology; for example, in the way he wrote about the first generation of inhabitants: "The most ancient Indians were called Pacarimoc Runa and Vari Viracocha Runa. Vari Runa had no trade, skills, farming, war, houses, or anything else, but they knew how to break the virgin earth and make terraces on the hillsides and cliffs."<sup>45</sup> Notwithstanding the fact that they knew nothing except plowing, they seemed to understand plowing as something so innate that it did not need to be learned. It almost failed to be perceived as technology.

Guaman Poma's argument was subtle. He needed the favor of the crown, but he also wanted to denounce all injustices, acts of corruption, and crimes of officials and the clergy. The second part of the text is packed with examples (fig.2) of Spaniards abusing the Inca women who were forced to weave for them. The detailed representations of backstrap looms are visually compelling, making us think not just about

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43 El Inca Garcilaso de la Vega, *The Incas: The Royal Commentaries of the Inca, 1539-1616*, ed. Alain Gheerbrant and Maria Jolas (New York: Orion Press, 1961), 157.

44 See for example Guamán Poma de Ayala, *The First New Chronicle and Good Government*, 38, 40, 42.

45 Guamán Poma de Ayala, *The First New Chronicle and Good Government*, 40.

the mythical importance of textiles in the Andean culture,<sup>46</sup> but also about the gendered implications of technology and how the invaders profited from it. Moreover, if we compare this drawing with the one of Adam and Eve, we find that the real transformation of labor was not a result of the Fall, but of the encounter with Europeans.

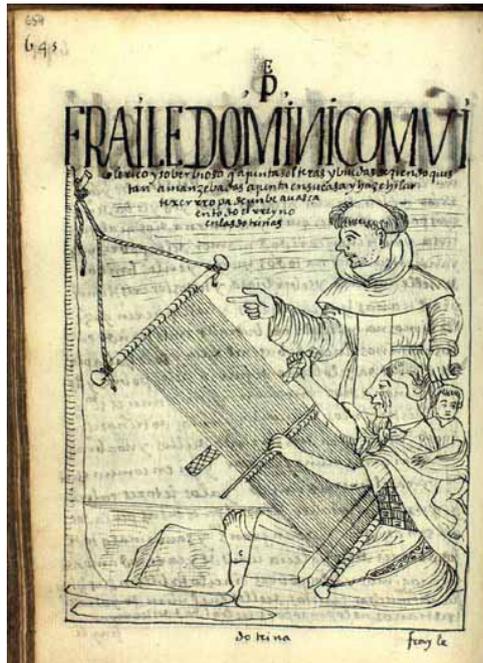


fig.2 Wrathful, arrogant Dominicans force native women to weave for them.

Guaman Poma also recognized the dynamics of knowledge. Behind the pedagogical or missionary pretensions of the *padres* (clerics), he claimed that their true intentions were to keep the Indigenous population in a state of analphabetism; they preferred the Indians to be idolaters, since this enabled them (i.e. the clergy) to justify their power.<sup>47</sup> By contrast, Guaman Poma highlighted a kind of Indian contra-knowledge. One of the most cited figures in his chronicle is the “philosopher-astrologer” (fig.3) who appeared in different parts of the manuscript:

The ancient philosophers claimed that *camasca amauta runa* [wise Indian healers] interpreted the stars, comets, eclipses of the sun, storms, winds, animals and birds. They saw signs and foretold what would come to pass, the death of great kings of Castile and other nations of the world, uprisings, hunger, thirst, death by pestilence, war, a good year or a bad year.<sup>48</sup>

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46 Paul R. Steele, *Handbook of Inca Mythology* (Oxford: ABC Clío, 2004), 250-252.

47 Felipe Guamán Poma de Ayala, *Primera nueva corónica y buen gobierno: Tomo II* (Caracas: Biblioteca Ayacucho, 1980), 137.

48 Guamán Poma de Ayala, *The First New Chronicle and Good Government*, 53. See also 32, 50, 159. The



fig.3 The native Andean astrologer, who studies the sun, the moon, and all other heavenly bodies in order to know when to plant the fields

They knew when to sow and harvest, when to perform certain rites, and how to govern. Their “technique” of thought was bounded by the earth, the sky, and the cosmos. Moreover, in one of the drawings, the *amauta* is represented holding a *kipu*—an artifact made of (usually cotton) cords normally dyed with different colors, with knots tied in them. These were used to keep accounts and record statistical data, although not everything is known about them. Rivera Cusicanqui wrote: “The *kipus* expressed the *ch’ixi* condition of some Aymara practices and concepts; namely, a spirituality absolutely linked to the quantum of material life...: the production of goods, the fertility of the land, the quantity of offerings, [and] the rigorously calculated reciprocity.”<sup>49</sup> Thus, Guaman Poma himself seemed to be aware of the particularity of this form of knowledge.

This technology was closely linked to the rhythm of the earth, according to the ritual calendar that Guaman Poma described in detail.<sup>50</sup> It related, not to the control of nature, but the following of the *pacha* or cosmos,<sup>51</sup> reflecting a recurring association between indigeneity and the earth (in the different forms

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*amautas* are also recurrent, for example, in Garcilaso. See Garcilaso de la Vega, *The Incas: The Royal Commentaries of the Inca*, 72.

49 Silvia Rivera Cusicanqui, *Un mundo ch’ixi es posible: ensayos desde un presente en crisis*, (Buenos Aires: Tinta Limón, 2018), 60-61.

50 In the sense that it was interpreted by Rivera Cusicanqui (see for example Rivera Cusicanqui, *Ch’ixinakax utxiwa*, 23).

51 See for example Josef Estermann, *Filosofía andina. Sabiduría indígena para un mundo nuevo* (La Paz: ISEAT, 2009), 157.

of ecology, cosmic harmony, agriculture methods, etc.). A superficial understanding of this statement probably partly originated in the colonial rhetoric (as reflected in the outdated expression *Naturvölker* [nature-peoples] to refer to Indigenous groups), but Indigenous thinkers themselves tended to emphasize such a connection with “nature” and the “earth”. In modern times, Latinx philosophers, in their search for self-definition, have found a source of identity in their geographies. Kusch, for example, constructed his philosophy around the concept of *estar*—a Spanish word referring to “being in a certain place or state.” *Ser* (to be) and *estar* (to be in a place or state) are two different modes of existence. Kusch wanted to show that modern technology tends to be considered exclusively from the perspective of *ser*—a dynamic standpoint that generates an abstract theoretical view by separating itself from the world. But since being situated takes priority over pure being, Kusch was right to affirm that “the technological obviously depends on the cultural.”<sup>52</sup> This is what he called *geoculture*, because “culture is a strategy to live in a place and at a time.”<sup>53</sup> The notion of geoculture indicates the inseparability of knowledge and situations and necessarily affects the construction of “technology” and “technique”:

Technology [*tecnología*] is then conditioned by the cultural horizon where it is produced. One needs a machine for a certain purpose that is related to the place, time, and needs of a certain community. That is natural. It is difficult to conceive of a technology that creates machines universally, apart from a contingent and manifest utility. So the defense of technology should be subtracted from the somewhat mythical margin of universality with which we use it. And there is more. The creation of the utensil is not exclusively contingent and episodic either, but it is the consequence of a deep need that is established by a process of cultural gestation. In this sense, the gestation of a machine and that of a work of art both share the same characteristics.<sup>54</sup>

Although Kusch approached the idea of cosmotronics, he ultimately neglected the autonomy of technology, subsuming it to culture. Certainly, he was writing in the 1970s and probably had cultural imperialism in mind, which he set against a strong, almost ontological, concept of culture. The cultural and technological hegemony of the US and Europe epitomized an alien phenomenon that should be resisted in the interests of reaffirming national sovereignty. However, Kusch was quite vague when explaining what geocultures consisted of: behind a culture, there is always “soil” (*suelo*), which is not purely physical, but something described as “invisible,” since it is where symbolic systems arise. Such soil applies a certain “gravitational force” to thought, “deforming” it. It is in this context that Latin

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52 Kusch, *Geocultura del hombre americano*, 61.

53 Kusch, *Geocultura del hombre americano*, 61.

54 Kusch, *Geocultura del hombre americano*, 96.

American philosophy loses its universality. Guaman Poma's words seemed to resonate with this idea when he wrote: "Que en todo este reino salieron de muchas maneras de castas y lenguajes de indios es por la causa de la tierra porque está tan doblada y quebrada torcieron las palabras y así hay muchos trajes y ayillos."<sup>55</sup> In the English translation, a particular *nuance* is lost: "Throughout this kingdom many kinds of lineages and languages of Indians appeared. This happened because the land is so broken and mountainous, producing different words, dress and ayillos [communities]."<sup>56</sup> This sentence, in the 'Quechuanized' Spanish utilized by Guaman Poma, showed how words were "bent" or "twisted" from *torcer* (because the earth was broken). What applies to language can also be said about philosophy.

Despite the rugged territory, the Incas developed a sophisticated road network called *Qhapaq Ñan*. Rivera Cusicanqui characterized this as "a macro-circulatory system that articulated a diversity of discontinuous territories through common cosmic coordinates."<sup>57</sup> Guaman Poma also described the role of the runners or messengers (*hatun chasque*), boundary markers, road officials, etc., besides the already mentioned Inca builders of suspension bridges. These suspension bridges (fig.4) fascinated all foreign travelers, being the largest constructions of the pre-industrial age. They were also made of cords of plant materials, resulting in a need for regular maintenance and replacement every two years.<sup>58</sup> We should remember here Yojūrō Yasuda's text about Japanese bridges. This author, who belonged to the Japanese Romantic School of the 1930s, wrote: "Roman bridges are truly the extension of an architecture that expands the empire."<sup>59</sup> It would be naive to ignore the military importance of the Inca road network, but phenomenologically speaking, these suspension bridges functioned also as a form of reterritorialized *kipu*—an extension of the decentralized control of the Tawantinsuyu, or Inca, Empire.

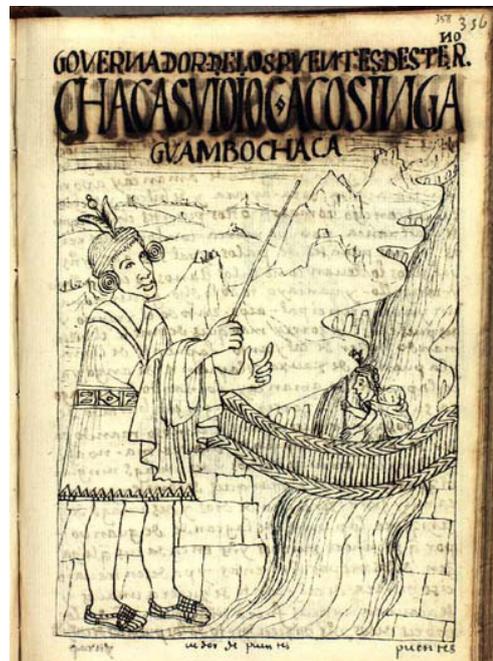


fig.4 Governor of the bridges of this kingdom, *chaka suyuyuyq*

55 Felipe Guamán Poma de Ayala, *Primera nueva corónica y buen gobierno: Tomo I* (Caracas: Biblioteca Ayacucho, 1980), 46.

56 Guamán Poma de Ayala, *The First New Chronicle and Good Government*, 45–46.

57 Rivera Cusicanqui, *Un mundo ch'ixi es posible*, 62.

58 Brian S. Bauer, "Suspension Bridges of the Inca Empire," in *Andean Archaeology III: North and South*, ed. William H. Isbell and Helaine Silverman (Boston, MA: Springer US, 2006), 468–93, 473.

59 Alan Tansman and Yojūrō Yasuda, "Japanese Bridges: A Translation of Yasuda Yojūrō's 'Nihon No Hashi,'" *Journal of Japanese Studies* 34, no. 2 (August 18, 2008): 257–94, 263.

Nevertheless, idealization should be avoided. Regarding the suspension bridges, Guaman Poma wrote:

He [the viceroy Andrés Hurtado de Mendoza, Marquis of Cañete] ordered that a masonry bridge be built on the Apurimac River. No viceroy has done such a great service to God and his Majesty as the marquis of Cañete. The same can be said of the bridge at Huambo because many Indians died there every time they had to repair it. If a bridge is made of masonry, it only needs to be made one time and that is all. Making all the bridges of masonry would be of great benefit to the poor Indians.<sup>60</sup>

The tension illustrated here was hard to overcome. The “technological confrontation” between European and Andean technology was a complex game that prevented a simple extrapolation of a cultural moment to a cultural totality.

#### 4. Beyond geocultures

I have analyzed Guaman Poma’s re-telling of Andean history because it provides a good early example of the interweaving of strategies of resistance and cosmotechnical awareness. Already, his text highlighted a tacit encounter between *mestizaje* (in both the sense of cultural *mestizaje* and biopolitics) and technology. Certainly, the asymmetries of the *conquista* made integration of the “cosmological order” and the “moral order” difficult, if not impossible. The violence reinforced the division between “Indigenity” and Europeanization and turned “the world upside-down” (*pacha ticra*—an important expression that Guaman Poma repeated numerous times). In this sense, it is clear that the Indigenous became a metaphorical *locus* for the “cosmological” or “chthonic” elements, while Europe and Christianity occupied the role of the “moral order” and reason. It is not surprising that the problem of “the land” was so central in Latin America. Even Mariátegui, who defended the idea of an Indigenous socialism, concentrated on the problem of the land, because the Inca were for him essentially “an agricultural race.”<sup>61</sup> The land or the earth is an inevitable focus of conflict in colonial territories, first, because of the close interdependence of colonialism and raw material extraction and, second, because tenure on the land is the last means of self-affirmation for subaltern groups. For obvious reasons, the European invasion opened up a debate about possession of the land. After the independence declarations of these

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60 Guamán Poma de Ayala, *The First New Chronicle and Good Government*, 284–286.

61 José Carlos Mariátegui, *Siete ensayos de interpretación de la realidad peruana* (Barcelona: Linkgua, 2009), 54.

territories during the nineteenth century, the land incorporated new national and identitarian connotations. It became the focus of discourses about Latin Americanization.<sup>62</sup> Nature, in this sense, had two disparate characteristics. On the one hand, it was seen as pure and virgin—a reflection of Edenic bounty. On the other hand, it was seen as a “desert,” with a hostile climate that resisted civilization. The traditional thinking of *mestizaje* as a central cultural element was supplemented with a theory of landscape, positing a clear confrontation between nature and the city. For Sarmiento, “barbarism” was almost a deterministic result of the “desert” (as shown in the way he referred to the *pampean* landscape). Concurrently, Vasconcelos exalted the opportunity provided by the abundance of natural resources and pronounced: “The great civilizations began between the tropics and the final civilization will return to the tropics.”<sup>63</sup> Kusch wanted to overcome the contradiction, believing that the intellectuals (vicars of the city) should become part of the popular, and he spent the last years of his life living in a small village in the northern mountains of Maimará, Jujuy (Argentina).

A shift in this historical paradigm can clearly be noted in the work of Anzaldúa and Rivera Cusicanqui. In Anzaldúa’s account, the territory was replaced by a liminal space—a border. It is well known that Anzaldúa appropriated the Nahuatl term *nepantla* used by Emilio Uranga,<sup>64</sup> employing it to mean “that uncertain terrain one crosses when moving from one place to another, when changing from one class, race, or sexual position to another, when traveling from the present identity into a new identity.”<sup>65</sup> For Anzaldúa the border represented a space of anxiety, but also a new place for facilitating creation, re-creation, and new possibilities.

*Nepantla* resonates with the Andean concept of *chaka* (bridge) and *chakana* (the cosmological bridge that unifies the four parts of the cosmos): “For Andean philosophy (especially pachasophy), the ‘bridge’ (*chakana*) has, in a sense, ‘ontological priority’ with respect to connected or related extremes (*relata relationem supponunt*); the relationship has, to speak in the Western language, ontological dignity,

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62 This topic has been widely discussed in the field of Literary Studies. See, for example, Becky Boling, “The Trope of Nature in Latin American Literature: Some Examples,” *Studies in 20th & 21st Century Literature* 30 (June 1, 2006), <https://doi.org/10.4148/2334-4415.1632>; Laura Hunt, “Imagining Amazonia: The Construction of Nature in the Latin American ‘Novela de la Selva,’” *Hispanic Journal* 34, no. 1 (February 1, 2013): 71–84, accessed February 10, 2021, <http://www.jstor.org/stable/44287112>; Jorge Olcina Cantos and Eva María Valero Juan, “Geografía y paisaje en la literatura hispanoamericana y Española,” (Alicante: Centro de Estudios Iberoamericanos Mario Benedetti, 2016); Daniela Evangelina Chazarreta, “Dossier: Paisajes: Naturaleza y Cultura en la Literatura Latinoamericana (Siglos XIX y XX),” *Recial* 10, no. 15 SE-Editorial (July 4, 2019), <https://revistas.unc.edu.ar/index.php/recial/article/view/24818>.

63 Quoted in Gracia and Jaksic, *Filosofía e identidad cultural en América Latina*, 87.

64 See Emilio Uranga, *Análisis del ser del mexicano* (México DF: Porrúa y Obregón, 1952), 81.

65 Gloria Anzaldúa, *The Gloria Anzaldúa Reader*, 180 (in her text “Border Arte”).

respectively ontomorphic.”<sup>66</sup> We find an analogous understanding of the power of spatial metaphors in Rivera Cusicanqui, who wrote:

Postulating the (potential) universality of such ideas [Rivera Cusicanqui refers here to the Andean cosmological ideas of time and space] can become a way of walking along the paths of a sort of limit consciousness or border consciousness, an approach that I have dubbed the *ch'ixi* epistemology of the middle-world [*la epistemología ch'ixi del mundo-del-medio*], the *taypi*<sup>67</sup> or contact zone that allows us to live at the same time inside and outside the capitalist machine, to use and at the same time demolish the instrumental reason that has been born from its entrails.<sup>68</sup>

Rivera Cusicanqui characterized the map as a “masculine version of identity” and insisted on the incorporation of its feminine counterpart, the “*tejido*” (weave, texture).<sup>69</sup> She claimed that these two topologies (the map and the weave) coexist everywhere. While the map constricts ethnic diversity, dividing it “from above” (that is, from the state) into administrative units, the weave supposes an interrelationality “from below” and a non-hierarchical agency. A *ch'ixi* texture then is not structured by divisions, but by liminal interconnected contact zones.

Geocultures work as metatechnological or metacultural schemes. Contextualization is crucial for challenging monopolistic systems of knowledge. The danger, however, is that everything is reduced to an isolated geoculture, everything possesses a meaning only within the contextual limits. This notion of geoculture is also metatechnological because it subsumes technology as a manifestation of culture. A similar problem is evident when Yuk Hui presents the opposition between Prometheus and Shennong, understanding myth as a metacosmological necessity.<sup>70</sup> Instead, what we call culture and technology can be seen as arising on one and the same level.

In his text “For a Planetary Thinking,” Hui opposes “globalization” to “planetaryization”. The former implies universalization and homogenization; the latter alludes to the necessity of diversifying our ways of thinking about, and constructing, technology. Diversification must be distinguished from “localism,” which functions as a mere reaction to globalism:

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66 Estermann, *Filosofía andina*, 181. See also Adrian Razvan Sandru, “Decentralized Wellbeing: Toward a Possibility of Change from a Latin-American Perspective,” *Wirapuru* 2: 54-65.

67 *Taypi* also means “center.”

68 Rivera Cusicanqui, *Sociología de la imagen*, 207.

69 Rivera Cusicanqui, *Un mundo ch'ixi es posible*, 126.

70 Yuk Hui, *The Question Concerning Technology in China*, 14-15.

The thinking of globalization, which is both the beginning and the end of the impasse, is not planetary thinking. Global thinking is dialectical thinking based on the dichotomy between the global and the local. It tends to produce twin monsters: imperialism on the one hand, fascism and nationalism on the other.<sup>71</sup>

By contrast, planetarization can be thought of as a *tejido* of inter-layered strata possessing different intensities. Coexisting cosmotechnics can be seen as operating through different moments of dislocation. If everything is conceived from the perspective of the here and now or the middle world, there is no need for a cosmology because cosmological creation is happening at every moment. Local technologies do not arise in isolation, but always from translocal negotiations.

Instead of persistently basing philosophies on cultural values, it would be beneficial to go beyond geocultures to articulate new forms of territorial alliances. If “culture” keeps operating as a metatechnological sphere, it will be impossible to generate dynamic knowledge that is able to cooperate with different worlds. Instead of promoting communities of geocultures, a *ch’ixi* understanding of philosophy requires us to empty the metatechnological sphere, leaving a multinaturalist field of contrasting cosmotechnics. Guaman Poma’s Adam and Eve allegory teaches us to understand every cosmology as a dislocation. There are no pure cosmologies: every genealogy is already a texture comprising other multilayered stories. This does not mean that culture and geography are irrelevant. On the contrary. Culture is always dislocative; it is at the same time a cosmology and a moving beyond that cosmology. Simultaneously, by understanding cosmotechnics without any metatechnological or metacosmological reference, we could articulate a cosmotechnics of resistance, revealing that “barbarism” is a form of technology. This is what I would like to call “cosmotechnics as method”. In this sense, the illusion of an “absence of technique” would be disrupted, giving us a tool to re-appropriate histories of resistance as *technologies* of resistance and knowledge production—not merely as political or contextual narratives.

## Conclusion

In this text, I have explored the tension between the importance of searching for and creating “local concepts” and the dangers of essentialism. In doing so, I have sought to show that postcolonial and cosmotechnical perspectives should be self-critical of their methods. The narratives surrounding the

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71 Yuk Hui, “For a Planetary Thinking,” *E-Flux Journal* 114 (December 2020), accessed February 10, 2021, <https://www.e-flux.com/journal/114/366703/for-a-planetary-thinking/>.

“absence of technology” in Latin America are certainly guilty of reducing technology to Western concepts. However, this reduction should also be understood in the historical context of a re-signification of Latin American history itself. In this sense, I have critiqued the concept of *mestizaje*. In the third section, I presented Guaman Poma’s *First New Chronicle* as a document reflecting the many tensions between different forms of technical activities. His manuscript, which is paradigmatic in the field of Latin American Studies, reflects an early understanding of geocultural thinking, positing that technologies result from the interaction between geographies and culture. In the final section, I argued for the necessity of moving beyond this framework to think of planetarization in terms of *ch’ixi* and postcosmology.

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The images of Guaman Poma’s *Nueva corónica* are linked with the permission of the Royal Danish Library, GKS 2232 kvart: *Guaman Poma, Nueva corónica y buen gobierno* (c. 1615) (<http://www5.kb.dk/permalink/2006/poma/info/en/frontpage.htm>).

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