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KUNA INDIGENOUS MEDIA AND KNOWLEDGE IN THE DARIEN

A dissertation submitted in partial satisfaction
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

FILM AND DIGITAL MEDIA

by

Rolando Vargas Rodríguez

September 2022

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2022

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ABSTRACT

Kuna Indigenous Media and Knowledge in the Darién
Rolando Vargas Rodríguez

"Kuna Indigenous Media and Knowledge in the Darién" analyzes Indigenous knowledge and infrastructures conceived as media and how the two converge in the Darién tropical rainforest, a region in the Americas at the center of the colonial/modern world facing the highest threat of macro-infrastructural development since colonial times. The Darién is not only the physical background to social and historical processes that occurred during colonization; it has played an active role in processes of territorial dispossession, economic exploitation, and dehumanization of the colonial other. My initial research in this region led to the creation of a film, 'Walking Kids of Chocó,' that explores the parallel between the mobility practices of Kuna children and the absence of the Pan-American Highway in this same region; specifically walking as a constituent element of Indigenous media and mud as a form of natureculture resistance. Mud is an elemental media that imposes, excludes, and promotes specific modes of inhabiting the rainforest; I have invented the term mudware to describe both natural and cultural interactions that modulate some flows (of life, commerce, migration, technologies, etc.) while impeding others to promote Indigenous ways of life. Indigenous people in the Darién have derailed, delayed, prevented, and subverted foreign projects' investments for centuries by understanding the complexities of the Darién terrain and Western interests. The absence of the Highway in Darién signals systematic failures of conquest in the region that permitted the Kuna people to experience an alternative present of unique

cohabitation of old and new technologies and knowledge. "Kuna Indigenous Media and Knowledge in the Darién" was produced using an interdisciplinary approach to critical practice, fieldwork, and sociality, bringing together Indigenous media and activism, Latin American modernity and coloniality, as well as infrastructure and media archeology theories. It concludes that a profound understanding of the relationship between the Darién, Indigenous resistance, media, and infrastructures has permitted the Kuna people's adaptability.

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Finally, thank you to the Kuna children who guided and protected me during my field visits to Arquía. This dissertation is dedicated to the more than 145 community leaders, human rights defenders, and Indigenous leaders killed in Colombia in 2021.

INTRODUCTION

Indigenous Media and Indigenous Knowledge in the Darién

The Darién-Chocó biogeographic region is a biological, political, and economic crossroads connecting North and South America and the Atlantic with the Pacific Ocean.[1] National governments in the Americas imagine the region as a bridge between North and South America. It holds the autonomous territories of the Kuna, Embera, and Wounaan Indigenous peoples and is a uniquely diverse tropical rainforest with extensive mudflats, mountain ranges, and complex coastlines. The Darién is a natural park recognized as a World Heritage Site for the United Nations Environment Program. Located in eastern Panama and northwestern Colombia, it is a politically unstable region due to the continued illegal advance of deforestation caused by timber and mining extraction and monocultures like oil palm, forcing both Indigenous communities and the forest to retract. The Colombian refugee crisis and the presence of illegal armed groups also add to the region's instability.[2] Since the 1950s, the Darién is also known as the Darién Gap, an antonym of progress for the construction of the Pan-American Highway. Mud substantially delayed Panama Canal planning and construction during the nineteenth century and has been a deterrent for other multinational dreams of interconnection. Mud in the Darién is a complex media that operates similar to a canal

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[1] The Darién-Chocó biogeographic region, that is, the rainforest between Colombia and Panamá, differs from the Darién Province, a provincial political boundary in Panamá created in 1922. I use the term Darién or Darién Gap to refer to the former.

[2] Colombia has 6.8 million internally displaced persons associated with the conflict, the world's second largest population after Syria (Human Rights Watch, 2017).

lock or as a trap allowing some flows while impeding others at multiple scales, modulating the flow of people and infrastructures like the Highway.

The Kuna are descendants of the Olotule, who were inhabitants of the Atrato River area before the fifteenth century.[3] Between the fifteenth and the eighteenth centuries, the Kuna moved to the northwestern territories of the Darién, displaced by conquistadors and their European-brought diseases.[4] Although a large number of Kuna live in the Panamanian area of the San Blas Islands (31,000 people according to the 2010 Census), I have focused my research on the oldest Kuna settlement, Arquía or Makilakuntiwala, located on the shore of the Arquía River with an estimated population of 800 (Internal Census 2014).

I started visiting the Kuna community in Arquía after knowing that some of their children walk for several hours to attend the nearest Western school. Being there in the context of studying this case allowed me to use this as a referent to experience their culture, and several factors triggered my attention as I wanted to document the process in a film: 1) The children walked approximately one-third of the journey over Kuna territories and two-thirds on zones partially controlled by Colombian paramilitaries. 2) They were willing to cross active conflict zones under the Colombian armed conflict to exercise their fundamental right to education. 3) They attended a Western school in territories that belonged to the Kunas several decades before. 4) Finally, I was curious to

[3] Patricia Vargas Sarmiento, Instituto Colombiano de Antropología, and Centro de Estudios de la Realidad Colombiana. *Los Embera y los Cuna: impacto y reacción ante la ocupación española Siglo XVI y XVII*. (Santafé de Bogotá: Instituto Colombiano de Antropología, 1993).

[4] Maurizio Alí, *En estado de sitio: los kunas en Urabá: Vida cotidiana de una comunidad indígena en zona de conflicto* (Universidad de Los Andes, Bogotá, Colombia: Uniandes , 2010).

explore the parallel between the mobility practices of Kuna children and the absence of the Pan-American Highway in this same region.

After several visits, I won a creation grant from the Andes Community to make the documentary; they asked for an initial script for the film, and I wrote one where I used the Arquía river as the story's antagonist while showing the hard work of Kuna children crossing this dangerous river in their daily journey to school. Seeing it in retrospect, this initial idea has many of the false imaginaries that have discredited and marginalized this zone. I was, without knowing, reinforcing the notion of the Wild Darién.

The resolution for the film and the inspiration for this dissertation arrives after day one of filming. On my previous visits, I commuted from the nearest town every day as I was not allowed to stay in the community. But during the film production, I was staying in Arquía with my host family, and minutes before sunset, the children invited me to bathe in the river. I saw the river full of children playing, others were washing clothes, and many were socializing; I felt I was another participant in that socialization. This quotidian life was ignored by me, as I did not witness it during my previous travels. Suddenly, I acknowledged my fears as they started to vanish that evening. I was the one afraid of the river and the torrential rains, as I had entered it during my research trips with relatively heavy and non-waterproof film equipment. The river as the antagonist was a projection of my prejudices, and this narrative was a shortcut, the easy way to "sell" a film using that notion of the Wild Darién. While seeing children playing on the river and how refreshing it was to bathe in it, I saw the river as a transcendental social space for the Kunas, it was an equivalent of a colonial plaza in a small town, but also it was much more. What started as a film collaboration between this community and me

became an extended exchange beyond my initial filmmaking role. My role has shifted over the years as a filmmaker, collaborator, extended family, the Colombian guy from California, a regular visitor without a clear intention, or perhaps less evident to the community, a media archaeologist interested in minor traces or evidence of Indigeneity and media. Yet, after ten years of my first visit to Arquía, my original question of why some Kuna children travel outside their territories to get educated in a different culture remained current; this question requires multiple answers from a historical revision of what has happened in the Darién since the colonial times to understand the theoretical ideas about media and indigeneity in relationship with my field experience; I assume that these chapters inquire about the particularities of that initial question.

For this historical revision in the Darién about media and indigeneity, I explore the fissure between the Indigenous and European concepts of law. As Deborah Doxtator pointed out, two worlds equally ignorant of each other set incompatibility strategies that helped Europeans taking possession of the 'new' world.[5] Common misconceptions such as "Native people have 'myth' but not history" have promoted the idea that Indigenous peoples lack historical consciousness.[6] However, Indigenous knowledge was crucial for

[5] Indigenous media is a form of Indigenous peoples' expression for communication, political self-determination, and a tool for cultural survival and cultural sovereignty. Socionatura—as an Indigenous notion of the world understood as a complex organism—considers the human as another entity immersed in it. I consider Indigenous media a form of expression that mirrors their relation between nature and culture and their understanding of these two terms. For expanding on forms of political self-determination, decolonization, and transcultural practices, see Meyer, 2008. For a rich explanation of the notion of socionatura, see Delgado-P, 2016. Theorists like Monika Siebert explain contemporary visions of Indigenous media in the context of globalization; Siebert analyzes multiculturalism, politics of recognition, and indigenous peoples' struggles around sovereignty, nations-within-a-nation, and colonization issues in the political discourse. The scope of Indigenous media studies is extensive as it intersects anthropology, ethnic studies, cultural studies, human geography, and political science.

[6] Deborah Doxtator, "Inclusive and Exclusive Perceptions of Difference: Native and Euro Based Concepts of Time, History, Change," in *Decentring the Renaissance: Canada and Europe in*

the invaders' survival, land exploration, extraction of the riches, and adoption of novel dietary practices in the European diets by incorporating potato, tomato, and corn. Yet, Indigenous collaboration was systematically excluded from the official historical narrative in the American territories, negating the coexistence, although troubled, between western and non-western epistemes.[7] Indigenous and colonialist histories, nevertheless, have not grown in isolation from one another despite their fundamental difference in history, time, and change. I pay special attention to understanding the interaction between Native peoples of the Darién and its European colonizers, as this troubled relation is essential in comprehending contemporary western practices and Indigenous knowledge in the Darién territories.

In the Darién and other lands occupied by the Spaniards, colonial towns such as Santa María del Darién served to confine Indigenous people to the ways of organization that the Spanish crown wanted to establish in America. Santa María del Darién was the first Spanish colony in continental America established in 1509; this significant occupation in the Darién highlights the relevance of this region for the Spanish interests.[8] Catholic theology was instrumental in shaping American subjects; for Las Casas, a sixteenth-century social reformer and Dominican friar, Indigenous peoples were prelapsarian innocents like Adam and Eve before the *original sin*, who were waiting to be

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Multidisciplinary Perspective, 1500– 1700, eds. Carolyn Podruchny and Germaine Warkentin (Toronto: University of Toronto Press), 2001.

[7] I use the term "epistemes" over "epistemologies" to emphasize that several epistemes may co-exist and interact simultaneously.

[8] The first colonial town lasted no more than half a century and was abandoned due to constant attacks from Natives. See Maurizio Alì, *En estado de sitio: los Kunas en Urabá: Vida cotidiana de una comunidad indígena en zona de conflicto*. Uniandes - Universidad de Los Andes, (Bogotá, Colombia): Uniandes, 2010.

shaped by priests into *human beings*. Las Casas believed in the possibility of creating Edenic republics for the sinless life of the Indigenous population. Being Christian and Capitalist were two prerequisites needed from Americans to acquire human status.[9]

On maps, colonial cartographers daydreamed about locating *El Dorado,* the Renaissance's most extraordinary utopia in the Americas. Spanish conquistadors, Francisco de Orellana, who named the Amazon River, Francisco Pizarro, the executioner of the last Inca emperor, and Lope de Aguirre, *The Madman of El Dorado*, carefully set in place dominant historical narratives while searching for the myth, claiming territories, subjugating Indigenous populations, and establishing control over people and resources. Vasco Nuñez de Balboa, a Spanish-born mercenary, claimed the Darién territory while searching for gold.[10] The Darién proved to be an area of vast quantities of gold and was named Castilla de Oro (Golden Castile) by the Spanish kingdom. In the words of Balboa: "From the house of this cacique Dabeiba comes all the gold that goes out through this gulf [of Uraba] and all that the caciques of these surroundings possess."[11] By the end of the seventeenth century and one hundred and fifty years after Balboa's death, the Espiritu Santo Gold Mine in the Darién, located 40 miles east of current territories of the Kuna of Arquía, yielded between eighteen and twenty thousand pounds of gold per year, according to Spanish official records from

[9] For the relation between Capitalism and Christianism, see Deborah Doxtator, "Inclusive and Exclusive Perceptions of Difference: Native and Euro Based Concepts of Time, History, Change," in *Decentring the Renaissance: Canada and Europe in Multidisciplinary Perspective, 1500– 1700*, eds. Carolyn Podruchny and Germaine Warkentin (Toronto: University of Toronto Press), 2001.

[10] Julie Velásquez Runk, "Creating Wild Darién: Centuries of Darién's Imaginative Geography and Its Lasting Effects." *Journal of Latin American Geography* 14, nº. 3 (December 15, 2016).

[11] Mary W. Helms, *Ancient Panama: Chiefs in Search of Power*. Texas Pan American Series. Austin: University of Texas Press, 1979, 155.

around 1680.[12] Imaginary European geographies, like *El Dorado*, have facilitated and fostered intervention denying alternative paths and privileging colonial modes of extraction and accumulation that still are present in the Darién region.[13]

The Colombian conflict has interrupted academic research in the Darién-Chocó biogeographic region for decades. Yet, independent researchers have found ways to access the Darién for short periods using different strategies. Every travel implies a decoding process; like deciphering the mud to avoid getting stuck, entering and moving in the Darién is a complex social process as guerrillas and paramilitaries are not fond of academic research in an area that they want to keep undisclosed.[14] The complex issue of accessibility to the Darién territory and the use of novel ideas around infrastructures as media allow me to state that my work is the first study of Kuna Indigenous media, considering the complexity of such a strategic space in the Americas.

The idea of the Wild Darién that I have experienced as an obstacle for doing research work in Arquía started with Balboa and their men imposing a narrative of violence and riches; the Kuna territories were refuges for pirates and adventurers, a site of the brief Scottish colony at the end of the seventeenth century, and regularly visited

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[12] Keneth M Jungersen, "The Seductive Gold of Darién." *Explorers Journal 62*(2) (1984): 74–81.

[13] Ashley Dawson, "Edward Said's Imaginative Geographies and the Struggle for Climate Justice." *College Literature* 40, nº. 4 (October 19, 2013): 33–51. https://doi.org/10.1353/lit.2013.0049.

[14] The peace accord signed in 2016 could allow, in the midterm, a possible change of conditions for research in several Colombian territories. Yet, the agreement did not create a substantial interruption of the prolonged Colombian civil war, and better conditions for conducting research in Darién are yet to come. For more information about the Colombian conflict, please see the Colombian Truth Commission's final report published in June 2022. It consists of eleven volumes with different scopes. For example, the volume "resistir no es aguantar" with an extension of 663 pages, focus on the Colombian conflict affecting Indigenous groups in Colombia.

by ships, some of them looking to hire Kuna sailors.[15] In colonial times, pirates, smugglers, and runaway slaves had sought refuge in this region. In the 1900s, liberal guerrillas sought shelter in the same areas paramilitaries hid and partially controlled as of today.[16] The reputation of these settlers contributed to creating the aura of mystery–grounded in its *unknown territory* and forbidden jungle–forming an abject geographical imaginary, loosely referring to the Wild Darién in all sorts of narratives, from documentary films, books, tv news, and reportages.[17] This false imaginary premised on an empty land without people promotes efforts to develop the region without regard to the habitation of the people living in the Darién. My film *Walking Kids of Choco* contests the misconception of the Darién as an uninhabitable land. Even though the documentary film focuses on transportation and walking dynamics, it also presents quotidian life seen from a Kuna-influenced perspective.

I acknowledge that external perceptions of the Darién are influenced by narratives of selective exaggeration on what Candance Slater called "Entangled Edens."[18] Since the beginning of the twentieth century, several multinational projects have threatened the Kuna territories; this includes conservation, development activities, the completion of the Pan-American Highway, and a new sea-level canal. I use infrastructuralism as a method of interpretation and analysis to explore what types of development narratives

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[15] Alfredo Molano, *El tapón del Darién: diario de una travesía* (Bogotá, Colombia: El Sello Editorial, 1996).

[16] Ibid.

[17] For examples of the type of journalism exploited the idea of the Wild Darién, see https://www.outsideonline.com/2098801/skull-stake-darien-gap

[18] Candace Slater, *Entangled Edens: Visions of the Amazon*. Berkeley: University of California Press, 2002.

are imagined by external governments, multinationals, and industries in the Darién.[19] Harold Innis' idea of colonial *production of space* from an infrastructural point of view helps me understand that the dispossession of history and territory results from colonial spatial strategies on Indigenous lands.[20] I analyze how these large-scale interventions perceived the Darién as a trope for extractive development.[21]

Thinking about Space, Indigeneity, and Media

To analyze spatial inequalities created by external agents in the Darién, I use critical ideas from Edward Soja and David Harvey and apply their concepts to the rainforest.[22] "Locational discrimination created through the biases imposed on certain populations because of their geographical location is fundamental in the production of spatial justice and the creation of lasting spatial structures of privilege and advantage."[23] Soja defines

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[19] Infrastructural theorist Susan Leigh Star defines it as a substrate in which something else operates, yet it works unnoticeably or concealed. It is a relational system that becomes infrastructure in connection with organized practices. Infrastructures appear as something transparent to use, even mundane, as objects of everyday use. As the author of boundary objects, she sees infrastructures as systems mediating human activities. Along the chapters, I would discuss other faculties of infrastructural theory, primarily based on John Durham Peters, Shannon Mattern, Lisa Parks, and Paul N. Edwards. Yet, the most significant definition for my view of Darién is the idea of infrastructures mediating between nature and culture; as I discuss that for Indigenous people in Darién, the descriptions of what constitutes nature and culture differ from notions developed in the colonial/modern context. See Star and Ruhleder, 1996.

[20] Jody Berland, "Space at the Margins: Colonial Spatiality and Critical Theory After Innis." *TOPIA: Canadian Journal of Cultural Studies* 1, (April 10, 2018).

[21] Nancy Postero, *The Indigenous State*. University of California Press, 2017. https://doi.org/10.1525/luminos.31.

[22] Harvey argues that the rainforests "are technological, economic, and cultural resources, and are socially defined." See David Harvey, *Rebel Cities: From the Right to the City to the Urban Revolution*. London: Verso Books, 2019.

[23] Because of globalization, critical spatial thinking is relevant for seeking spatial justice at all geographical scales, not only at the urban level. See Edward W Soja. "The City and Spatial Justice." *Justice Spatiale* 3, no. 1 (2009).

the production of unjust spaces in the rainforest as the expansion of urban regional processes. Nations consider the Darién the connection between two continents, and this global expectation impacts this rainforest and its people. Critical spatial thinking arises from the belief that time and space, history and geography, are equal: "Our spatiality, sociality, and historicality are mutually constitutive, with no one inherently privileged a priori."[24] These theories have helped me understand global sustainability and Indigenous agency in connection with existing and imagined mega infrastructures in the Darién. The Darién is not just the physical background to social and historical processes during colonization; it has an active role in processes of territorial dispossession, economic exploitation, and dehumanization of the colonial *other*.[25] In the case of the Darién, governments, and multinationals conceive global-scale projects without fully comprehending the spatial conditions of the territories affected. The unsustainable explanation of the Colombian government's intentions of finishing the Pan-American Highway in the Darién to reduce drug-related criminality is an example of accumulation strategies of dispossession.[26]

Indigenous knowledge in this interconnected space of the Darién is shaped by practices within the local, national and global cultural contexts.[27] I have returned to

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[24] Edward W. Soja. *Seeking Spatial Justice* (Minneapolis: University of Minnesota Press), 2010.
[25] I use Edward Said's expression of the 'other' as the one that is not Western; It is a legacy of the colonizer utilized to identify the Orient. See Said, *Orientalism*.
[26] In 2009, the Colombian government rebranded the unfinished section of the Highway in the Darién as part of the "transversal de las Américas" development plan. Powerful ideologies around counterinsurgency are local influenced by the Cold war era in Latin America. See Ficek for more information about counterinsurgency ideologies in Panamá and Colombia.
[27] Arjun Appadurai, *Modernity at Large: Cultural Dimensions of Globalization* (Minneapolis, Minnesota: University of Minnesota Press, 1996).

Arquía many times since I finished my film; during each research period, I acquired a deeper understanding of their mobility practices used to explore, learn and transport. Based on my fieldwork, I argue that walking is a constituent element of Indigenous media, and mud is a form of *natureculture* resistance.[28] I consider Indigenous knowledge components their landscapes, mediascapes, and ecologies, as this knowledge cannot be dissociated from its physical context. In this ongoing negotiation between external global influences and Indigenous knowledge, I consider Indigenous media as a form of cultural autonomy and preservation and as a tool for communication and political resolution.[29] Indigenous peoples, actively conscious of the colonial models of oppression, seek to reclaim their history and their right to self-determination, and creative cultural and political expression.[30]

From False Imaginaries to Systematic Failures of Conquest

In this search for spatial justice, it is crucial to dismantle imaginary geographies that deny Indigenous peoples fair access and use of their territories. Historically, the Kunas have lost territories during the centuries, as seen with the semi-urban settlement of Unguía—the town where the children of the film receive secondary education—as it

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[28] I refer to natureculture as elements tightly interwoven, highlighting the material interactions of collaboration between nature and culture.

[29] Self-production of Indigenous media is an essential part of the United Nations' vision of economic and social development. Indigenous media studies are a key entry in the 2007 United Nations Declaration of the Rights of Indigenous Peoples. See Juan Francisco Salazar, "Self-Determination in Practice: The Critical Making of Indigenous Media," *Development in Practice* 19, nº. 4/5 (2009): 504–13.

[30] Stefano Varese, Guillermo Delgado-P, and Rodolfo L. Meyer, "Indigenous Anthropologies beyond Barbados," in *A Companion to Latin American Anthropology*, (Malden, MA: Blackwell Publishing Ltd), 2008.

belonged to the forest and the Kuna people at the beginning of the twentieth century. Local governments and settlers have manipulated the term "productive lands" to exploit and appropriate sections of the rainforest as they considered them abandoned and unproductive.[31] This is an example of colonial fixations producing unequal social and spatial relations. Said proposes that "new forms of South-South and South-North solidarity must be articulated in the face of the fragmentation and division bred by dominant maps of identity."[32] Both Said and Michael Taussig offer reflections on fixed identities. Their considerations help me offer collective-inspired perspectives on how Indigenous peoples might regain balance and agency in the physical, cyber, and imaginary spaces. To this end, I first contest reductionist imagined geographies in the Darién by making visible and legible the appropriation of Indigenous cartographies. And second, I posit a counterfactual history; historical contingency is achieved by imagining alternative presents and conceiving history not only as a way of explaining the present's inevitability but also as what people failed to do. A century's worth of failures to construct the Pan-American Highway in the Darién rainforest, and systematic failures of conquest in the region, lead me to conclude that the Kuna people are already experiencing an alternative present, one in which projects of smooth and straight roads of progress failed remarkably in the Darién. The Pan-American Highway was an event considered not only desirable but inevitable; this extraordinary failure of its completion in the Darién territories opened possibilities for a future that could not otherwise exist.

[31] For a detailed description of Kuna territorial displacement since the seventeenth century, see Maurizio Alì. *En estado de sitio: los Kunas en Urabá*. Bogotá: Universidad de los Andes, 2011, chapter 3.

[32] Said, *Orientalism*.

As one of the megaprojects wanted to cross the Darién rainforest, the Pan-American Highway is a *transportation utopia* and an outstanding achievement of Latin American integration.[33] But paradoxically, it could also be perceived as a belated imperial project of a United States in search of hemispheric hegemony and still linked to the imaginings of the Monroe Doctrine. The Darién is a perfect case study of a heterotopic space that elaborates on different, isolated yet interrelated levels and scales, from the Indigenous autonomous territories to the binational, the regional, and the global.[34] Highways need cars, road systems, rubber industries, and shared policies between nations and industries to function. These multiscale projects privileged some practices over others: the highway privileges driving vs. walking, going fast vs. going slow, and the mono-use highways vs. multi-use trails.[35] The highway's designers built it by tracing many Indigenous routes that locals used. Yet, the road imposes a culture that excludes previous transportation practices and creates spaces of architectural exclusion in the rainforest.

Kuna people contest colonial conditions of spatial marginalization by using survivalist traditions, merging with new practices and technologies to fight back attempts of external intimidation; they fight against illegal timber logging by creating mapping surveys assisted with new technologies to detect and stop the externally provoked deforestation. Kuna people clash with dominant cultural fantasies from urban centers

[33] For understanding the Pan-American Highway as a potent symbol of Latin American integration, see Rosa Ficek,

"The Pan-American Highway: An Ethnography of Latin American Integration," UC Santa Cruz, 2014.

[34] Heterotopia for Foucault is "(…) a system of opening and closing that isolates them [spaces] and make them penetrable at one and the same time."[34] See Michel Foucault and Jay Miskowiec, "Of Other Spaces," *Diacritics* 16, nº. 1 (1986), 26.

[35] Jonathan Sterne, "Bourdieu, Technique And Technology," *Cultural Studies* 17, nº. 3–4 (2003): 367–389.

where they are placed in a frozen cultural and historical context, outside Colombian and Panamanian modernity; Yet, Indigenous people keep fighting and incorporating new strategies for protecting their land and practices.[36]

I have witnessed the Kuna rapidly embracing new technologies, which helps me challenge dominant perceptions of Indigenous people's relationship to new technologies as continually falling behind its western counterparts. Yet, they must make extra efforts to incorporate these technologies into their cultures properly. The use of contemporary infrastructures in the Kuna territories is an ideal condition for leapfrogging, a way of skipping stages in normative sequences of progress. For example, the Kuna people in Arquía adopted solar panels in a short period, between 2013-2014, becoming the only community in the northern Chocó region using this technology broadly as a permanent replacement for other sources of electricity.[37] Before solar panels, a creative electrical grid covering significant distances interconnected multiple families using a single electric generator. Collective approaches and different notions of common property and solidarity helped the Kuna embrace new resources using creative ways; in a context in which collaborative thinking is predominant, solutions like the electrical grid are common and expected. In 2015, the Kuna community of Arquía received from the Ministry of Information and Communication Technologies a digital kiosk equipped with satellite internet to enable connectivity in the school. Digital spaces are inclusive of

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[36] Elizabeth A. Povinelli, "The Woman on the Other Side of the Wall: Archiving the Otherwise in Postcolonial Digital Archives," *Differences* 22, nº. 1 (May 1, 2011): 146–171. https://doi.org/10.1215/10407391-1218274.

[37] It is important to mention that the Kuna people acquired the panels using a network of Indigenous suppliers in the Andes region, solving the lack of distributors in the area.

Indigenous knowledge, but this donation, without a particular implementation plan for Indigenous communities and their languages, positioned their cultures in a precarious place as children were forced to use Spanish as the language for accessing the internet. The local professors quickly realized the importance of having a digital presence in their culture and language. The donation created a frustrating culture shock; this and other implementations and technological shocks generate a pattern in how Indigenous communities adapt to incorporate new and old technologies. Some characteristics of the Kuna media space are its deterritorialization from the dominant order and the potential to take new resources at hand and create new opportunities with them. As a strategy of *being minor*, Kuna agency is a re-functionalization, transgression, and intensification by consistently turning major technologies into *minor machines*, thus inventing alternative uses adapted to their culture.[38]

In chapter one, I describe the Darién's unusual situation as a space simultaneously excluded from modernity and traversed by multiple contemporary practices such as the Pan American Highway. I use Harold Innis' ideas around space, time, and the margins to establish the ground for my examination of colonizing practices in the Darién. Indigenous tools, knowledge, techniques, and methods were necessary for navigation, shelter, climate, and survival during the violent convergence of settlers and Indigenous communities in the early period of mapping North America. I argue that, in its condition

[38] Being minor refers to Guattari's concept of *minor literature,* a term that Andreas Broeckmann reframes as minor media. Minor media refers to other possibilities of subjectivity using media outside the mainstream order. See Félix Guattari, *Chaosmosis: an ethico-aesthetic paradigm*. Sydney: Power Publications, 1995.

of apparent disconnection and isolation, the Darién area provides ideal circumstances for studying the relation of Indigenous cultural and political resistance through approaches of infrastructuralism, human geographies, and Indigenous media and Indigenous knowledge. I term mudware to Indigenous people's media approaches in the Darién rainforest; as an elemental media, mud regulates the interaction between nature and culture and I argue that it serves Indigenous communities in the Darién as a form of resistance to modulate foreign flows and for cultural survival.

In the second chapter, I analyze the implications of the Pan-American Highway mapping practices by presenting evidence of how narratives of selective exaggeration produce detrimental effects on the Darién territories and their inhabitants. To support this point, I place the Darién in a global discussion of commodity frontiers and structural inequalities of income and power. I use heterotopias to understand spaces inside and outside the spatial order of capitalism and colonialism in the Darién. By emphasizing environmental justice, I draw attention to the relation between forest domestication and human ecology to dismantle false imaginaries of a desolated and impenetrable rainforest that pertains to the old Eurocentric perception of nature as a struggle between human and nature. I then present inventive archaeological approaches and results regarding pre-colonial Indigenous infrastructures in the Darién.

In the third chapter, I build on John Durham Peters' ideas of an environmental view—cultural and natural—of media. I closely analyze Indigenous people's knowledge of their territories, recognizing media as expansive, an array of natural and cultural elements that become containers of possibilities. I recognize non-human actors as participants in Indigenous conceptions of media by considering the impact and influence

of hylozoist networks in the Indigenous mediascape.[39] I propose several conditions for cultural survival based on decoding complex mediatic, cultural, and globalize processes that impact the Darién's peoples and territories. I suggest rejecting imposed or top-down territorial boundaries and dreams of interconnection to maintain profound Indigenous relations to the environment that are chorographic rather than geographic. I acknowledge the significance of assimilating, contesting, or rejecting external flows to maintain Indigenous cultural sovereignty.

Through an analysis of substantial evidence of Indigenous resistance in the Darién, this dissertation provides an innovative understanding of the relationship between infrastructures and nature from an Indigenous perspective. "We in media and design studies need to recognize our objects of study as situated, embedded in particular material contexts, and activated by their interactions with people and nonhuman actants–other media, other infrastructures, other creatures, and things–in those environments."[40] I present relevant revisions of historical findings and offer an inventive and creative way of seeing how Indigenous people's agency in maintaining their territories and adapting new and reshaping old ways of knowing for cultural survival. I use expanded notions of Indigenous media, media archaeology, cultural geographies, the materiality of infrastructuralism, and transportation networks, to understand Kuna Indigenous agency and identity *rooted* and *routed* in place and territory.

[39] Guillermo Delgado-P., "Bordering Indigeneities. Two Notes on Decolonization and Sp/l/Ace," Davis: University of California Press, 2009, December 2, 2016.

[40] Shannon Mattern, "Deep Time of Media Infrastructure," in *Signal Traffic: Critical Studies of Media Infrastructures* (Champaign: University of Illinois Press, 2015).

The Creative Component: Walking Children of Choco, Remix 2022

The creative component of this dissertation is a remix of the film Walking Kids of Chocó, 2014. The remix version is available here: https://vimeo.com/695426116/79dfd609ad

The film and additional materials are preserved at the National television archives in Bogotá.[41] The documentary shows the daily life of Kuna child Edinson and his daily walks to school; his classes in Unguía are interrupted by a UNICEF officer briefly explaining the laws related to children as victims of internal displacement in Colombia; a broken kite given by the officer represents the ineffectiveness of the applicability of human rights laws within Choco province. The film later portrays the active role of children in the Kuna community of Arquía, their games, and their daily commitments and responsibilities within the community.

The film shares the daily life of Kuna children; it presents Indigenous practices, resisting fixation and simplification while offering a passionate construction of ways of seeing. The short film does not simply function as an informative object; it is a testimony to how this knowledge has transformed me; as I am doing the camera work, I struggle from day one with the mud. The bilingual lullaby used in the credits exemplified how children learn Kuna and Spanish in their advanced bilingual education.[42] As with this

[41] I produced the film with an Andes region grant, *Comunidad Andina*. The film was broadcasted nationally in Colombia, Perú, Ecuador, and Bolivia. The film is permanently stored in Bogotá at the archives of rtvc.gov.co.

[42] In Arquía and according to their elders, more than ninety percent of the population younger than fifty years old are bilinguals; Kuna is their first language, and they learn Spanish at the end of their elementary school; yet Spanish as a second language does not satisfy the Ministry of education's

lullaby, the viewer might notice some words in Spanish while listening to conversations in the Kuna language. *Uniforme* (uniform), *escuela* (school), *fin de semana* (weekend), and *viernes* (Friday) are inserted Spanish words that demonstrate the constant negotiation with other worlds and time conceptions in their quotidian life. Time is subjective; days of the week, and chronological time as the precise hour of the day, are foreign concepts Kuna people use in Spanish while communicating in Kuna.

Formal elements of the film reflect on the act of walking as both *discovering and transporting* as well as a singular everyday form of resistance. I used a modified lightweight Steadicam to capture the story while creating awareness of the cameraman as a visible character in the film. Narrative elements unfold while walking, an aesthetic decision that resonates with the mobility aspects of the Kunas in the Darién.

requirement of learning a second language. Therefore, Kuna children receive basic English classes, and their English proficiency is evaluated by the Ministry of Education using a standardized national test for college admissions, instead of recognizing their Spanish as a second language.

Chapter 1: From Mudware to Highway in the Indigenous Darién

On March 10th, 2019, more than 16,000 Indigenous peoples blocked the Pan-American Highway in the Department of Cauca, Colombia. Articles in the national newspaper *El Tiempo*, including one headlined, "The Pan American: 11 large blocks in 15 years,"[1] illustrated the continuous struggle of Indigenous peoples in the Cauca region while demanding fulfillment of previous governmental agreements about territorial, environmental and human rights. The highway remained closed for twenty-seven days, unsettling the main artery between south and central Colombia.

The roadblock had an impact at a national level, affecting vital transportation services and supply lines moving toward the capital and center of the country. The protesters had exploited a significant infrastructural dependency on the Pan-American Highway as the only route fully capable of transporting these goods nationally. The roadblock also halted the flow of resources and people to Ecuador and other southern markets. It was not an exaggeration when the media referred to the roadblock as "a critical situation" since it was isolating the south of Colombia. Since the 1980s, Indigenous peoples have taken control of the highway, demanding political recognition and the restitution of occupied territories. However, their political struggles were undermined and muddied by mass news media and the national government, who

[1] "La Panamericana: 11 grandes bloqueos en 15 años." *El Tiempo*, March 14, 2019. "https://www.eltiempo.com/colombia/otras-ciudades/bloqueos-en-via-panamericana-por-parte-de-comunidades-indigenas-del-pais-337536"

discredited the roadblock as "an extralegal recourse," "blackmail," and "an act of vandalism" deserving of an overwhelming military response.

The state retaliated against Indigenous peoples, employing tactics acquired during the civil war; the protestors resisted, using expertise gained over centuries spent combating oppressors. In Latin America, foreign and governmental projects on Indigenous territories exercise complex forms of coercion, usually as threats and cases of criminalization, defamation, and extensive coercive measures against Indigenous leaders. Demonstrations on highways likewise transpire in Paraguay, Bolivia, Panama, and Guatemala, exposing the rejection of their presence on Indigenous territories. In turn, throughout much of Latin America, violent, state-sanctioned attempts to silence Indigenous voices are occurring more frequently.[2] In Colombia, Indigenous peoples marched organized in non-hierarchical *mingas*, a pre-Columbian form of collective action and agreement to build something; in this context, it also means a collective act of protest. The *minga* is thus a social entity where highly crafted organizational skills support, improve, and become the first line of response to the protests. As with the *minga*, Indigenous peoples continue protecting their rights, ways of life, and culture.

The criminalization of the Indigenous protest in Cauca is a mediatic construction of traditional powers. The Cauca Indigenous struggle became visible nationally once it was portrayed as an illegal blockade. Mainstream media treated the demonstration as an entertainment event by depoliticizing the protest and using the physical confrontation as

[2] Victoria Tauli-Corpuz, "Report of the Special Rapporteur of the Human Rights Council on the Rights of Indigenous Peoples," A/71/229, (New York, NY: UN Headquarters, 2016). https://www.un.org/en/ga/search/view_doc.asp?symbol=A/71/229.

the newsworthy element for storytelling instead of, as in a healthy, democratic society, reinforcing the march as a critical opportunity to reconnect policymakers with the concerned population. While denouncing the arbitrariness of official forces against Indigenous people during the blockade, the state prosecuted Indigenous radio stations accusing them of promoting political discourses. The Colombian law excludes Indigenous community radios from commenting on news, political events, or broadcast advertising. Media conglomerates monitor these community radios to denounce them under the argument of unfair competition.[3] This law violates the right to freedom of expression, equality before the law, and participation in the cultural life of Indigenous peoples.

The story of the Cauca Indigenous struggle would have been suitable for a chapter in *Lovecidal: Walking with the Disappeared* by postcolonial thinker and filmmaker Trinh T Minh-Ha. Her book focuses on peoples' everyday practices of resistance to political subjugation and different forms of imperial control. Trinh affirms that most kinds of oppression are acts affecting the oppressed primarily at a human bodily scale—a physical act of someone against the body of someone else. Protesters, in some cases, experience intimidation, arrest, torture, and death on a personal level. Just as Trinh shows how Tibetans fight to spread awareness of their struggle to reclaim unlawfully occupied territories by reaffirming their identity as non-Chinese, in Colombia, thousands marched to slow down traffic on the highway. This act aimed to expose the oppression of the

[3] Similar forms of oppression exist in Latin America; in 2022, the Inter-American Court of Human Rights declared guilty the republic of Guatemala of similar repression against Guatemalan's Indigenous Community Media. See Diego Cortes, "Community Oriented Radio Stations and Indigenous Inclusion in Cauca, Colombia," UC San Diego, 2017.

governmental, military, and private sectors against their rights to consent and remain in their Indigenous territories. The Tibetan struggle and the Cauca fight in this activism landscape are concrete acts against uneven power dynamics.

"It is urgent to defend the life of our people, water, and nature" were the words of Emilse Paz, the Indigenous counselor of Cauca, when denouncing both the military confrontation against demonstrators during the roadblock in Colombia and the constant need to protect their territory against external impositions of agricultural, infrastructural and mining projects. [4] The Tibetan people, described by Trinh, and the Indigenous Cauca people, share a common experience in their nomadic status, in which the world moves towards them while they resist moving.[5] To globalized projects in the Darién, Indigenous peoples are subjects in transit, outcasts inhabiting in-between zones, occupying spaces in crisis. In different strata of the politics of infrastructure, transnational corporations are mobile and nationless. The planet is their lucrative space, so much that even multinational corporations deem national borders as obstacles to their *accumulation by dispossession*. Corporate capital disregards territorial, legal, and national borders, maximizing the benefits of operating beyond national structures.[6] Ironically,

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[4] "Duque responde con represión a exigencias de la minga por la vida." *Colombia Informa*, March 22, 2019. http://www.colombiainforma.info/a-exigencias-de-la-minga-por-la-vida-duque-responde-con-represion/

[5] Rosi Braidotti's nomadic theory assumes a subject living in transition yet still able to function within a community. For her, the nomad is someone that speaks from a specific position, coping differently with problems related to flow, space, territory, and the state.

[6] Appadurai, *Modernity at Large,* 168. William Carroll adds to this debate by describing global corporate power as part of a transnational capitalist class (TCC) that takes advantage of the deregulation of capital, globalization of markets, and the possibility of detaching corporate business from national domiciles. In this context of global governance, states allow corporations to self-regulate, shifting to a 'network governance' that replaces state governance. See Carroll, William Carroll. *Making of a Transnational Capitalist Class.* See also Keller Easterling, *Extrastatecraft*.

without moving, Tibetans and the Cauca's Indigenous peoples have lost agency in their territories. On the highway, the Indigenous people of Cauca remained united for weeks, struggling for a common goal, unburdened by the weight of their backpacks, and ready to flee from the increasingly militarized tactics used to disband the protesters during the roadblock. The consequences of the confrontation resembled a modern war zone. Drones, helicopters, tear gas, burned encampments, planted bombs, explosions, and bloodshed; are some of the war-zone descriptors used by independent media covering the conflict.

How Indigenous peoples and villagers deal with the loss of life does not involve modern forensic science standards. "The fact that every 72 hours an Indigenous person is killed in Colombia can only be called genocide," highlighted BBC News in one of their articles about the Cauca crimes in 2019. The Indigenous Regional Council of Cauca (CRIC) reported that more than 56 Indigenous people were killed by armed groups in the Cauca region this same year.[7] In most cases, there is no formal investigation of the cause of death and no evidence gathering at the scene. Friends and relatives carry the bodies of the deceased to their villages wrapped in sheets and tied to a wooden pole with ropes as a gesture of posthumous dignity. Each new sighting of the *cargueros*—the ones that carry the body—underlines this iconographic symbol of Colombian violence and the lawless state on these territories. Ironically, by taking the bodies and choosing when, where, and how to bury them, Indigenous people recover some of the lost agency in

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[7] CIRC identifies armed groups as Guerrilla groups, paramilitaries, narcotraffickers, and armed state officials as responsible for these crimes. https://www.bbc.com/mundo/noticias-america-latina-50341874.

their territories. The role of the *cargueros* becomes a recognizable act of activism, which I understand as Indigenous resistance to colonialism and the dominant settler hegemony.

The highway is not a casual network of interconnected local roads; on the contrary, it is a highly crafted infrastructure designed with efficiency and standardization of time-space. The highway, intended to cover all the American continent, including the 261-kilometer José Martí segment in Cuba, which was completed in 1957, is interrupted by the unfinished portion in the Darién tropical rainforest of Colombia.[8] Ironically, in the Darién, an area of the most critical points for infrastructural projects, the Pan-American Highway and its ideal of progress found unexpected opposition from an incredible array of opponents. In a struggle, much like the biblical story of David and Goliath, local Indigenous communities, international environmental organizations, and the tropical rainforest itself have systematically blocked any significant advance of the Pan-American road in the forest for decades.

The Eyes: Camera and Children

In the Darién, the primary means of transportation is by foot. And by foot, since the beginning of my Ph.D. studies, I followed a Kuna child with my camera. Edinson walked several miles to school daily, as there was no secondary education at the time in his village. While following Edinson and other Kuna children, I became aware of how they perceive their territory and how it molds their Kuna consciousness from a young age.

[8] Unión Interamericana del Caribe, "Cuba y la carretera Panamericana" (Cuba: Sociedad Colombista Panamericana, 1957), Organization of American States Archive.

They wander the Darién playing their games, gathering fruit, hunting, doing errands, and studying. They collaborate with adults as peers, fully interacting with their surroundings. Their excellent hunting and climbing skills and extensive spatial awareness exemplify their early engagement with adults as equals. A sense of collective consciousness among children is developed in their quotidian life, as there are no evident generational gaps among them. The four-year-old teaches skills to the two-year-old, and so on. They often move as a group of ten or fifteen children with distinct tasks depending on their age and size. Children as young as four years old have the weight and strength needed to climb trees. Others observe them while they ascend, energetically commenting and coaching them on how to best go up. Hunting with arrows on the river is a task of a few older children in small groups. When reunited, Kuna children play, walk and collaborate as a group. Their educational approach fosters highly skillful children imbued with knowledge fundamental to their Kuna ways of living. Kuna children are aware when others are on their territories; they are fascinated by the annoying sounds of the helicopters deploying soldiers, yet these helicopters are also a source of nightmares and unrest. Children know they need to be cautious when the soldiers walk back through their territories days after; they are mindful of the war around them and learn how to deal with the intruders, no matter which militia they belong to, as the Colombian-based conflict is actively present in the Darién.

Children are a core component of Kuna societies, as they are responsible for crucial tasks at home and in their community. By having this interaction, they assimilate the Kuna's unique notion of Natureculture, a position that contests spatial realities and is resistant to the imposed binary of nature versus culture. This synthesis of nature and

culture assigns social, political, and ethical agency to other living beings, but not in a narrow sense of plant or animal domestication. Natureculture and Socionature are notions that understand the world as a complex organism or network that interrelates all types of living beings, in which plants, mountains, and animals are as emotional and alive as humans.[9] These terms must be understood as a challenge to the Cartesian understanding of nature as inert raw material, objectified, open to be *dominated* or *violated*. South American historians remember Simon Bolivar's quote referring to the desire to dominate nature, 'if Nature objects, we shall fight against it and make it obey us.'

While walking with the Kuna children, I was fascinated by the idea of how quotidian life in the Darién prevails without the physical presence of the colossal Pan-American Highway. Through my fieldwork, I documented walking as a fundamental yet routine activity that evidenced the highway's physical absence in the Darién. The freedom of children to roam around contrasts with the precise normativity that a possible road brings to the territories. Yet I found that although its presence is not physical in the Darién forest, the highway threatens Indigenous peoples. Within the imagination of millions of people in the Americas, the road exists as a continuous and uninterrupted track fusing the north with the south of the continent. Kuna people and migrants are not the only ones walking in the Darién as this imaginary completion of the road attracts others: the Colombian army and illegal armed forces regularly patrol the region. The scale of the Pan-American Highway is so monumental that in its absence, a pedestrian

[9] Guillermo Delgado-P, "Andean Entifications: Pachamamaq Ajayun, The Spirit of Mother Earth," in *Contemporary Voices from Anima Mundi: A Reappraisal*, ed. Frédérique Apffel-Marglin and Stefano Varese, (Peter Lang, 2020).

segment completes it, traced daily by dozens to hundreds of migrants and other actors completing the highway and *closing* the Darién Gap by foot. These migrants marching to the U.S. create an exceptional act of resistance against the highway, using it in ways never imagined upon its inception and making the road by walking.[10]

The Pan-American Highway

The idea of interconnecting the Americas by land was a nineteenth-century goal when the American States Union proposed the Pan-American Railroad in 1889 to its nations. To the Union, commerce at a continental level would fulfill their dream of integration. It aimed to improve business and communication between the member countries and encourage reciprocal commercial relations in favor of extending markets for the products of the eighteen nations.[11] The Pan-American project, conceived in its initial phase as a railroad, failed because the U.S. government perceived it as the Panama Canal project's competitor. The First World War further postponed its planning, and finally, in the 1920s, the railroad concept was obsolete compared to the novel idea of connecting the Americas by car. By 1923, the Union reinterpreted the unfulfilled interconnection project and proposed the automobile-highway network.[12]

For the Union, the highway was a way for the U.S. automotive industry to access Latin American markets; for the U.S. government, it was a strategic move for the defense by land of the Panama Canal. With these motivations in place, in 1924, the U.S.

[10] Based on interviews conducted during fieldwork, on average, it takes four weeks to reach the U.S. via Darién for a migrant in excellent physical condition.

[11] William Rockhill and Williams Carlton Fox, *International Union of American Republics* (International Union of American Republics, 1901).

[12] John Anthony Caruso, "The Pan American Railway," *The Hispanic American Historical Review* 31, nº. 4 (1951).

government defined the first draft for a proposed Inter-American Highway (the Central American section of the highway), benefiting the car-based tourist demands for efficient and shorter interconnections between the countries. In 1934, the U.S. Congress started financing reconnaissance studies, bridges, and road sections in Central America that were immediately serviceable. These segments and studies demonstrated the advantages of modern roads and innovative construction models following the U.S. highway-system standards.[13] The U.S. advocacy in Central America served as a timely promotion in maintaining the project's momentum; without these construction boosts, the project could have resulted in the same outcome as in the case of the railroad. The Union adopted a model similar to the U.S. Federal-State funding system to finance the highway. Local roads in Latin America were owned and partially funded by the host country; the U.S. Congress and the Union supplied the bulk of the remainder. In 1936, the highway reached Mexico City creating a national boom in the tourism industry. The Mexican government fostered bilingual guides, travel centers, and other initiatives to promote tourism to U.S. travelers.[14]

During the Second World War, the need to reach the Canal became pressing, and the Central American governments allowed the U.S. Army to intervene and speed up the construction. However, before its conformation as an organization in 1948, commerce via tourism was the primary economic motivation for the Union's existence. The war influenced the decision to transition from a union to the Organization of American

[13] Stephen James, "The Pan American Highway, Artery of Commerce, Peace and Defense." (Pan American Highway Confederation, January 1943). Organization of American States Archive.
[14] Michael K. Bess "So That These Problems May Be Placed in the Hands of the President: Roads and Motor Travel under Cardenismo," in *Routes of Compromise: Building Roads and Shaping the Nation in Mexico, 1917-1952*, (Lincoln: University of Nebraska Press, 2017)

States (OAS), and philanthropic objectives of integration, security, and peace for the continent were added to its goals.

The Pan-American Highway was conceived as a part of an effort to develop a car-based tourist industry for U.S. travelers to explore Central American countries. Even though it took another three decades for the highway to reach Panama City, with the financial support of the U.S., most of its construction in Central America occurred during the 1950s and 1960s. Ultimately, the highway and the American States Union were the materializations of Bolivar's and Clay's nineteenth-century dreams of a continental system in America.[15]

Colombia's government passively complied with the U.S.' instructions for the standardization of the highway by connecting the capital cities of the American republics using a longitudinal approach. Following the lead of those countries of Central America that were constructing the Inter-American segment of the road, South American countries also prioritized the U.S. designs, ignoring the interests of local interconnection, local people, or local governances. Even though the resistance by Latin American peoples to these imperial policies was evident, the Pan-American Highway Congress systematically ignored it.[16] In the congress of 1939, the intervention of a Peruvian expert synthesized the underlying reasoning behind non-conformist efforts:

> We have discussed a series of factors that surely do not present themselves in other countries: ours is a country special and unique, because of the nature of its territory, its race, its population, etc., and we cannot adopt the solutions employed in other parts to resolve

[15] Rockhill and Fox, *International Union*.

[16] The Pan American Highway Congress was declared a permanent institution in 1925 by the Organization of American States. It was the entity that coordinated the execution of the highway. The Congress organized regular meetings —between two or three per decade— between the 1920s and 1970s.

> analogous problems without a previous adaptation to our environment, which requires special study, our own techniques, a Peruvian technique, as a result of our own observation.[17]

The expert questioned the reductionist approach to the highway, evident in the effort of standardization. But to the American States Union, the road was not primarily intended for interconnecting people—even less to connect Indigenous peoples—it was a message to the world, demonstrating the capacity of apparent inter-collaboration between Latin American countries by the action of constructing in the Americas; the infrastructure itself was their fundamental goal, and standardization was the way to expedite it. "Artery of Commerce, Peace and Defense" was the slogan used by the Union for the highway in the 1940s.[18] This motto reinterpreted the Monroe Doctrine of 1823 toward the pressing outcome of the Second World War. Having a road for commerce that serves additionally as an infrastructure for continental defense became the self-justification for its expansion and completion. The primary function of the highway was to communicate on a mass scale the U.S. leadership and construction capacity at an intercontinental level.[19]

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[17] Pan-American Highway Congress, *Resoluciones adoptadas por el Tercer Congreso Panamericano de Carreteras* (Washington, D.C.: Pan American Union, 1939), Library of Congress, Washington, D.C. quoted in Rosa Elena Ficek, "The Pan-American Highway: An Ethnography of Latin American Integration," UC Santa Cruz, 2014.

[18] Catherine Coblenz, *The Pan-American Highway* (Washington, DC: Pan American Union, 1942), 10.

[19] McLuhan once wrote: "Depending on the type of the vehicle-medium, the nature of the road-medium alters greatly." Cited in John Durham Peters, *The Marvelous Clouds: Toward a Philosophy of Elemental Media* (University of Chicago Press, 2015), 104.

Infrastructural Context and Background

Harold Innis argued that infrastructures are at the core of media theory as messages are.[20] Innis knew how transportation systems interacting with human and non-human actants establish new spaces and temporalities. In his ethnographic observations, Innis understands rivers as highways and observes how white men followed Indigenous peoples' practices and methods. His ideas on transportation and communication systems continuously intersect; he defines in his earliest theories how geography, geology, climate, and navigation are inscribed by networks of circulation and communication.[21] "Innis viewed colonial space as traversed space; not the empty landscape of a wilderness, or geometrical, abstractly quantifiable space, but space that has been mapped and shaped by specific imperial forms of knowledge and interest."[22] To think about the Darién à la Innis is to understand it as an active product of the canal, the unfinished highway, the Spanish conquest, the U.S. influence in Latin America, its gold, its wood, its rubber, its bananas, and its cocaine. Even though Innis did not use the word infrastructure in his text directly, his legacy is crucial to understanding infrastructural approaches as media theory.[23] Innis' framework explains how communication and transportation technologies shape economic, cultural, and intellectual life. But his pertinence to this work, as McLuhan insisted, is to comprehend these technologies in ongoing relationships

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[20] Ibid, 4.

[21] Liam Cole Young, "Innis's Infrastructure: Dirt, Beavers, and Documents in Material Media Theory." *Cultural Politics* 13, nº. 2 (July 1, 2017).

[22] Jody Berland, "Space at the Margins: Colonial Spatiality and Critical Theory After Innis." *TOPIA: Canadian Journal of Cultural Studies* 1, (April 10, 2018), 60.

[23] Liam Cole Young, "Innis's Infrastructure: Dirt, Beavers, and Documents in Material Media Theory." *Cultural Politics* 13, nº. 2 (July 1, 2017).

embedded in already dynamic situations.[24] I see the Pan-American Highway as transportation and communication technology, is an artifact of a space-binding culture used for expanding and controlling vast territories. The opposite of this space-binding culture is a society interested in history, continuity, and permanence, values that the Highway Congress did not seem interested in.

The Highway as a space-binding device to exercise control over territories was a clear concept for U.S. government leaders. In a memo to President Nixon, Henry Kissinger wrote: "Announcement of your intention to help close the Darién Gap would have a dramatic political impact in the hemisphere. Closing the Gap would have historical significance regarding the physical integration and ultimate development of the hemisphere."[25] Given its symbolic dimension of traversing the Americas, the Highway becomes an icon impossible to overlook, changing nature and culture along the way.

The U.S. ensured the economic and political control of the hinterlands they commanded through infrastructural imperialism- the railroad, the highway, and the canal. These projects were built to increase U.S. control in the Americas, in cooperation with Latin American countries, and specifically at the various moments linked to military training and Interamerican collaboration. There is evidence of substantial Indigenous influence in these cases, shaping and contesting these infrastructures.

Indigenous peoples were socially, politically, and geographically excluded from the highway's plan. The Organization of American States did not consider Indigenous

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[24] Ibid.

[25] "Foreign Relations of the United States, 1969–1976, Volume E–10, Documents on American Republics, 1969–1972 - Office of the Historian," 3. https://history.state.gov/historicaldocuments/frus1969-76ve10/d10.

peoples' needs for transportation and mobility, as it imagined Indigenous peoples using the highway as an urban space.[26] The highway's conception and design relied on reductionist views of indigeneity such as the erroneous notion of

Figure 1. Promotional material from "The Pan American Highway, Artery of Commerce, Peace and Defense." Pan-American Highway Confederation, January 1943. Organization of American States Archive.

Indigenous peoples as essential and rooted in place, fomenting racial boundaries and delimiting their territories. The Darién and its people have been shaped by movement, where displacements, migrations, and mobility throughout the last centuries are evidence of routes and roots as constituents of social networks constructing bonds between beings and place.

[26] Pirjo Virtanen, "Amazonian Native Youths and Notions of Indigeneity in Urban Areas," *Identities* 17, nº. 2–3 (2010), https://doi.org/10.1080/10702891003734961

The Darién is a heterotopic space that has facilitated practices of resistance, movement, and transgression for centuries. Heterotopic spaces are connected physically to other spaces but operate under different temporalities.[27] Heterotopias are real and not imaginary like utopias, yet heterotopias remain unknown or concealed in a positive but disruptive manner. Indigenous histories in the Darién are not outside of progress, but they are not considered by Colombian or Panamanian history as part of their histories of progress. That undetermined state in the Darién has become an experimental space of resistance for Indigenous peoples. An example of a heterotopic space in the Darién is the dirt road that Kuna children used to go to school in Unguía, as very dissimilar actors use the same road. I remember walking with the children and his father to Arquía, and we saw a man carrying two big containers on a horse, around 40 gallons each. I immediately lower my head to avoid any visual contact. Claudiano, their father, did not mention anything to me, yet Edinson started to walk slower and watched me as he needed to say something. He waited until Claudiano could not hear us and said with relief, 'that guy is delivering gasoline to a cocaine lab in the mountains.' During the same field trip, I saw Colombian counterinsurgency battalions using the same road as they were returning by foot from routine checks near the border with Panamá; the Kuna school director has complained to the Colombian army as those soldiers have used without permission the school to sleep, cook, and bath at night when returning from service. These soldiers violate Human International rights as they convert the school into

[27] Angharad E., Beckett, Paul Bagguley, and Tom Campbell, "Foucault, Social Movements and Heterotopic Horizons: Rupturing the Order of Things," *Social Movement Studies* 16, nº. 2 (March 4, 2017).

a military installation and the Kuna community into allies of the Colombian army under an armed conflict. Soldiers, paramilitaries, narcotraffickers, and Kuna children all use the same road, yet I imagine they should have a tacit agreement to avoid or ignore as much as possible each other. The Darién is a liminal social spaces of possibilities where spaces of difference are both excluded and interwoven.

The word infrastructure is not a new term. It has usually been associated with military installations, but over the last decades, scholars have associated this term with substructures and foundations, subordinate parts, and all that facilitate the systems that contemporary societies use daily.[28] Highways, protocols, the submarine cables that permit the internet, and the electrical posts that bring power from dams, are examples of what Peters calls infrastructuralism; the "fascination for the basic, the boring, the mundane, and all the mischievous work done behind the scenes."[29] In the Darién, the absence of the highway is a fundamental component of its environment. For Peters, "media are our environments, our infrastructures of being, the habitats and materials through which we act and are." Culture and nature, as well as humans, are components of infrastructures; societies connect through infrastructures, update and upkeep them; install, maintain, and even sabotage these infrastructures. Since colonial times, Indigenous peoples in the Darién have derailed, delayed, prevented, and subverted foreign project's investments to protect Indigenous ways of life. Yet, academics and policymakers understudied the impact of this infrastructural understanding on the

[28] Lisa Parks, "Infrastructure," in *Keywords for Media Studies*, ed. Jonathan Gray and Laurie Ouellette, 2017.
[29] John Durham Peters, *The Marvelous Clouds: Toward a Philosophy of Elemental Media* (University of Chicago Press, 2015), 33.

Indigenous peoples' political, social, and cultural life. Infrastructures shape modes of organization, control, and freedom that extends to every corner they occupy.

The Hispanic-Colonial World

Coloniality and the modern-world system have rendered the Darién heterotopic and subaltern through a series of infrastructural projects. For Walter D. Mignolo, it is imperative to not separate modern and colonial as if there was a linear progression; modernity needed colonial dynamics to prosper as it did. For Mignolo, coloniality is the *darker side* of modernity. The modern-world system needs to be understood within its "conflictive imaginary that raised up with and from the colonial difference."[30] The Americas were not incorporated into an already capitalist world-economy; a capitalist world-economy could not exist without the American mines, plantations, and the complex relationship between slavery, race, and labor. "Indigenous rebellions and Amerindian intellectual production from the sixteenth century on (...) are constitutive moments of the imaginary of the modern/colonial world and not mere occurrences in a world constructed from Hispanic discourses."[31] Darien's inhabitants—Kunas, Emberas, Wounaans, freedom seekers—were a heterogeneous population that the construction of modernity chose to keep in the darker side as the formation of nation states depends on homogeneity.[32] "Women, nature, and foreign peoples and countries are the colonies of White Man. Without their colonization, that is, subordination for the purpose of

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[30] Walter D. Mignolo, "The Western Hemisphere in the Colonial Horizon of Modernity," in *Coloniality at Large: Latin America and the Postcolonial Debate*, 2008, 22.
[31] Ibid, 22.
[32] Ibid, 36.

predatory appropriation (exploitation) the famous Western civilization would not exist, nor its paradigm of progress and, above all, natural science and technology either."[33]

The Atlantic commercial circuit is fundamental to comprehending the Darién's relevance in the colonial/modern space. The need to expand to "the East and West Indies" was the way to break Europe's peripherical status to the Islamic world that prevailed until the 15th century. As seen in Figure 2, Europe was in the west corner of commercial circuits between 1300 and 1550. After the fifteenth century, as seen in

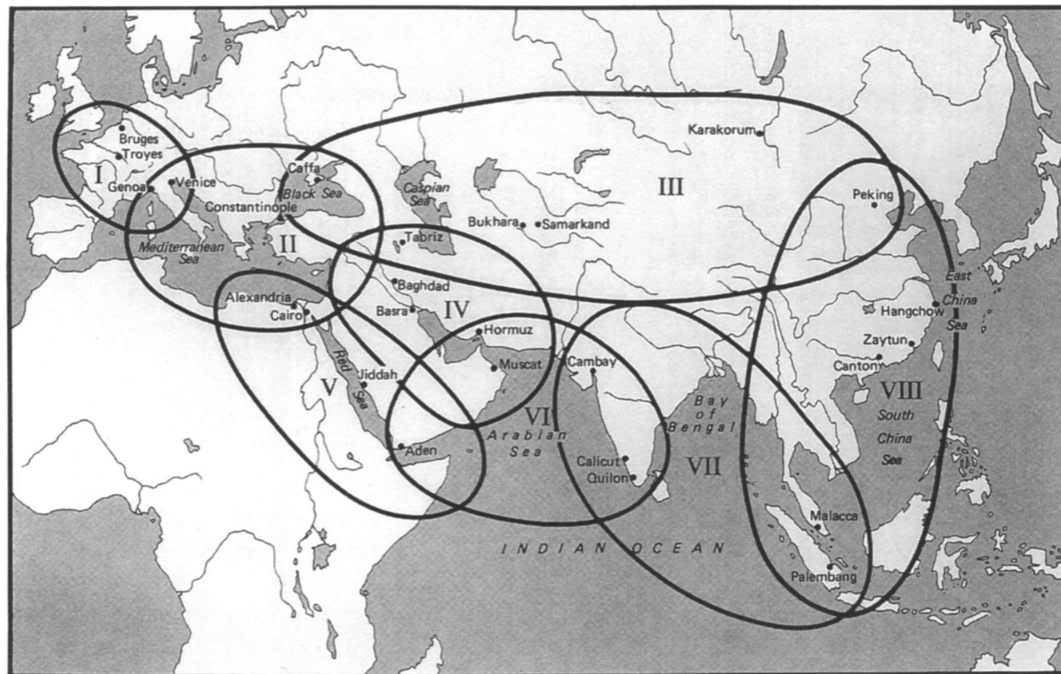

Figure 2. Commercial Circuits before 1550. From "Before European Hegemony: The World System A.D. 1250-1350." Abu- Lughod, Janet L. New York: Oxford University Press, 1989.

[33] Vandana Shiva, *Cultivating Diversity: Biodiversity Conservation and the Politics of the Seed* (Dehra Dun: Research Foundation for Science, Technology & Natural Resource Policy, 1994), 43.

Figure 3, the Atlantic commercial circuit established Europe as the center of global commerce.[34] In the Americas, the Atlantic circuit interconnected the Tenochtitlan and the Cuzco circuits, which until then had been separate. With the establishment of these routes interoperating in the Americas, the modern/colonial economy of the sixteenth century located the Darién at the center of the intersection of all-three commercial circuits—as Figure 3 illustrates. Since colonial times, the Darién is the region in the Americas that has faced the highest threat of macro-infrastructural development.

The Spanish conquistadors hoped to reach the Indies by crossing the Americas. In 1590, José de Acosta, a naturalist in Latin America, wrote:

> I believe that no human power is capable of tearing down the strong and impenetrable mountain that God placed between the two seas, with hills and rocky crags able to withstand the fury of the seas on either side. And even if it were possible for men to do it I believe it would be reasonable to expect punishment from Heaven for wishing to improve the works that the Maker, with sublime prudence and forethought, ordered in the fabric of this world.[35]

His fears were a response to earlier explorations by Vasco Nuñez de Balboa, who was trying to discover the shortest route to connect the Pacific Ocean with the Atlantic. In 1513, Balboa explored the Darién following the lead of Indigenous peoples, finding that seven leagues separated the Pacific Ocean and the Atlantic. Yet, the Spanish recounts omitted the Indigenous role in this discovery, giving all the credit to Balboa.[36]

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[34] Janet L. Abu-Lughod, *Before European Hegemony: The World System A.D. 1250-1350* (Oxford University Press, 1989).

[35] José de Acosta and Frances López-Morillas, *Natural and Moral History of the Indies*, ed. Jane Mangan

(Duke University Press, 2002), 178.

[36] Charles L. G. Anderson, *Old Panama and Castilla Del Oro*, (Boston: The Page Company, 1914), 135.

Acosta did not refer to the evidence that without Indigenous leaders, Balboa would have been lost in the Darién, as many others were while exploring the region on their own. [37] What Balboa did was expropriate, misuse, and dismiss Indigenous knowledge.

Balboa's strategy was to defeat the Amerindians in battle and win the cacique's friendship afterward.[38] Spanish soldiers needed Indigenous towns to camp, plan, rest, and resupply, to use villages as outposts, and mobilize their men whom the Cuevas guided through their waterways and paths. The Spanish did not recognize many of these infrastructures, mainly because Indigenous roads and navigational aids were a means to an end for the Spanish soldiers. They were helpful only in their quest to reach the Pacific and continue their dreams of exploring the Indies. In September 1513, on the last day of the fight, and accompanied by cacique Chiapes, Balboa and his private militia reached the seaside in the Pacific:

> Stunned by the reports of the guns, confused by smoke and flames, and overcome with astonishment, many of the Indians fell to the ground and became easy prey to the blood-hounds, while many others were made captive. To these latter the Quaraquano guides made such representations of the Spaniards power to slay by means of thunder and lightning, and of their magnanimity to the vanquished, that Cacique Chiapes issued from his hiding-place and appeared before Balboa with gifts of wrought gold amounting to five hundred pounds in weight. In return he received the proffered friendship of the commander, and trifles like hawk-bells, beads, and looking-glasses, with which he was greatly pleased and contented.[39]

[37] Walter D. Mignolo, "Introduction to José de Acosta's Historia Natural y Moral de Las Indias," in *Natural and Moral History of the Indies*, by José de Acosta and Frances Lopez-Morillas ed. Jane E. Mangan, (Duke University Press, 2002), xvii–xxviii.

[38] Charles L. G. Anderson, *Old Panama and Castilla Del Oro* (Boston: The Page Company, 1914).

[39] Frederick A. Ober, *Vasco Nuñez de Balboa*, (New York City, Harper, 1906), 81.

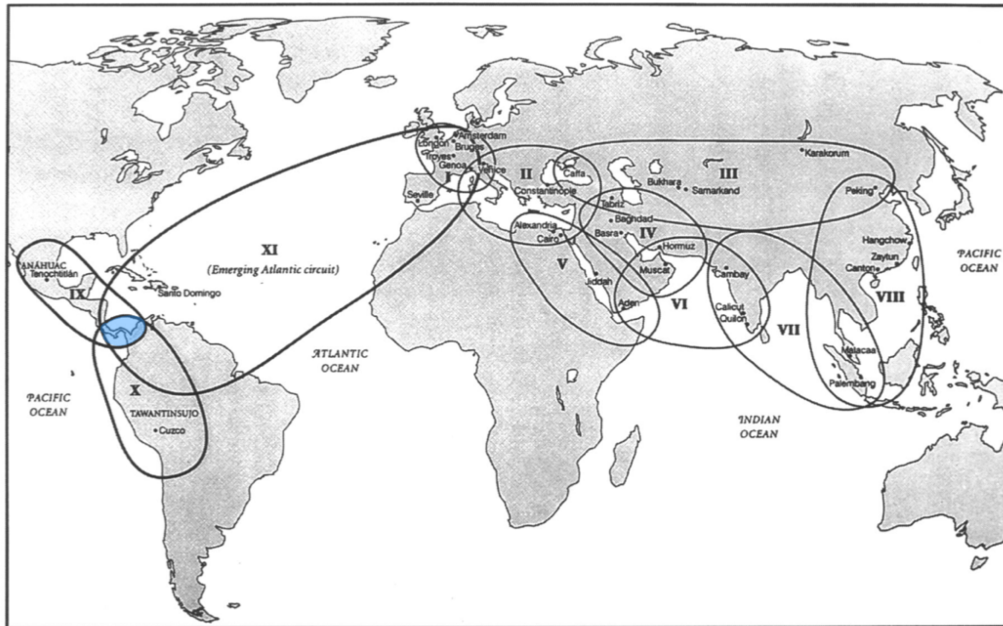

Figure 3. I highlighted in blue the intersected area over the Darién. Map by Walter Mignolo, based on the map in Figure 2. "The Western Hemisphere in the Colonial Horizon of Modernity." In Coloniality at Large: Latin America and the Postcolonial Debate, 2008.

Alonso Martin—one of Balboa's captains—was the first man to sail the Pacific, using a canoe of the Cuevas that was at hand. The journey of crossing the Darién shore to shore took Balboa a mere twenty-three days, and it was celebrated and written in history with Alonso Martin's story. The discovery of this novel route connecting the Atlantic with the Pacific joined two previously separated trade areas, Anahuac (Mexico, Guatemala, Yucatan, Nicaragua) and Tawantisuyu (nowadays Ecuador, Bolivia, Peru, and the northern parts of Chile and Argentina).[40] While Cacique Chiapes is one of the intellectual authors of the route that led to the unfolding of the Pacific, neither the Cuevas' knowledge nor their infrastructure was credited as part of this discovery. In the

[40] Mignolo, "Introduction to José de Acosta's Historia Natural y Moral."

clash of knowledges, the Spanish gaze sees the Cueva people as part of nature—a colonial conception of nature as resources to be exploited and taken for granted.

It was not uncommon for European colonizers to seek the help of Indigenous people in their search for passages to the New World. In Canada, Samuel de Champlain was convinced that a route west to China existed and the exploration efforts for an overland passage to China are well documented. Champlain is the author of the first recognition printed on the importance of the canoe and Native help as decisive influences for exploring the Canadian northwest. Champlain "reject[s] European technology in favour of Native technology, and their expertise in travel and living off the land."[41] He recognized the fundamental need to pursue explorations following Native people's guidance. His texts also acknowledged how the accurate descriptions of local people of Native territories were reliable geographical data for building a navigational network of the Canadian East. For Champlain, European technology was incapable of fulfilling the goals of their expeditions when faced with crossing challenging rapids on what is today the Richelieu river; they abandoned their European boats and continued by Native canoes. Europeans also required Native people to paddle for them as their sailors could not do so efficiently.[42]

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[41] Conrad E. Heidenreich, "The Beginning of French Exploration out of the St Lawrence Valley: Motives, Methods, and Changing Attitudes in Native People," in *Decentring the Renaissance: Canada and Europe in Multidisciplinary Perspective 1500-1700*, ed. Carolyn Podruchny and Germaine Warkentin,(Toronto: University of Toronto Press), 2001, 246.

[42] "It would be a matter of great toil and labour to be able to see and do by boat what a man might propose, except at great cost and expense, besides the risk of labouring in vain. But with the canoes of the savages one may travel freely and quickly throughout the country, as well up the little rivers as up the large ones. So that by directing one's course with the help of the savages and their canoes, a man may see all that is to be seen." Ibid, 239.

Inter-American Imperial Views

During the first two decades of the twentieth century, as an imperial project arose, a road conceived in the U.S. in the spirit of commerce was a subsequent consolidation of dreams of integration. The Inter-American Highway was predominantly imagined as a car dealer's sales pitch, lobbied for by automakers and road builders during its conception.[43] This reductionist approach was maintained during its design, dismissing space, time, history, and geography as ontologically coequal. In 1924, the Department of Commerce invited thirty-seven delegates from Latin America to witness the accomplishment of U.S. highways and sell the new highway transport standards. The month-long tour crossed several states from south to north on the East Coast. The delegation was referred to as "The Cortez, the Balboa, the Pizarro of another age" by the spokesperson of the Department of Transportation.[44] At the following year's inaugural meeting of the Pan-American Motor Highway Congress, these delegates changed the scope of the highway by lessening the importance of the car industry and dropping the word *automotive* from its title. With this change, the new Pan-American Highway Congress wanted to evoke the message of a promising cultural and economic project for integration with Latin America.

Secretary of State Charles E. Hughes summed up the spirit of Pan-Americanism through standardization in a few words: "It is no longer a question of merely eliminating all matters of difference, but rather of developing a positive policy through which the

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[43] Shawn W. Miller, "Minding the Gap: Pan-Americanism's Highway, American Environmentalism, and Remembering the Failure to Close the Darién Gap," *Environmental History* 19, nº. 2 (2014).

[44] Highway Education Board. *Highways of Friendship*. (Washington, DC: U.S. Department of Transportation, Federal Highway Administration, 1924), 1.

best thought and experience of every American nation will be available to all. This is the true spirit of constructive Pan Americanism;—one which is destined to give to the world a new and higher standard of international relations."[45] In the 1920s, development by standardization was the goal of Pan-Americanism, reachable through new ways of communication; the collateral effect of this type of development is the elimination of differences; a technocratic utopia where *active* motors, drivers, and standards shaped conformity among *passive* and static landscapes and local people. At the same time, Henry Ford was extracting rubber tree seedlings from the Amazonian area to adapt them to similar environments in the Indonesian rainforest. The 1920s' speeches echo Jefferson's dreams of the progress of improvement achievable through advancing communication between east and west. "Good roads and canals will shorten distances; facilitate commercial and personal intercourse; and unite by a still more intimate community of interests the most remote quarters of the United States. No other single operation within the power of government can more effectively tend to strengthen and perpetuate that Union which secures external independence, peace and internal liberty."[46] The Jeffersons of the 1920s wanted to eliminate sectionalism between the North and South by embracing the standards of paved roads crossing the Americas; yearning to cut

[45] Ibid, 3.

[46] Thomas Jefferson, *The Writings of Thomas Jefferson, Vol. 8: 1801-1806*, (Washington, DC, 1854), quoted in Carey, James W. "A Cultural Approach to Communication," in *Communication as Culture: Essays on Media and Society*, (Psychology Press, 1992), 6.

commercial dependency on Europe by establishing an autonomous Pan-American market.

South American governments conceived the Pan-American Highway as a potential network for connecting minor cities while responding to local needs in consultation with local communities. Nonetheless, governments chose to trace the highway using Cartesian logic, prioritizing this longitudinal approach above social demands while ignoring the particularities of their people and territories. Gathering regularly for almost sixty years since 1925, the highway Congress was mostly occupied resolving complex technical problems and bureaucratic tasks rather than discussing the highway's direct environmental and economic impact on the Americas. The businessmen promoting the highway did not imagine the unintended consequences of the road when working on securing the commerce expansion to Latin America. With more than sixty-two percent of the Inter-American Highway completed by 1940, the South American section was its reasonable continuation. By the 1960s, politicians became obsessed with the idea of closing the Gap, seizing the symbolic trophy, of concluding the longest road on earth. Following the impulse of unchallenged completion and the fascination with the highway, the efforts were put into closing its most technically challenging segment, the Darién Gap.

Soft Infrastructures: flow and intermittency

Indigenous peoples work *with* the mountain, not against the mountain, by collaborating with the environment using the experience gathered for generations and maintained by cultural networks across time. At the Humanities Institute of UC Santa

Cruz in 2016, Palagummi Sainath, director of the People's Archive of rural India, told a story of an accident of a military train submerged in the waters of an Indian river.[47] After several weeks of failed attempts by the British army to recover it using cranes and other heavy machinery, the locals were allowed to use the river stream to push the train to the shore. It took around two hundred hours working with the river to successfully recover the train to the point where the British cranes could pull it out. Infrastructures are neither big nor durable nor centralized; the knowledge of the stream is localized, only feasible to be activated by those with a precise understanding of the environmental conditions of that particular place; its flow is incommensurable and temporal. Yet, in terms of Peters' infrastructural analysis, the river is an 'elementary' media, a hybrid between nature and culture. As an infrastructure, it creates multiple environments juxtaposing its uses; the river is simultaneously a transportation system, a migration route, a tradeline, and various other things.

In the Darién, Indigenous peoples, colonists, foreigners, and bypassers regularly interact with modern and old infrastructures. Rivers, Indigenous byways, imaginary highways, roads, sealed gold mines, existing and future canals, immigrants smuggling trails, and cocaine micro-trafficking pathways are in continual flux, abandoning, renewing, and establishing new interactions with people. Siegfried Zielinski insists on the existence of infrastructures well before the eighteenth century.[48] "Infrastructure itself has

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[47] Palagummi Sainath, "The People's Archive of Rural India: Telling the Stories of 833 Million in the Digital Age" (Lecture, University of California, Santa Cruz, October 26, 2016).

[48] One of Zielinski's contributions is his "deep time," the contemporary that spreads into the past, and I will add, to the non-urban, in unpredictable ways. See Siegfried Zielinski, *Deep Time of the Media: Toward an Archaeology of Hearing and Seeing by Technical Means* (Cambridge, Massachusetts: MIT Press, 2006).

a much longer history: it has existed as long as has civilization. In fact, we could say that infrastructures made human settlement possible."[49] Infrastructures are not exclusively modern; they were present in all processes of civilization, as attested by persistent anthropogenic interventions.

Inspired by Harold Innis, Peters insists on the significance of infrastructures for media theory as artifacts for storage, transmission, or processing; "as a traveler in birch-bark canoes and railroads along old trade routes in the Canadian wilderness during research for his classic history of the fur trade, Innis was a connoisseur of chokepoints."[50] Infrastructures regulate the interaction between nature and culture; infrastructures not only serve for communication and forms of transportation but also alter existence: "media are our environments, our infrastructures of being, the habitats and materials through which we act and are."[51] Physical and temporal interruptions are crucial for this media study in the Darién. What better space to study the continental phenomena of paved highways than in the only place where the Highway is absent? An area in the Darién north of Yaviza has a partially finished section of the Highway and signals what could have happened in the Darién if the lawsuit did not stop the Highway. At the end of the 1970s, migrants settled there, prepared to sell animal products out of the region; they transformed this section of the Darién for commerce and integration, using cattle—a "civilizing agent of conquest"—to displace inhabitants of the Darién and

[49] Mattern, "Deep Time of Media Infrastructure," 94.

[50] Ibid, 18.

[51] Peters, *The Marvelous Clouds*, 15.

to convert the forest into cattle pastures.[52] Yet, the enormous work settlers did for connecting was not enough, as trucks and buyers did not arrive as they imagined buying their products. Later with the 1980s recession, this section of the Highway was left to decay by the Panamanian government, and the never-paved section of the highway "fell apart in the tropical sun and rain."[53]

In the Darién, people travel on mud and not pavement. Yet, this infrastructural analysis is not limited to roads or canals, and the absence of the highway does not define its modernity. The Darién is as modern as any city-based settlement, "to be modern means to live within and by means of infrastructures."[54] Contrasting with major infrastructures—operating non-stop, built and maintained by states, multinationals, or larger mixed institutions—individuals, communities, and nature maintain the Darién infrastructures. There are also state-owned infrastructures in the Darién, like the electrical system in some rural settlements operating a few hours a day. In constant interruption and continuous reparation, the ones in developing regions contrast with the infrastructures and services in developed countries that function almost always 24 hours, seven days per week.[55] In places like the Darién, permanent outages create a unique

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[52] Rosa Elena Ficek, "The Pan-American Highway: An Ethnography of Latin American Integration," UC Santa Cruz, 2014, 104.

[53] Ibid, 105.

[54] Paul N. Edwards, "Infrastructure and Modernity: Force, Time and Social Organization in the History of Sociotechnical Systems," in *Modernity and Technology*, ed. Thomas J. Misa, Philip Brey, and Andrew Feenberg (Cambridge, Massachussets: MIT Press, 2003), 222.

[55] Brian Larkin explains some differences between infrastructures located in developed and the ones situated in developing countries. See Brian Larkin. *Signal and Noise: Media, Infrastructure, and Urban Culture in Nigeria*. Durham: Duke Univ. Press, 2008.

awareness and particular uses of infrastructures operating intermittently. This intermittent functionality approach to technologies also brings a particular blur between new and old technologies and leapfrogging approaches. Libraries, digital mobile communication, elementary and secondary schooling, satellite internet access, and solar-power electricity, yet no running water, have been adopted in the Kuna community of Arquía since the 2000s, producing a unique media-production environment of technological appropriation. To live within infrastructures as a condition of modernity has a different meaning in a tropical rainforest, a non-urban space that is also non-rural, meaning that its principal activity is not productivist agriculture.[56]

Life with Mud: from soft earth to Mudware

> The old idea that media are environments can be flipped: environments are also media.[57]

It is common to think of hard and dense material systems like river bridges as part of an infrastructural analysis. Peters cites Edwards' definition of infrastructures as "big, durable, well-functioning systems and services."[58] However, the infrastructures in the Darién do not always match this definition. For example, community knowledge on how to use and manipulate river streams, often following shifts and changes in weather and

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[56] See Keith Halfacree, "Rural Space: Constructing a Three-Fold Architecture," in *The Handbook of Rural Studies*, 44–62, (London: SAGE Publications Ltd, 2006), https://doi.org/10.4135/9781848608016.

[57] Peters, *The Marvelous Clouds*, 15.

[58] Paul N. Edwards, Geoffrey Bowker, Steven Jackson, and Robin Williams, "Introduction: An Agenda for Infrastructure Studies," *Journal of the Association for Information Systems* 10, nº. 5 (May 28, 2009): 365.

seasonal conditions, is overlooked as media; the knowledge of streams and water is an example of Indigenous media knowledge. Then there is the union between two elemental media—water and dirt. Revising my film's transcript, I found an excellent example of Kuna oral history referring to regeneration or vital knowledge while mentioning mud. “All the trees, even the tiniest and most watery among them, help out. The strongest tree cannot grow without the soft earth.” The intermediary stage between water and dirt, the ‘soft earth’ that allows trees to grow, is part of elemental media. Innis stated that “civilization has been dominated at different stages by various media of communication such as clay, papyrus, parchment, and paper.”[59] In the Darién, the medium that tamed humans is mud. What I term mudware considers mud as an elemental media that taught Indigenous people the flow to use and the scale they should interact with nature and other agents in the Darién. To media theorists, I would ask you to resist thinking about mud as its material analog clay. Mud is “the most archaic of natural resources,” mud and clay have been present in wattle-and-daub structures for millennia.[60] But clay is a time-biased media for cultural inscriptions that serves as a writing substrate for humans. Instead, mud is a writing substrate for nature and has historically been both a constructive and destructive force for humans.

The materiality of a fixed structure would be cement, as in a bridge, and the materiality of a “state in between” soft infrastructure would be mud. I refer to solid

[59] Innis, Harold A. *The Press: A Neglected Factor in the Economic History of the Twentieth Century*. New York: AMS Press, 1978, 5.

[60] Shannon Mattern, *Code and Clay, Data and Dirt: Five Thousand Years of Urban Media* (Minneapolis: University of Minnesota Press, 2017), 86.

infrastructures, like bridges, as always functioning with a fixed temporality. In contrast, infrastructures in a state in between imply specific knowledge of temporality; that soft earth or mud works in *favor* or *against* certain conditions or actors, depending on cycles defined by a careful observation made by Indigenous people on their territories; mudware defines the flow of actors. Kunas translate February as the month of the Iguana, *Arri ni,* and March as the month of clearance, *Nei serret saet ni*. April is the end of the dry season. May is the month of the turtle, June is the month of the whirlwind, and July is the month of Mandinga's winds, *Mandi purrua ni*. August is the month of hurricanes and East rains, *Ti purua ni*. September is for harvesting maize, October is the month of the South wind, November is the beginning of the North wind, and December is the month of Christmas, *Kristmas ni*. These translations show a way of thinking not focusing on a cartesian progression of time but on interconnected cycles where space, matter, times, and flows are intertwined. Incessant rains are the norm in the Darién, but if it stops raining for more than five days, it is possible to reach Arquía from Unguía using dirt bikes. Without the dense mud and constant rains, the rainforest would have been tamed by now by settlers using improvised dirt roads and trucks without respecting the traditional territories that belong to the Kunas. Mud is a deterrent to flows coming from the outside, but it cannot stop every attempt of transgression.

The most significant obstacle while building the Panamanian road section before the 1970s was rain; steady rainfalls from May to November impeded aerial surveying and stereo photogrammetry. Engineers did most of the survey on the ground. Heavy rains provoked inevitable landslides after the initial road excavations, delaying the works. Heavy machinery unsuitable for the rainy conditions of the Darién caused even more

delays, as it boosted the production of mud. The construction of the 139 miles section from Chepo (near Panama City) to Yaviza, the Panamanian 'entrance' to the Darién rainforest, took twenty years.

If rain was the deterrent to the north of the Darién, to the south, mud was the undecipherable obstacle for the construction surveys on the Colombian side. Wetlands near Arquía spanned 25 miles, and the late 1980 surveys located solid rock only after 150 feet deep and in specific points, not even until 320 feet. Without foundations, a floating bridge was the best alternative, but by that time, highway builders did not have experience building floating bridges of more than one mile.[61] Historian Shawn Miller stated that if the Darién had stable soils as in most parts of Central America, the Highway construction would have taken just a few years. During the 1960s and the 1970s, Jeep expeditions promoted the project of constructing the highway through the Darién. For comparison, a jeep's weight is 4000 pounds on average, eight times more than a donkey. Ignorant of mudware standards, expeditionaries arrogantly tried to cross several times with jeep fleets; with every attempt, they failed.

My initial suspicion of mud as elemental media happened while I followed Edinson and Gabriel with my camera, and I was constantly stuck in the mud. By comparison, my camera assistant —Edinson's older brother— walked without issues even though he carried more weight than me; he knows how to *work with* the mud and not *against* the mud to move in the Darién.

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[61] I found extensive documentation of different road-building methods for the Darién section in the OAS archive. Yet, those technologies were just formal studies without any decisive evidence if such designs could stand the muddy conditions of Darién.

For Kuna people, mud is legible; as with swamps, even by looking into their surface, Kuna people know what shore to use and when to shift sides or slow down. They get similar readings while moving through mud, especially when using donkeys to transport plantain or people. The weight threshold for the Darién muds is around the weight of a donkey. Mudware has its standards, as it operates as a canal's floodgate. In the Darién, animals or objects heavier than 500 pounds disturb the mud to the point that it becomes impassable. In the film, I showed big prints on the last mile of Kuna territories before taking the dirt road to Arquía. Heavy machinery creates shallow ditches that, on the next rain, get filled with soft mud, rendering the road hard to cross for people and delaying traversing it again with heavy machinery for weeks or months.

Media Ecology: Unfolding Knowledge While Walking

The interaction between infrastructures and people happens through a body, through walking, by what Deleuze and Guattari called "exploration by legwork." In 2012, I arrived in the Darién interested in documenting the long-distance travels some Kuna children did to the nearest town. I found that this case was not an isolated circumstance but a constituent practice for Kunas. Their education entails exploring the ways of foreigners by traveling and studying in regions beyond the immediate Kuna territory and by confronting and assimilating to non-Kuna societies. From a young age, by walking, Kuna children comprehended that the Darién is a space with no shortcuts or straight lines. Its intricacy is not perceivable "from a point in space external to them," meaning that it is an entangled space challenging to access for those lacking the proper knowledge

and experience.[62] The Darién is a decentralized network of hundreds of byways; it is a space that presupposes a system oscillating between allowing and restricting access based on the interaction between time, place, localized knowledge, and mud.

Infrastructures in the Darién have been elastic, locatable, less stable, more muddied, and in constant change. The mudware with no apparent borders or enclosures highly contrasts the pavement and the longitudinal approach of predictable paths of the Pan-American Highway; it enclosed the space with its roads producing clear zones of control. In the Darién rainforest, roads are invisible to the untrained eye. Sailors must know all the nuances of rivers and swamps to navigate them; a recurrent route could become inaccessible if not used for weeks. Continuous flux within the Darién depends on precipitation, occupations, river flows, and the use of multiple means for transportation; it is a hub for integrating waterways with land-based road systems. Routes are modular, explicitly serving the travelers' purpose: to hunt, find medicinal plants, smuggle, hide from, ambush, wander, or guide, and other uses. The routes change not only based on environmental variables but also based on sociopolitical reasons. Roads have existed in the Darién, but their uses differ significantly from the use of a paved roads. There are no single routes with fixed itineraries; the tropical rainforest is full of flexible *arteries* with no beginning or end, infrastructures that linger, where connections and disconnections happen along with unfixed trajectories and different intentions. Multiple lines or paths of movements create areas of intensity, and during that back and forth, people mediate with non-human agencies to shape place. For centuries, the multifaceted, entangled

[62] Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (University of Minnesota Press, 1987), 371.

engagements in the Darién have attested to the undeniable existence of its infrastructures.

Chapter 2: Domesticated Geographies

Figure 4. Illustration from Pan American highway System Detailed Maps of the Great Hemispheric Road.

At the end of the 1970s, the Pan-American Highway (PAH) planned to promote the movement of resources was disrupted by the fear of contagion and disease management. This project of tourism and recreation of the highway started to reveal itself as one immersed in complex ideological and political associations. Due to the spread of Foot and Mouth viral disease (FMD) in South America, the completion of the highway became a potential path for infection, a path for infection/disease as well as goods/people. The FMD crisis forced the indefinite suspension of the Darién highway section and was the main deterrent to the spread of this Southern viral disease to Central and North America. The politicized public health case in the Darién is an example of discursive linkages between development, foreign policy, and disease management.[1] The PAH became a viral disease menace with considerable spatial implications.

In 1970, the U.S. Congress approved funds for up to two-thirds of the two-hundred-fifty-one-million-dollar project estimate. Partial construction started soon after, but in

[1] On disease regulation as a core element of the territorial consolidation of nations and international relations since the nineteenth century, see Bashford, 2007. I will later discuss in this chapter the link between unhealthy conditions and infrastructural development in the Darién zone.

1974, with an unusual legal move, the Sierra Club et al. filed a lawsuit, exercising the National Environmental Policy Act (NEPA) to contest a project funded by the U.S. overseas.[2] NEPA forced the U.S. Department of Transportation to produce a comprehensive environmental report on the impact of their project; soon after the highway administration disputed the applicability of a national environmental law abroad, under the arguments that the highway crossed into the U.S. territory—the Panama Canal—and had a direct environmental impact on the U.S. The Supreme Court agreed on the applicability of NEPA in the Darién. Ironically, applying a law following the spirit of Pan-American integration produced a halt in the highway construction in the Darién, a twisted lesson in which the spirit of interconnection and progress worked against the highway, taking unforeseen directions.[3] At least, by the mid-1970s, the road stopped being synonymous with integration. Its impact was questioned, creating a diplomatic crisis between the U.S., Colombia, and Panama.

Indigeneity and the NEPA

In the vast archive that the Organization of American States holds in its library, little is found on the highway's impact on the region beyond the construction technicalities, costs, and politics of interconnecting the Americas by land. However, the environmental report on the effects of the highway in the Darién, requested by the National Environmental Policy Act, revealed the big fallacies of unquestioned progress of the

[2] The 1974 plaintiff group was the Sierra Club, the National Audubon Society, Friend of the Earth, and the Association of Fish and Wildlife Conservation Commissioners.
[3] Michael Moss, Eugene Coan, and Arturo Munoz, "Decision at Darién Gap," *Sierra Club Bulletin* 61, nº. 5 (May 1, 1976).

Organization of American States and its highway administration. When the preliminary report was produced in 1974, it was sent to over seventy different governmental and non-governmental institutions in the U.S., Colombia, and Panama for their recommendations and comments.[4] The external critiques of the statement made apparent the lack of information in the OAS archive about the impact of the highway in the Darién and shed light on the OAS Highway Congress and its scarce interest in the developmental, social, and environmental impacts of the highway in over a half-century of regular meetings.

For most evaluators and experts consulted in the U.S., Panama, and Colombia, the Final Environmental Impact Statement (FEIS) inadequately responds to the effect of the highway on fauna and flora, on Indigenous peoples, on the control of foot-and-mouth disease (FMD), and the study of transportation alternatives.[5] Regarding the impact of the highway on the Kuna and the Darién people, the report strongly suggested that Indigenous peoples and their practices were obstacles to the building of the highway; e.g., in the education section of the final statement, the Department of Transportation diminished the significance of Indigenous language. "In the case of the Cunas and Chocos, the problem is augmented by the fact that they do not speak Spanish at home."[6] The FEIS rejected traditional learning systems by assessing Indigenous languages as barriers to applying the National standardized and homogenized educational model. The

[4] *Sierra Club v. Adams*, 578 F.2d 389 (D.C. Cir. 1978).
[5] United Stated Federal Highway Administration. "Darien Gap Highway: Final Environmental Impact Statement from Tocumen, Panama to Rio Leon, Colombia." Washington: U.S. Department of Transportation, 1976. Pan HE 359.p3 1976. Columbus Memorial Library.
[6] Ibid, 4-48.

critiques highlight the implicit contradictions of an infrastructure not designed beyond the political, financial, and engineering viewpoints.

Two natural parks were created to prevent cattle infectious diseases, one in Panama and another in Colombia, and to address the initial environmental critiques of the impact of the highway in the Darién. The expectation for the FEIS is that Indigenous communities move further upstream to free space for the highway, assuming an endless supply of empty forest at hand. In appearance, the two parks benefit the Indigenous communities, yet they are exclusion zones in which Colombia and Panamá prohibit Indigenous peoples from traditional hunting and food gathering. The parks add to the process of losing traditional Indigenous territories in the Darién.[7]

The people who built the PAH were interested in facilitating and intensifying business connections, but they were less interested in understanding the past of the territories it crossed. During the 1990s, archaeological explorations reported high population densities in the Darién from at least 4,000 years ago.[8] Yet, the 1974 report declared the inexistence of archaeological or historical sites around the path of the proposed highway. However, the report has no guidelines on what is considered archaeological or historical, and the methodology to establish this significance is absent. As Shannon Matter states, pre-colonial America wrote its history on material environments, and the Darién is no exception.[9] Archaeological finds could be neglected

[7] Maurizio Alì, *En estado de sitio: los Kunas en Urabá* (Bogotá: Universidad de los Andes, 2011).

[8] Dolores R. Piperno, "Phytolith and Charcoal Evidence for Prehistoric Slash-and-Burn Agriculture in the Darien Rain Forest of Panama," *The Holocene* 4, nº. 3 (1994).

[9] Shannon Mattern, "Deep Time of Media Infrastructure," in *Signal Traffic: Critical Studies of Media Infrastructures* (Champaign: University of Illinois Press, 2015).

or destroyed during construction without anyone knowing. "The media of sledgehammers, bulldozers, dynamite (…) are equally powerful (…) not through their cultivation and inscription of meaning, but through their erasure."[10] On no account is it adequate to leave the responsibility of what happens to the archaeological sites in the Darién to the construction phase management.

The anthropology department at the University of Arizona found the Department of Transportation's respond incomplete, as they did not consult Indigenous communities when producing the report. Without further details, the FEIS anthropologist advisor responded to the lack of investigation: "consultation with the Indian tribal leaders was not appropriate."[11] The draft of the FEIS stated that "Motion picture houses" and access to beach resorts are commodities that "would satisfy leisure time" for Indigenous peoples, the activities unmistakably planned for tourists and foreigners.[12] The report disregarded that Indigenous communities in the Darién have semi-nomadic practices, relying on large forest areas for their sustainability and leisure activities. The FEIS sedentary approach overlooked the complexity of delimiting Indigenous settlements, which was clear to the District Court. To them, the FEIS "Make[s] no attempt at serious anthropological or ethnographic analysis of the impact of secondary development resulting from the highway upon these people."[13] One of the requirements of the

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[10] Shannon Mattern, *Code and Clay, Data and Dirt: Five Thousand Years of Urban Media* (Minneapolis: University of Minnesota Press, 2017), 114.

[11] Response to the commentaries by the Department of Anthropology, University of Arizona. U.S. Department of Transportation, and Federal Highway Administration. "Darién Gap Highway: Final Environmental Impact Statement Panama - Colombia." U.S. Department of Transportation, 1976. Pan HE 359.p3 1976. Columbus Memorial Library. 12.6.

[12] Commentaries by the Center for Latin American Studies, Stanford University. Ibid, 12-10.

[13] *Sierra Club v. Adams*.

Environmental Impact Statement was that Indigenous peoples need to become part of the national economic system, yet no agency was directly in charge of this process. It was clear to R.C. Hughes, Assistant Secretary of the Department of Interior, that Indigenous peoples want to maintain political independence; however, once again, there is no organization supervising this objective. Both the inclusion of Indigenous peoples in a national economic system and their political autonomy are goals without a practical mechanism for their accomplishment.

To the members of the Sierra Club who filed the lawsuit, the impact of secondary roads was imminent; it would disturb villages of Indigenous peoples with semi-nomadic practices. The Sierra Club understood that Indigenous subsistence would partially shift from self-sufficiency to dependency on wages and profits from forest products, as is often the case, e.g., canned foods. Studies in Panama have shown that Indigenous peoples are at the lower end of the pay scale, as products are sold to them at notably high prices, inflated by intermediaries seeking a wide-range profit, forcing Indigenous communities into a financial burden. In both situations, domestic products bought from them below the market value and commodities sold to them at the highest price possible result from unfair market strategies of increasing profit with the excuse of transporting goods to the *wilderness*.

As said by District of Columbia Circuit judge Edward Allen Tamm, "We emphatically reject the assertion by the Government that something less than a thorough discussion is required because the Indians represent only a small fraction of the

Panamanian population."[14] The Draft of the FEIS states, "construction of the Highway, followed by colonization and deforestation, would lead to the cultural extinction of two Indian tribes and would produce adverse environmental impacts on rare flora and fauna."[15] This section was removed from the final report. Moreover, in the document's final version, the Department of Transportation admitted that colonists' activities during and after the construction "(...) will cause drastic alteration of the Cuna culture." One of the commenters against the gravity of these statements was again R.C. Hughes, stating, "the report does not explain where these people will be able to roam when their natural forests are clear away after the region is developed. If the future of the natives is cultural extinction, then it should be honestly and openly stated. If, however, the intention is to maintain their lifestyle then provisions to guarantee this should be fully discussed."[16]

To the FEIS, Indigenous communities would be absorbed by standardized educational practices and the dominant cultural and social practices around businesses on the highway. The U.S. government's role is problematic as the U.S. is funding the road despite the initial concerns for cultural impacts. For the Sierra Club, the government is in search of indirect and direct benefits from the two million hectares of commercial hardwood (which takes very long to mature and to be harvested,) six hundred thousand hectares for agricultural purposes or land, and minerals like copper and gold. In sum, the Darién rainforest is seen as an immensely exploitable resource,

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[14] Ibid, 8.

[15] Commentaries by the Center for Law and Social Policy, Attorney for the Sierra Club. U.S. Department of Transportation, and Federal Highway Administration. "Darien Gap Highway: Final Environmental Impact Statement Panama - Colombia." U.S. Department of Transportation, 1976. Pan HE 359.p3 1976. Columbus Memorial Library, 12-9.

[16] Ibid, 12-10. Cuna, Guna, and Kuna are spelling variations that refer to the same Indigenous group.

"result[ing] in great future prosperity in lumbering, agriculture, especially cattle-raising, mining, and industry, with imported labor to participate in local education and training programs, along with a number of other potentially lucrative economic activities."[17]

What are the road alternatives for the Darién? The report provided an extensive discussion on presenting "alternatives" for the highway in Colombia from a financial and logistical point of view. In their comprehensive construction description, nothing was said about the environmental impact of those two routes. The report insisted on the land connection between Panama and Colombia as the only viable solution. The FEIS rejected transportation alternatives like ferry and hovercraft systems and described them as "undesirable and uneconomical," and no further explanation was included. Judge Tamm interpreted the lack of transportation alternatives in the report as "evidence that indicates that the government may be a bit too anxious to complete this project."[18] The political desires of several U.S. administrations to finish the highway were understandable but unacceptable to the judge. The U.S. government's credibility in previous agreements with Panama and Colombia, ongoing contracts with U.S. contractors, and the already secured funds after years of extensive lobbying deceived the Department of Transportation into dismissing alternative solutions.

The Sierra Club (1975) sued to protect the Darién's Forest, flora, fauna, and Indigenous rights, which were not fully available at the time but were on the radar of international institutions. However, neither flora nor fauna were considered, and studies

[17] Ibid, 4-41.

[18] *Sierra Club v. Adams.*

and investigations were not conducted on endangered or threatened species. In the case of Panama, as soon as the sections of the highway reaching the Darién were finished (by the late 1960s and early 1970s) whether the land was private or public, the colonists burned and cut forests in preparation for cattle fields. The collateral effects of the highway construction deforested a significant part of the region and converted it into agricultural land, displacing wildlife.[19] Without a proper census on flora and fauna in the Darién, it was impossible to measure the effect on the endogenous specimens in the ecosystem, which both the government and the court acknowledged as unique to the world.[20] Even though several commentaries to the FEIS questioned the impact and possible extinction of endemic flora and fauna due to construction and deforestation, the Department of Transportation prioritized farming over protection.

Colombia has had foot-and-mouth disease (FMD) outbreaks since 1950, and the highway could have transported the disease northward, creating a risk to Central and North America. The U.S.—FMD-free since the 1920s—was at stake, as several outbreaks in Europe during the 1970s proved to the plaintiffs that, despite the proposed strict border controls, full containment of the disease in Colombia was not feasible. If such an outbreak had occurred, the U.S. would be held responsible. The FEIS calculated that an outbreak of FMD in the U.S. would have cost up to ten billion dollars in the livestock market during the first year of an FMD outbreak. In the 1970s, ten thousand

[19] Commentaries by the American Museum of Natural History, Department of Ornithology. U.S. Department of Transportation, and Federal Highway Administration. "Darien Gap Highway: Final Environmental Impact Statement Panama - Colombia." U.S. Department of Transportation, 1976. Pan HE 359.p3 1976. Columbus Memorial Library. 12.12.

[20] *Sierra Club v. Adams*.

cattle were the primary species to protect in the Darién, confirming the lack of interest in the diversity of this tropical forest.

The final report integrated comments and responses by a broad group of experts in different areas made public as a NEPA requirement. The FEIS has a plethora of contradictions and is vague due to the lack of understanding of what such assertions imply. In the words of Stanford University's researcher Arturo Muñoz, the lack of analysis is the product of "(…) a basic indifference over the future of the Chocó people and a materialistic and anachronistic commitment to progress for the sake of progress." For the Sierra Club, the highway designers carelessly addressed the complexity of the Darién; to them, the Americas' need for the highway cannot be upheld just because of the small minority's needs.

The responses to the draft of FEIS allowed the Department of Transportation to patch and remove the most difficult sections of the final statement—the "cultural extinction" section being one example. By "cultural extinction," Pete McCloskey meant that "primitive tribes would have to yield" their territories to a road promoting "progress, understanding, commerce, and trade." The report implies that the relocated Indigenous groups should benefit from the employment opportunities "truck companies, gas stations, hotels, restaurants, and settlements [would bring] along the highway." Republican politician McCloskey undermined the displacement of Indigenous people in the Darién, comparing it with the displacement of homeowners in California by highway 280.[21] On the other side, as a result of questioning the FEIS, several of these

[21] Commentaries by the Center for Law and Social Policy, Attorney for the Sierra Club..

experts became active supporters of the plaintiffs, adding their voices to the efforts of containing the highway. However, as Trinh says, no win or lose situation exists nowadays. Two relevant environmental authorities based in the District of Columbia, the Environmental Protection Agency (EPA) and the Council on Environmental Quality (CEQ), gave a "lack of objections" to the FEIS directly supporting the statement. In 1978, after years of government's insisting on the FEIS approval, the District Court found that it was appropriate, "(…) if reading as a whole, there is an ample exposition, from an environmental standpoint"[22] presenting options for the Darién highway. The judges found that the impact on "the Indians" was sufficient and found the Panamanian measures for FMD control pertinent. This was due to Colombia's lack of an FMD-free certificate from the U.S. Department of Agriculture (USDA). This requirement that entailed further health-related impacts postponed all construction in the Darién. The only environmental halt was the fear of cattle disease, a condition severe enough for the court to suspend the highway construction.

In the U.S., immense political pressure existed to approve the highway during President Nixon's administration. "Our international agreement overrides the environmental act. Accordingly, I strongly urge all interested Washington agencies make every effort to remove the injunction," said William J. Jorden, U.S. Ambassador to the Colombian government.[23] Several agencies were trying different tactics to circumvent the restriction. A declassified telegram from Secretary of State Henry Kissinger to the U.S.

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[22] *Sierra Club v. Adams*.

[23] Embassy Panama City, "Darien Gap Highway Injunction," Wikileaks Cable: 1976PANAMA06812_b, October 1, 1976, https://wikileaks.org/plusd/cables/1976PANAMA06812_b.html.

embassies in Colombia and Panama also captures the tension and urgency: "We are hopeful that at the consultative group meeting in July, this and the Aftosa [FMD] problems will be solved. (…) The best which may be hoped for is that the Colombians will finance all the work on projects 2A and 4A until the injunction is lifted and then receive reimbursement from DOT [Department of Transportation]."[24] It took Colombia's Ministry of Agriculture more than a decade to obtain the USDA certification in 1991.[25] It is likely that for these and other political reasons, the District Court accepted the FEIS using a Solomonic maneuver; knowing that the FMD-free certificate would take years to earn, the court approved the construction without letting the government start building. The court pushed the highway standstill problem to the USDA and its FMD-free certificate requirement.

The OAS ignored the main environmental impact components for decades while planning the highway. This failure resulted in an improvised environmental statement by the Department of Transportation that put a decisive halt on the construction process. The highway was approved in 1978, pending the FMD-free zone requirement and acknowledging that construction would create significant environmental issues. The court also postponed any budget discussion until 1981.[26] The recession in the 1980s, also known as *The Lost Decade* in Latin America, relegated the momentum the highway had

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[24] Department of State to Bogotá and Panamá City. "Darien Gap Highway Injunction," Wikileaks Cable: 1976STATE003026_b, January 7, 1976, https://wikileaks.org/plusd/cables/1976STATE003206_b.html

[25] It was only until 2009 that Colombia, after more than sixty years, was certified as an FDM-free country; a status difficult to maintain for extended periods because of FMD presence in Venezuela and Ecuador.

[26] *Sierra Club v. Adams*.

during the previous decade, in the same manner as the financial crisis in the 1930s buried the dreams of the Pan-American Railroad; in 1979, the estimated cost of the highway in the Darién was thirty-two percent higher after inflation than the budget of 1970, without deducting the first segment built in Panama (one hundred and fifty miles). Environmental sociologist and activist Alfredo Molano wrote: "Indigenous people considered that the highway would complete the work of extermination than the Spanish Conquest started. (...) Through the highway, settlers and ranchers invade their territories and soil the water; sawyers cut the trees that sustain their world and keep their ancestors' roots."[27]

Sense of Place and Use of Space from an Indigenous Perspective

By implementing an interconnected, longitudinal design for the highway, Latin America's governments favored efficiency, costs, and outside interests over the particularities of their people and territories. Due to this design flaw, the Pan-American Highway has become a ground of contention between Indigenous peoples and national governments in Latin America. In Colombia, the government in the present and in the past has disposed at will of Indigenous peoples and territories crossing the highway; the government treats Indigenous citizens like the way conquistadors treated Amerindians as vassals of Spain, evoking the Spanish Requirement during the colonial system. This law from 1510 was a legal and religious document for self-justifying Spain's conquest. It was commonly read in Latin to Indigenous peoples without an interpreter present. The law

[27] Alfredo Molano, *El tapón del Darién: diario de una travesía* (Bogotá, Colombia: El Sello Editorial, 1996), 78.

gave Amerindians one last opportunity to surrender before being attacked or enslaved; if they resisted—the law stated—any consequences of opposing Spanish rule were solely the fault of Amerindians. Similar obstacles still exist nowadays, as Victoria Tauli has denounced. For instance, the use of overly technical language by management boards that supervise protected areas is a common practice for diminishing Indigenous participation.

The Indigenous people's contestation of the highway—by slowing down and blocking it—is a shout against the colonial practices of the government over Indigenous territories. For Trinh, everyday acts of resistance through which dissidents cope with disproportionate power dynamics, are changing the current activism landscape. Protesters understand there is no victory to achieve, as victory itself is asymmetrical. Indigenous peoples fight and persist, proposing a different type of engagement within the surrounding environment. A century after the original highway design, other possible uses for these infrastructures are anticipated; new Indigenous communities' applications and solutions are crucial to comprehending the potential of the Pan-American infrastructure and its future in the Americas.

Indigenous cultures and their languages add to the diversity in the Darién; despite the benefit to the region, the highway builders wanted to minimize cultural differences by forcing mainstream models, a quick-fix solution to building the road without having to accept the existence of Indigenous practices in the region. The OAS failed to understand that the Indigenous Kuna *are* the environment. Recent studies have identified a correlation between biological, linguistical, and cultural diversity in ecoregions, founding

the concept of biocultural diversity.[28] Kuna language and people evolved in intimate interactions with the environment of the Darién; it is a language endemic to this tropical rainforest. Ecoregions like the Darién are strategic localities for conserving the biological, linguistic, and cultural diversity of the Americas. Public policies supporting Indigenous peoples and their localized languages could promote environmental conservation approaches endemic to this tropical rainforest. However, the co-occurrence between endemic languages and natural habitats was unknown to the OAS by the time of the report, and it is improper for me to criticize the environmental report of 1976 using contemporary studies about biological and linguistical connections in ecoregions. If the OAS had put enough effort into responding to the needs of Indigenous communities, it would have anticipated endemic environmental strategies in the zone, and it would have recognized the need for a transportation system considering the biological diversity of the Darién tropical rainforest.

For decades, the Kunas in Arquía have predicted the impact of the highway on their territories. Several construction efforts occurred throughout the years; however, a new obstacle emerged with every attempt. During the 1970s, the containment of FMD to Central America was the main impediment to stopping highway construction as mentioned above. By the end of the 1970s, drug trafficking in Colombia was on the rise, and Panama started expressing disapproval and criticism of its southern neighbor, distancing itself. Since then, unforeseen environmental impacts on the rainforest, such as

[28] L. J., Gorenflo, Suzanne Romaine, Russell A. Mittermeier, and Kristen Walker-Painemilla, "Co-Occurrence of Linguistic and Biological Diversity in Biodiversity Hotspots and High Biodiversity Wilderness Areas," *Proceedings of the National Academy of Sciences of the United States of America* 109, nº. 21 (May 22, 2012).

the presence of paramilitaries and guerillas controlling the Darién, have continued to postpone its completion.[29] To Panama, the gap serves as a buffer zone for keeping FMD, drug trafficking, paramilitaries, and guerillas away. In the effort to maintain distance from Colombia, Panama has openly opposed the highway since the 1990s. In a complete reversal of previous decades when the road was the symbol of integration, in the 1980s, this was no longer the case. In 1982, the repeal went as far as President Reagan ordering the bombarding of El Guasuale Bridge in Nicaragua, a structure integral to this segment of the Inter-American highway. The destruction of a Pan-American bridge and other routine bombings were complementary strategies to the economic blockade imposed on the Nicaraguan Sandinistas.

For the Kunas, the highway has always been an antonym for integration; however, not the only incursion they are opposed to; in search of a solution for avoiding their extermination by outsiders wanting to conquer their territories, they also carefully studied the history of the Panama Canal and the Spanish conquest. Kuna leaders insist on the importance of rethinking the pre-Columbian, colonial, and national borders and the implications of foreign transportation on their territories. These reflections do not stand alone in a theoretical context. The term *Abiayala*, a Kuna expression that means "a land of life" used by all Indigenous peoples in the Americas, refers to the continent as a communal effort of rethinking it from an Indigenous political view.[30] The Kuna people,

[29] Shawn W. Miller, "Minding the Gap: Pan-Americanism's Highway, American Environmentalism, and Remembering the Failure to Close the Darién Gap," *Environmental History* 19, nº. 2 (April 1, 2014).

[30] Arturo Escobar, "LATIN AMERICA AT A CROSSROADS: Alternative Modernizations, Post-Liberalism, or Post-Development?" *Cultural Studies* 24, nº. 1 (2010).

among other Indigenous activists, imagine communities beyond the limits of local and national states. The gesture of slowing down the highway is a mediatic complaint against the speed of the colonial and modern attitude of discovering and conquering the world. The Kuna people want to send a message, questioning the pace of contemporary transportation systems, permitting an active engagement with the surrounding environment, but under different circumstances and speeds.

In 1993, six Indigenous organizations established the Indigenous Pan-American Highway commission (IPAHC), uniting over fifty thousand Indigenous peoples in Panama against the resurfacing of the highway completion in the Darién. To Indigenous peoples, the power for destruction of the highway was evident, as previously seen with the one hundred miles built up to Yaviza, Panama; "the construction of the Pan-American highway through our territories would cause irreparable damage to our forest, rivers, flora, and farms upon which depend our brothers and sisters, the animals, and our river culture."[31] All the alternative routes for the highway traversed the Kuna, Embera, and Wounaan territories and crossed either one or both national parks in the Darién. The Indigenous Congress requested active participation and earlier consultation for infrastructural projects conceived in the Darién; they rejected any foreign infrastructure design without Indigenous consent, as had been the case with the Darién highway. Congress requested the legalization of Indigenous territories and collective land titles as legal tools to protect Indigenous territories.

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[31] Alicia Korten, "Closing the Darien Gap? The Pan-American Highway's Last Link," *Abya Yala News* 8, nº. 1,2 (Summer 1994): 29–30.

The Indigenous Commission drafted an alternative development document, proposing Indigenous and environmental needs in the region, looking for more sustainable and fair territory use. Their first achievement was to temporarily stop the paving of the dirt road section of the highway in Panama, stressing environmental and social concerns. With this action, the Indigenous commission set a precedent for protecting environmental interests on a national level. This act brought the Inter-American Development Bank's attention to creating projects inclusive of the communities in the Darién during the 1990s. It was also an incentive on a national level for civil rights participation, creating awareness of the right to participate in projects that directly transform their communities and territories.

The Longest Road on Earth

Why does the PAH, the longest road on earth, exist as an American archetype? Perhaps understanding this highway as "the longest line on the map" is conceivable as a complex visual construction.[32] Maps are visual tools for forming meaning; maps use symbolization, scale, and cartographic functions to convey cultural, social, and technological meanings and biases. Unsurprisingly, this notion of absolute interconnection in the Americas through roads is valid mostly on paper. This continuous and uninterrupted line on maps creates an undeniable image of completion for highway users exposed to the PAH campaign. On the ground, the highway is constantly interrupted by several unfinished segments—including the Darién section—and

[32] Eric Rutkow, *The Longest Line on the Map: The United States, the Pan-American Highway, and the Quest to Link the Americas* (New York: Scribner, 2019).

disrupted by segments lacking the minimum requirements to qualify as paved roads. Yet, these interruptions are perceived as temporary obstacles though they have been unresolved for decades. To paraphrase Paul Edwards, the highway infrastructure promises users to move around at high speed, as the scale of this infrastructure renders traveling on foot obsolete, despicable, or negligent.[33]

The PAH maps operate as media and as infrastructure, helping to shape this notion of the longest cartographic vector for continental flow. "Maps construct space—physical, propositional, discursive, political, archival, and memorial spaces."[34] The physical continent and its cartographic representation are reciprocal to each other, to the extent that it is difficult to define which one has priority over the other.

The cartographical effort of standardizing space via longitude and latitude created the conditions under which we value space as something relational, quantifiable, and thus exploitable. Latin Americans have internalized the information presented in their maps where real and represented spaces became counterparts of an enlarged reality that may not exist on the ground.

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[33] For Edwards, the distinctions between infrastructures in the developed world and the Global South are essential. The Global South questioned the notion of swift and constant operation as an infrastructural requirement. See, Paul N. Edwards, "Infrastructure and Modernity: Scales of Force, Time, and Social Organization in the History of Sociotechnical Systems," in *Modernity and Technology*, 185–225, 2002.

[34] Laura Kurgan, *Close up at a Distance: Mapping, Technology, and Politics* (Brooklyn, NY: Zone Books, 2013), 14.

...Y por fin, ¡la frontera con Colombia!

Figure 5. Illustration. The border between Colombia and Panamá.
El mito del Darién, March, José J. México, 1960.

What are the social and political implications of more contemporary technologies of representation? Web Mercator, Hobo-Dyer, and Butterfly are projections that use different methods of mapping the earth. The multiple ways of translating the earth's surface into a map are problematic as politics of representation are invariably present. A variant of the Mercator projection benefited Google Maps and their symmetric rectangles by preserving angles while zooming out, similar to how the Mercator distortions helped sailors for centuries before by providing straight lines for their navigation. Google Maps employed the Mercator projection for over a decade on their online map services and favoring navigation over political accuracy in its representation

of the earth.[35] Along the same lines, it is crucial to inquire about the author and the intention of producing a map to achieve cartographic literacy.[36] Maps as infrastructures inform but also persuade, naturalizing the questions of authorship and purpose.

During the twentieth century, the PAH maps informed readers about local conditions and guided them through reliable travel, apprising practical information. Yet, these maps also projected a singular way of traversing the PAH, implying a particular relation between technology, society, and nature. An extract of the accompanying text of the map in Figure 6 reads:

> Service stations will be found at regular intervals along the entire route of the highway. In Mexico there are three grades of national gasoline sold under the brand name of Pemex: Supermexolina with an 80-octane content, Gasolmex, 90-octane, and Pemex100. In Central America and Panama motorist have their choice of Chevron, Esso, Shell, and Texaco stations. The stations generally will furnish road maps of the countries in which they are located. Mechanics in Latin America are usually competent and resourceful.[37]

The PAH maps are not neutral; they pursue values that reflect the context in which they were produced. On the PAH maps, the highway interconnects Latin American countries with paved, all-weather, or dry-weather roads. Few other elements are highlighted, the Gulf of Mexico, Lake Nicaragua, and the Canal Zone. According to the map chart, discontinuous lines indicate the unfinished portions, and the interrupted lines over the Darién represent an impassable section.

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[35] Andrew Liptak, "Google Maps Now Depicts the Earth as a Globe,"The Verge, August 5, 2021.

[36] Shannon Christine Mattern, *Code and Clay, Data and Dirt: Five Thousand Years of Urban Media* (University of Minnesota Press, 2017).

[37] Organization of American States. "Brief Statement on the Status of the Pan American Highway System in Latin America." Organization of American States, July 1969, 2.

The map in Figure 6 depicts the automobile-based vision the Organization of American States (OAS) has of the Americas and the Darién as a treacherous section for their intended vehicles. Names of cities are united by bold black lines, as are countries' names, though their political borders are timidly drawn with thin lines. The PAH passed through those borders, becoming a new agent in the political

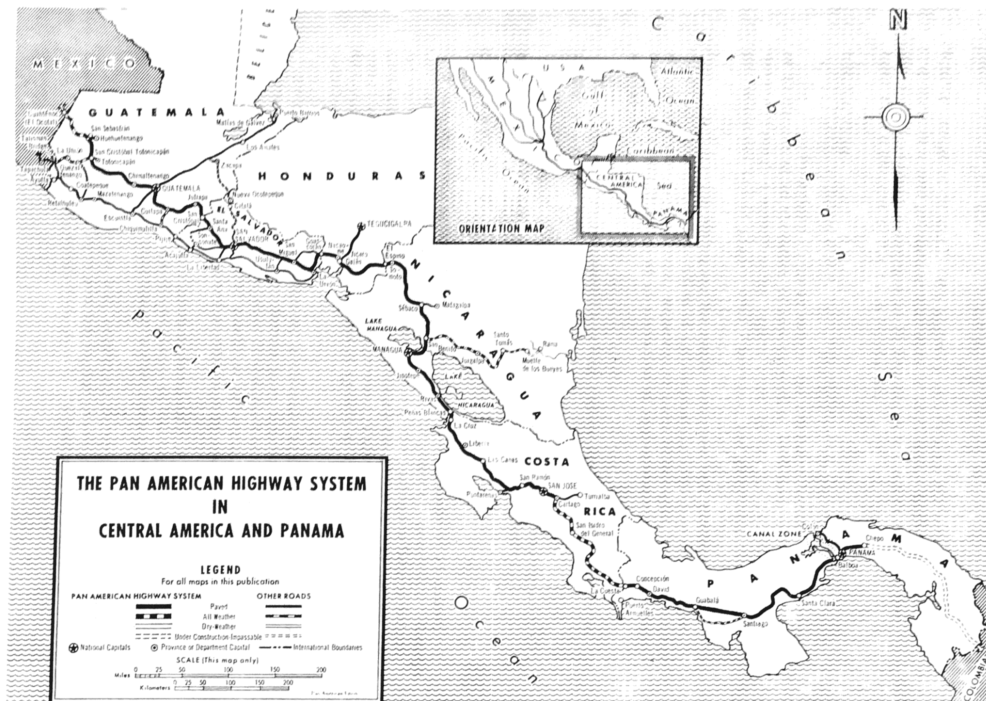
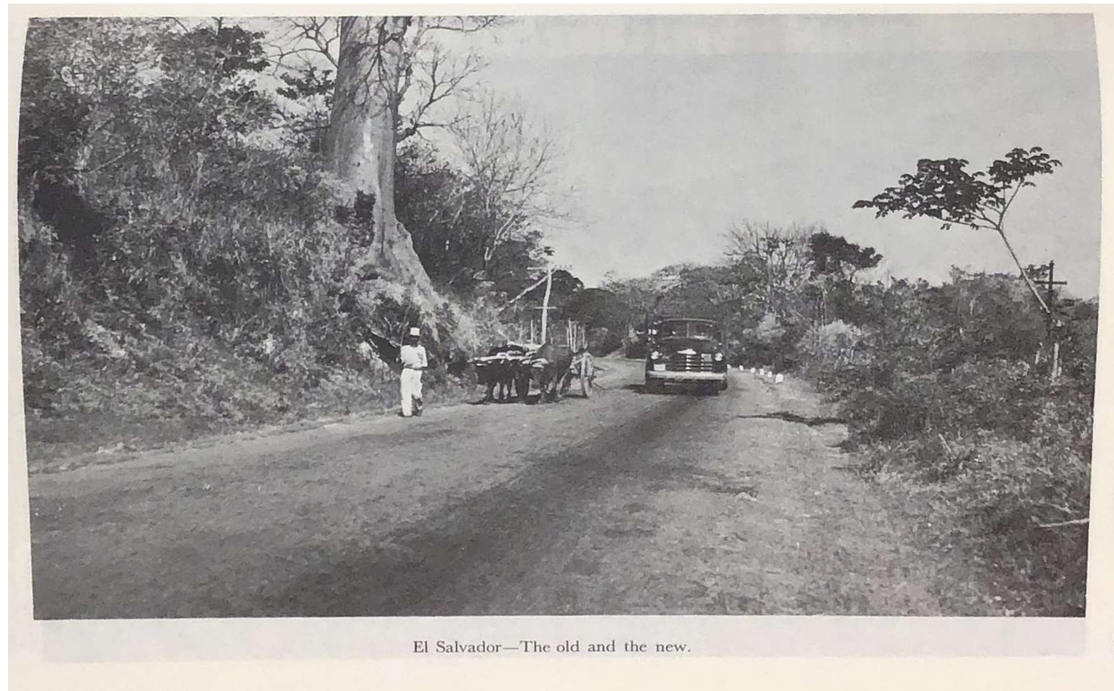


Figure 6. Map from Brief Statement on The Status of the Pan-American Highway System in Latin America, Organization of American States, July 1969.

organization of the continent. It offers a new reconfiguration of the Americas surrounding the highway. What do the maps avoid depicting? They do a great job omitting non-car-based networks, people other than drivers and tourists, and places other than main capitals. The maps impose a reductionist image of the Americas as

ongoing and smooth travel, prioritizing the highway flow by diminishing political and social boundaries. The PAH maps portray their colonial intentionality by capturing—via highways—large-scale resources from which economic value can be extracted. It is not a coincidence that the best-maintained roads in Colombia are the ones reaching mines, plantations, and ports.



El Salvador—The old and the new.

Figure 7. Photograph titled El Salvador—the Old and the new. From "Report on Progress on the Inter-American Highway."

Space is shaped by and shapes mapping practices in a co-constructed process.[38] It is a circular system; the use of a map transforms the territory that later changes the map again, in every instance with distinct outcomes. This dynamic is possible if the reader understands mapping practices as socio-spatial modes performed by tourists, dwellers,

[38] Rob Kitchin, Chris Perkins, and Martin Dodge. "Thinking about Maps," in *Rethinking Maps*, (London: Routledge 2009), 1-25.

and builders. Maps constantly interact with space, in a permanent state of making; the complex interaction between maps and space renders the differentiation between the real and its representation meaningless. "The function of maps is not to depict but to enable."[39] In this sense, the unfinished state of construction of the Darién highway is irrelevant. Its strong image of completion on maps creates a fact real enough to allow many people in the Americas to perceive the road as completed. This fantasy of total fulfillment aligns with fantasies of ample visibility and normalization.

Homogenization and heterogenization occurred in parallel during the process of globalization via the highway. "Rather than creating one smooth space, the emergence of Empire involves the proliferation of borders and hierarchies at every geographical scale, from the space of the single metropolis to that of great continents."[40] Homogenization through smooth, paved roads favored the flow of cars, while borders, exclusions, and bureaucracies take place against communities, not complying with the progressive vision of this infrastructure. The car system anonymizes people behind the steering wheel while defining how non-car users behave in this public space, privileging some practices while pushing others off the road. The Oxcarts were finger-pointed, pressed away over time along with other local practices. The road, with its tendency for speed, shifts into a car-only environment, becoming a synonym of risk to those not inside a vehicle. "Infrastructures act like laws, they create both opportunities and limits; they

[39] Ibid, 18.

[40] Michael Hardt, and Antonio Negri, "Empire, Twenty Years On," *New Left Review* 120, nº. Nov/Dec 2019 (2019): 67–92.

promote some interest at the expense of others."[41] With efficiency in mind, the system disciplines bodies by offering new conveniences under this assumed necessity of driving; it promotes consumption and exchange while also banning practices—usually traditional practices—that could read as careless and inefficient. The map normalizes the PAH in the Americas, and the highway becomes part of a signifying system that communicates, reproduces, and imposes a social order over the continent.[42]

If cartography was fundamental to the colonial conquest of the New World, maps were equally as crucial in assisting the OAS by imposing its model. The highway extends its impact to adjacent territories by converting the local people into workers who maintain the roads and support the new trade models that the PAH brings. Production of African palm oil, extensive cattle-raising, ecotourism, and traffickers of people, drugs, and arms are consequences of a globalization effort of economic integration on the Panama-Colombia border.[43] Paramilitaries pressured residents to sell their lands, resulting in extensive cattle-raising, plantain, and African palm plantations. "If you don't sell it to us, we'll buy it from your widow."[44] Forms of intimidation such as this are "business as usual" in the Chocó region. The highway attracts settlers who illegally destroy the forest by flattening the land near the road. Their settlements produce the conditions for gradually legalizing the appropriated land. Cattle breeders displace the

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[41] Edwards, "Infrastructure and Modernity," 5

[42] See Raymond Williams' work to expand on maps as social constructs. Raymond Williams, "The Sociology of Culture." *Bibliovault OAI Repository, the University of Chicago Press* (January 1, 1980).

[43] Daniel Suman, "Globalization and the Pan-American Highway: Concerns for the Panama-Columbia Border Region of Darién-Chocó and Its Peoples," *University of Miami Inter-American Law Review* 38, nº. 3 (2007).

[44] Ibid, 570.

settlers, forcing them to sell their lands and move deeper into the forest. Cattle eat the remains of the former forest, leaving even grounds for cultivating palm oil or coca crops; landowners establish similar agro-industrial activities.[45]

The OAS designers of the PAH did not imagine that right-wing paramilitarism would find the ideal conditions for growth around the globalization efforts of their highway. Yet, it is crucial to understand that the PAH benefits new forms of imperialism. Siva Vaidhyanathan uses "infrastructural imperialism" to describe how entities that focus on infrastructure and cultural protocols shape a given population's habits and actions. [46] Infrastructural imperialism differs from cultural imperialism as it is less content-specific and focuses on forms of distribution, access, and uses. Infrastructural imperialism implies that by connecting with infrastructures directly or indirectly, every aspect of human experience becomes open to exploitation. A critical difference with external colonialism—marginal expropriation to transport all sorts of goods to developed industrialized countries—is the speed in which the process of expropriation operates via the modern infrastructure.

The metropolitan centers extended throughout the highway are fed by goods swiftly transported from their peripherical territories. The infrastructural imperialism over the PAH sought a borderless continent open to cars. The road becomes an infrastructure of control, regulating flows and risks of various normalized practices, like driving or riding in a vehicle. Along with the fascination with the highway, its novel building techniques

[45] See Alfredo Molano, María Constanza Ramírez, and Richard Emblin, *El Tapón Del Darién: Diario de Una Travesía*. Bogotá, Colombia: El Sello Editorial, 1996.

[46] Siva Vaidhyanathan, *The Googlization of Everything (And Why We Should Worry)*, (Berkeley: University of California Press, 2011).

and the speed of its execution and efficiency were a novelty in Latin America. These two modes of speed—the celerity of construction and the speed of transportation—are reimagined and sold as progress, enforcing a new order for a new colonizer. Paraphrasing Leon Dominian, progress is understood as the result of eliminating natural obstacles and the conquest of distance by speed.[47] In some ways, the Darién is the exception to this positivist spirit of progress; it threatens progress by denying access to South America, thus impeding the globalization effort of extending control throughout the Americas. Yet, for thousands of migrants that cross the Darién every year, the Darién is a place of transit in which the constant flow of migration is the norm. In the twenty-first century, Colombian and Panamanian authorities blatantly ignore the harsh conditions human smugglers impose on migrants. Migrants stay unnoticeable as long as they keep moving northbound; their stories only reach national news when migrants are stranded at some port or border during their trip across the Darién to North America. Dynamics of transit-only create a marginalization of place, as local culture, knowledge, nature, and even local economies are neglected by migrants in their frenetic journey to bypass the Darién. The idea of "one continent" could be interpreted as a gesture of "universal brotherhood of a common humanity"[48] but also could be read as a "gesture of imperial domination, as an abstract and artificially totalizing erasure of very real differences."[49]

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[47] Leon Dominian, *The Frontiers of Language and Nationality in Europe*, (Constable, 1917), 327.

[48] Cosgrove paraphrasing Archibald MacLeish. Quoted in Laura Kurgan, *Close up at a Distance: Mapping, Technology, and Politics* (Brooklyn, NY: Zone Books, 2013), 9.

[49] Ibid, 9.

In Our Inexperience is Our Wisdom

> And we Americans are the peculiar, chosen people –the Israel of our time; we bear the ark of the liberties of the world (…) God has predestinated, mankind expects great things from our race; and great things we feel in our souls. The rest of the nations must soon be in our rear. We are the pioneers of the world; the advance-guard, sent on through the wilderness of untried things, to break a new path in the New World that is ours. In our youth is our strength; in our inexperience our wisdom.
>
> Herman Melville,
> White-Jacket (1850).[50]

> Sufficient methods for taking care of nature were given with the superior knowledge of our creators. Because of this, there is no need to continue researching about new sciences, it would be as if we were not happy with what it was already given. If we start to look for new knowledge, we could destroy our existence. This is what our younger brothers are doing, the so-called 'westerns.'
>
> Kubu Marcos, Macuna people,
> El territorio de los jaguares de Yurupari (2015).[51]

The Darién has been imagined and reimagined for imperial projects since colonial times. The inaugural moment of this imaginative geography started with the idea of reaching the Indies, as Columbus erroneously imagined arrival. Misguided by Toscanelli's map, Columbus thought he had found the Indies when he reached the Caribbean Islands. An underestimation of the earth's circumference invisibilized for years a new

[50] Herman Melville, *White Jacket Or, the World in a Man-of-War*. Auckland: The Floating Press, 1850.

[51] Bárbara Santos, Bárbara, and Nelson Ortiz, eds. *Hee yaia godo-bakari: el territorio de los jaguares de Yurupari*. Asociación de Capitanes y Autoridades Tradicionales Indígenas del Río Pirá Paraná (ACAIP), 2015.

continent. As mentioned in the introduction, this imaginary continued creating invented spaces like *El Dorado*. Columbus believed in *El Dorado* and consequently gave the name Golden Castille, "Castilla de Oro," to the Darién in honor of Isabella, "good queen of the old Spanish kingdom of Castille."[52] For Alfred Hall, Clarence Chester, and many others before them, the Spaniards in the isthmus "fought to win the treasure from savage Indians, cruel pirates, and deadly climate."[53]

Edward Said's notion of imaginative geography—combining geography and history—describes the colonial process of arbitrary discourse legitimation. No background is needed or given in this legitimation process; the evidence necessary is the affirmation itself and its repetition. This geographical imaginary takes place with the designation of the familiar *ours* and the barbarian *theirs*. "What this discourse considers to be a fact (...) is a component of the discourse."[54] In the Darién, those ungrounded facts are the "savage Indians," the merciless pirates, and its brutal climate. With each repetition, the statement gains more credibility and historical validity, and the author achieves more respect. With each recurrence, the final argument of civilization triumphed over barbarism. This discourse is arbitrary because it does not need the other's acknowledgment to proceed with the distinction. By utilizing negative qualities like exotic, savage, and empty, this discourse reaffirms and subverts the difference of that other as inferior, foreign, and wild, allowing the conditions of profound colonial and

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[52] Alfred B. Hall, and Clarence L. Chester, *Panama and the Canal* (New York Newson and Company), 1910.

[53] Ibid, V.

[54] Edward W. Said, *Orientalism*, (New York: Penguin Books), 1979.

capitalist dominations. The term *wild Darién* is a dehumanizing construct that I hope my arguments help to dismantle.

The *Mundus Novus* inspired all kinds of infrastructural dreams. Since the sixteenth century, the Europeans conceive the Darién as a wild place for outside intervention and an open region for extensive settlement. Dreams of infrastructure brought Spain, Scotland, and England to imagine ways of connecting the Pacific with the Atlantic Ocean through the Darién; while they were exploring the best canal route, gold and wood findings revealed the potential for placing even more extractive infrastructures in the Darién. Later in the nineteenth century, Colombian governments permitted settlers to illegally capture Indigenous lands in the Darién as their abundant resources were beneficial for the progress of the Republic. Wood extraction creates grasslands, generating the conditions for cattle raising and establishing new colonies. In the Darién—one of the world's latest frontiers—cattle could eat the remains of the rainforest, closing the extractive circle. As an example of this process of arbitrary discourse legitimation, for several Colombian presidents, the PAH would not only bring progress, but in recent times, their speech promoted the highway as the solution to diminish subversive activities in the region. By completing the highway, the state would increase its presence and would reduce drug trafficking activities. As seen by the Colombian state, the impassable lands promote subversive activities.

Mundus Novus et Terra Nullius: The Doctrine of Settler-colonialism

"Kill the Indian in him, and save the man."[55]
Richard H. Pratt on boarding schools and the education of Native Americans

The Kuna probably were not the descendants of the people the Spanish encountered upon arrival. Kathleen Romoli states that the Spanish presence and foreign diseases eradicated the people from the Darién, and the Kuna people later took their territories.[56] After the arrival of the Spanish, Indigenous traditional practices in the Darién territories were disrupted.

The initial Spanish expeditions diminished the earliest inhabitants of the Darién. The Kunas relocated to vacated territories left by the Cuevas, increasing their presence in the Darién while adapting quickly to the new conditions.[57] However, what exactly happened with the Indigenous Kuna population in the Darién during the sixteenth and seventeenth centuries is uncertain. There were clashes among Indigenous groups like the Urabaes, and the Kunas, who also fought the Spanish separately.[58] On the European side, Spanish, French, and English fought against each other as the colonial quest to dominate the isthmus created violent conditions among the diverse powers that wanted to maintain

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[55] K. Tsianina Lomawaima, and Jeffrey Ostler, "Reconsidering Richard Henry Pratt: Cultural Genocide and Native Liberation in an Era of Racial Oppression," *Journal of American Indian Education* 57, nº. 1 (2018): 79–100.

[56] Kathleen Romoli, *Los de la lengua de cueva: los grupos indígenas del istmo oriental en la época de la conquista española*, (Instituto Colombiano de Antropología, 1987).

[57] Patricia Vargas Sarmiento, Instituto Colombiano de Antropología, and Centro de Estudios de la Realidad Colombiana, *Los Embera y los Cuna: impacto y reacción ante la ocupación española Siglo XVI y XVII* (Santafé de Bogotá: Instituto Colombiano de Antropología), 1993.

[58] Ibid.

control.[59] The Spanish retreated with every failure, abandoning important places like Santa Maria La Antigua in 1524, the first Spanish settlement in Continental America built in the Darién. The constant defeat in the Darién produced a strong sense of loss and distress for the Spanish; they ultimately blamed their failure on the Kuna's disloyalty, labeling the Darién as a space of violent ethnic confrontations.[60]

A famous verse in Spanish written in the sixteenth century illustrates the mix of religious fear, uncertainness, and wilderness experience at the margins of the Spanish empire:

Cuando entres al Darién	Upon entering the Darién,
Encomiéndate a María;	commend yourself to Virgin Mary;
En tu mano está la entrada,	your entry is in her hand,
En la de Dios la salida.	and in God's is the way out.

Father Severino de Santa Teresa[61]

Unable to control the Darién, the Spanish besieged it from two substantial settlements: Panama City and Cartagena. The Spanish did not accept their defeat, blaming their lack of dominion over the Darién on the consequences of their struggle with traitors, cannibals, and ambitious people's greed for gold.[62] The Spanish also blamed

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[59] James Howe, "Village Political Organization Among the San Blas Cuna." January 1, 1974, 1–483.

[60] Carl Henrik Langebaek, *El diablo vestido de negro y los cunas del Darién en el siglo XVIII : Jacobo Walburger y su breve noticia de la provincia del Darién, de la ley y costumbres de los yndios, de la poca esperanza de plantar nuestra fé, y del número de sus naturales, 1748*, (Bogotá: Universidad de Los Andes), 2006.

[61] Padre Severino de Santa Teresa (O.C.D). *Historia documentada de la Iglesia en Urabá y el Darién desde el descubrimiento hasta nuestros días*. Vol. 4. 5 vols. Bogotá: Biblioteca de la Presidencia de la República, 1956.

[62] The Taíno rooted phonemes are found in the Spanish words "Carib," "Caribbean" and "Canibal."

the radical opposition to Catholicism by Indigenous peoples and protestant Europeans in the Darién territories as grounds for their downfall.

By the mid-eighteenth century, the narrative constructed around the Darién was of an unhealthy tropical place, a mix of warm and humid areas with polluted water. For the Spanish, the colonial failure implied the lack of control of gold sites, cacao fields, and the Darién as a strategic pathway for commerce—legal and illegal—between the Pacific and the Atlantic Ocean. The Darién's strategic position implicitly created a constant battle to control areas between non-Spanish Europeans, Indigenous peoples, and other settlers, creating an unstable clash of powers under continuous negotiation. The failure of these competing factions allowed outsiders to author their narratives of the Darién experience—producing an imaginary Darién defined as a savage and impassable frontier. The Spanish pitched themselves as the victims of an unfair conflict, affirming their settler innocence and ingenuity and excluding their failure as settlers on Indigenous lands from their narrative. Incapable of accepting their defeat, the Spanish established a salacious campaign of misinformation focused on a misdirected reading of Indigenous peoples and their territories.

The Darién rejected the colonization pathway set by a European view of development. By denying it, the Darién became pathological, refusing the natural way of colonial maturation "The link between the coloniality of knowledge and the coloniality of being lies in the idea that the human condition is only possible when an individual reasons in the Western manner, which means that any person with a non-Western

epistemology does not exist in its fully human condition."[63] The Darién people became an anomaly, and for their refusal to adhere to developmental expectations; they were cast as sub-human beings—a denial of the human condition of non-Western collectives.[64] For European eyes, the existence of the Darién outside a colonial collective creates a status quo in constant need of outside intervention. Hence, the wild Darién myth is a product of its position of denial of the colonial project.

The Indigenous Strategy to Retain the Darién

In 1677 and 1741, the Spanish and the Kunas signed peace agreements that did not last long.[65] The Spanish systematically denied the Kuna access to valued European products, forcing them to trade with the enemies of Spain.[66] Chiefs traveled to the colonies to exchange and learn the languages. During the eighteenth century, cacao production brought the Kuna to the international market economy by trading with non-Spanish colonies in the Caribbean. The Scots, French, and British found it profitable and strategic for the Kuna to learn their languages. It is false that Indigenous peoples played a passive role during the initial colonial period; for the Kuna people, cultural survival required radical and fast adaptations to the new conditions in the Darién.

[63] Andrés Bateman, "Developmentalism and the Misacknowledgement of Sociontological Difference: The Coloniality of Being in the Colombian Pacific Basin," in *Social Ontology, Sociocultures, and Inequality in the Global South*, (London: Routledge, 2020).

[64] Ibid.

[65] Reina Torres de Araúz. *Darién, etnoecología de una región histórica*. Panama: Dirección Nacional del Patrimonio Histórico, Instituto Nacional de Cultura, 1975.

[66] Langebaek, *El diablo*.

Firearms, iron axes, powder, ammunition, and clothes were restricted in the scarce trade with the Spanish, and only under certain conditions were tools provided to the Kuna people. It is logical to assume that firearms could be used against the Europeans; limiting access to foreign technologies was a strategy the Spanish used against the Kuna people.[67] In response, Kuna people traveled long distances outside the Spanish control for trade and cultural exchange. Chieftainship was received through prestige gained by exotic goods and outside expertise. Following their tradition of long-distance journeys, Kuna people have sought extensive education outside their communities, encouraging their youth to explore the ways of outsiders and prove their ability to trade and deal politically with foreigners.[68] Using tactics that Langebaek describes as a "ferocious guerrilla counterinsurgency," the Kuna resisted the Spanish intrusion.[69] The Spanish, on several instances, responded by counterattacking with troops sent from Cartagena city. As the conflict worsened, the Kuna occupied the Atlantic shores to facilitate economic relations with non-Spanish Europeans and avoid Spanish intervention.

During the two attempts by the Scottish to establish New Caledonia in the Darién, the Kuna aided the Scots in their settlements and secured cheap and abundant trade for European goods. The Scots were not interested in controlling the Kuna through slave trading or religious instruments. The Scots did not cultivate any alliances with the

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[67] Ivonne Suarez Pinzón, "La Provincia del Darién y el Istmo de Panamá: Siglos en el corazón de las disputas por la expansión del capitalismo," *Anuario de Historia Regional y de las Fronteras* 16, nº. 1 (May 4, 2011): 17–50.

[68]Mary W. Helms, "Ulysses' Sail: An Ethnographic Odyssey of Power, Knowledge, and Geographical Distance," 1988.

[69] Langebaek, *El diablo.*

Spanish, and this was possibly their biggest mistake. Without a distinct military presence in New Caledonia, the Spanish Army coordinated attacks from Cartagena on the Scottish colonies in 1698 and 1700, successfully expelling them from the Darién. Yet, this failed alliance with the Scots gave the Kuna the knowledge that through alliances, they could diminish the Spanish presence in the Darién.

With the French, the Kuna had a different relationship. Initially independent of Spanish control, the French lived from subsistence agriculture and modest trade in the Kuna territories. French settlers started to cultivate cacao beyond their subsistence needs and demonstrated a successful trade model for the Kuna. Yet, when the Spanish indirectly used the French colonists to control the Darién and started to compete in the cacao trade, the Kuna stopped supporting the French and gradually directed their trade towards Britain. In 1757 and 1758, the Kuna declared war on the French, banning them from the Darién. Their victory assured the appropriation of the French cacao plantations, a conquest that was formally communicated to the Spanish. This maneuver is just a shred of a larger body of evidence of the Kuna's deep understanding of the politics of international conflicts during those years.

The British have had a significant presence on the Caribbean shores since the sixteenth century. But their presence was trade-oriented, and few cases of British settlers are documented in the Darién. The Scot and the French defeats in Darién territories were deterrents to any formal intention for British settlements. By the eighteenth century, the British learned that establishing colonies was unnecessary if the Kuna could maintain the existing trade volume. For the Spanish side, the deterrent was that the Kuna would succeed in establishing foreign exchange to diminish Spanish control, no matter

how much the Spanish tried to undermine the strategy of external alliances between Kuna and non-Spanish Europeans.

Europeans made the Kuna dependent on cacao and European goods. But it could be inferred from the evidence that the Kuna decoded and used the tactics of European conflicts for their benefit, acquired foreign languages for cultural and political alliances, and successfully used their cacao production to counterattack European presence in their territories. More than a dependency on the trade of American goods with Europeans, commerce was the necessary evil to acquire foreign technology. Cacao was the currency the Kuna people invented to support their warfare against the Spanish and secure survival. In the Darién, the Spanish never accomplished their dream of controlling the Kuna through nucleated villages following the Capuchin-monks' style. Neither Spanish, Scot, French, nor British settlements existed permanently in the Darién as the Kuna played a strategic game, favorably for them, of modern warfare.

Following their tradition of establishing alliances against their oppressors in the twentieth century, the Kuna people declared their independence from Panamá; they found allies with Americans in the Canal Zone and proclaimed the Republic of Tule in 1925.[70] As a symbolic operator of the media of destruction, the cruiser USS Cleveland was actively involved in the incident taking side with the Kunas by being present near Kuna shores, thus avoiding a possible massacre between the Panamanian police forces and the Kunas. During the tense days of the conflict, U.S. army reconnaissance aircraft paid numerous visits to Kuna territories. Five years later, the Kunas signed a peace treaty

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[70] Tule is a Kuna word that means "the people."

with the Panamanian government, where the government declared Guna Yala an autonomous zone for the Kuna people.[71]

Canalisation par la Colonisation[72]

One-dimensional cultural discourses and imperial histories excluding Indigenous knowledge have continued to exist in the wake of the former European conquistadors. The effort to discredit and marginalize Indigenous knowledge also happened outside the European circles. The Kuna maintained their influential power in the isthmus over the centuries, and the history of the ship Canal was no exception. In the Reports of Explorations and Surveys to Ascertain the Practicability of a Ship-Canal Between the Atlantic and Pacific Oceans, Secretary of the Navy George M. Robeson gave explicit instructions to their explorers:

> I do not consider that I am doubting your prudence when I again suggest the importance of cultivating the kindest feelings with the natives of the Isthmus. On this depends the success of your expedition. These people are known to be much opposed to strangers gaining a correct knowledge of their country; but by a proper display of kindness they may be won over to consent to such explorations and surveys being made as are necessary, and may ultimately be persuaded to co-operate with you. Whatever friendly feeling they may manifest, the history of the past and their doubtful character should induce you to be at all times on your guard and prepared for any contingency. A proper display of force, ever on the alert, may prevent hostilities which would otherwise occur.[73]

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[71] James Howe. "Village Political Organization Among the San Blas Cuna." PhD diss., University of Pennsylvania, 1974.

[72] Athanase Airiau, *Canal Interocéanique Par l'isthme Du Darién, Nouvelle-Grenade Amérique Du Sud, Canalisation Par La Colonisation. Par A. Airiau.* Chez France, 1860.

[73] T. O. Selfridge, *Report[s] of Explorations and Surveys for a Ship-Canal, Isthmus of Darien* (Washington: Govt. Print. Off., 1874), 3. The emphasis in italics are mine.

I have lost count of how often "Indian trails" and "Indians guides" are cited in the U.S. military log reports, connoting Indigenous infrastructures and geographical knowledge as a primary form and source for transportation. However, references to Indigenous peoples, such as the collection of their names and indications of specific individual contributions, are systematically absent in reports.

By 1853, the U.S. government was attracted to the Darién as a strategic trading zone and compelled by a mass migration brought by the Gold Rush hunters; the U.S. Navy sent an unprepared mission to scout the Darién looking for the most workable way for the Canal. The Canal would give California a new commercial route between the West and East Coast. The Californian Gold Rush created economic prosperity for Panama, as migrants preferred to move to the West Coast using the isthmus, even before the Panamanian railroad was finished in 1855. The transcontinental U.S. railroad was only completed by 1869, and I infer that several economic interests were on hand, making the construction of the Canal a U.S. priority. During the same years, two other Canal expeditions by the French and English took place, acknowledging that the Canal had become an international race for gaining infrastructural control of the isthmus.[74] The U.S. Navy mission led by Lieutenant Strain wanted to confirm the Cullen route's feasibility, desired by English, French, and Americans, who wished for lock-free Canal through the Darién. The French were succeeding in Africa with the Suez Canal—in construction at the time—nourishing the idea of imitating the Suez approach in the Darién by connecting without locks the Atlantic with the Pacific Ocean. A lock-free

[74] Peter H. Dana, "Cutting Across," in *Mapping Latin America: A Cartographic Reader*, ed. Jordana Dym and Karl Offen (University of Chicago Press, 2011).

Canal was faster and cheaper to build, certifying an infrastructural superiority to whoever could win this international race. The Americans were closely followed by the English, that wanted to recover some of the presence lost in the Americas after the U.S. independence. However, the French had an infrastructural advantage by having the developer of the Suez Canal on their team.[75]

Based on distorted English cartographical information, the 1853 U.S. Navy expeditionaries got lost in the Darién, experiencing disorientation and hunger. The outcome was the death of more than half of their men by starvation.[76] For Commodore Daniel Ammen, a U.S. chief officer in charge of designing further expeditions to look for the optimal routes in the Darién and its vicinity, the failure of Lieutenant Strain was "the natural result of not providing proper outfit, and carefully husbanding their provisions. No positive knowledge was gained by our expedition, except the necessity that future explorers should be judiciously provisioned and equipped with the means of securing the best instrumental results."[77] Lieutenant Strain, blinded by his maps, imagined an almost flat route in a territory that fluctuates ten times more in altitude than what was shown on maps. The evidence provided by Commodore Ammen acknowledges the lack of scientific rigor of the expeditionaries but also the blind trust and assumption that the map was reliable, a portrait of the *real* Darién. Furthermore, it was an error by the U.S. Navy to rely on information produced by non-U.S. military personnel. Yet, Ammen

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[75] Julie Velásquez Runk, "Creating Wild Darién: Centuries of Darién's Imaginative Geography and its Lasting Effects," *Journal of Latin American Geography* 14, nº. 3 (December 15, 2016).

[76] Todd Balf, *The Darkest Jungle: The True Story Of The Darién Expedition And Americas' Ill-Fated Race To Connect The Seas* (New York: Crown Publishers), 2003.

[77] Daniel Ammen, "Surveys and Reconnoissances from 1870 to 1875 for a Ship Canal across the American Isthmus." *Journal of the American Geographical Society of New York* 8 (1876), 189.

describes the conditions of his surveys in the Darién as "their execution was no holiday work."[78] Commodore Ammen insisted that by following the necessary precautions and under his command while exploring the different possible routes for the ship Canal, "not one officer or man has succumbed to climatic influences."[79]

For Augustín Codazzi—New Granada's prestigious geographer and cartographer who explored the area in 1819 where Strain was lost—it was evident that the lack of preparation was the reason for the disastrous expedition.[80] "The Americans had arrogantly presumed to cross the country without the aid of Kuna guides; they had been ignorant of the forest, unable to identify the appropriate foods to eat or the timber that might have supported their float trip out."[81] British civil engineer Lionel Gisborne was the explorer that produced the map used by Strain. Gisborne drew the map under pressure from Edward Cullen, an Irish entrepreneur hoping to recover his investment by quickly finding an easy route for the canal by which to start transporting Gold Rush travelers.[82] During his 1852 expedition, Gisborne was lost in the Darién and later rescued by the Kuna. Gisborne assumed that he had "passed into the watershed of the Pacific and discovered a valley with an elevation of 40 feet connecting the continental divide with the Savanna River emptying into the Gulf of San Miguel and then to the Pacific."[83]

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[78] Ibid.

[79] Ibid.

[80] Juan José Pérez Rancel, "Canalización para la colonización: la comisión Corográfica y el Canal de Panamá." *Apuntes: Revista de Estudios sobre Patrimonio Cultural - Journal of Cultural Heritage Studies* 23, nº. 2 (December 2010).

[81] Balf, *The Darkest Jungle*.

[82] Dana, "Cutting Across."

[83] Ibid, 136.

Forty Years of experience tracing maps in what today is Colombian and Venezuelan territories substantiated Codazzi's authority. For him, Gisborne's map was a fanciful painting executed in a scheme eager for capital speculation.[84] One year later, in 1853, Codazzi cleared all local doubts with his last expedition, declaring the Darién option not financially viable for the interoceanic connection, given the locking system's cost and the narrow width of the San Juan and Quibdó rivers. The Panama Canal's final drawing coincides with Codazzi's studies after scouting all possible routes from the border with Costa Rica to the Choco region between 1853 and 1854.[85]

After Strain's tragic expedition and inhumane conditions during the Panama railroad's construction, the myth that the Darién was an unhealthy, impenetrable jungle recirculated once more. This myth covered the greedy mistakes of unprepared expeditions and inaccurate cartographies by assigning most of the burden to the *natural* conditions in the Darién. In the case of the railroad, thousands of migrants died while building it due to terrible working conditions, malaria, smallpox, cholera, and other colonial diseases. The Panamanian railroad became a tombstone for thousands attracted by the Gold Rush or fleeing the European famines. The numbers are uncertain as the Panama Railroad Company only kept decease records for white workers, a small fraction of the total operators employed during the years of its construction.[86] Neither the

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[84] Hermann A. Schumacher, Francisco G. Manrique, and Constanza Codazzi de Convers, *Biografía del general Agustín Codazzi*, (San Fernando de Apure: Tipografía Augusta), 1916.

[85] Pérez Rancel, "Canalización para la colonización."

[86] Guido Becerra, Agustín Codazzi, Camilo Domínguez Ossa, Apolinar Figueroa Casas, and Augusto Javier Gómez López, *Obras completas de la Comisión Corográfica: geografía, física y política de la confederación granadina 6,* (Santafé de Bogotá: Fondo José Celestino Mutis, FEN-Colombia), 2002, 72.

scientific misinformation on how to combat the viral-colonial diseases, the greed of the U.S. rail company and the Colombian government, nor Western ignorance surrounding rainforests were recognized as the real causes of such a disastrous nineteenth century.

Communication between the two seas was done routinely by pirates, Indigenous peoples, and other travelers having to cross through the Darién.[87] Two narratives, one on the ground, a walkable space crossed daily by the people in the Darién, and a second one, useful for outsiders' recounts, historical facts based on military reports of the Darién as an inhabitable, savage jungle, an impenetrable, lawless land.

Constructing Diverse Landscapes: Mud as a Writing Substrate for Nature

The most significant false imaginary in the Darién is perhaps its impenetrability. Geographer Carl Sauer agreed in 1966 with the first Spanish impressions of the Darién as a "healthy climate, extensive tracts of farmlands, and smooth plains."[88] "The early Spanish accounts paid attention to the open country and said little about forests or woody second growth (Arcabucos). It would seem that the savannas were not composed of tussocks of bunch grasses or of sod-forming grasses unsuited to the planting of crops, since in general they seem to have been the most populous areas."[89] Sauer explains that we, as humans, are an integral part of the ecosystem. He presented evidence from colonial chronicles of how the inhabitants of the Darién transformed the environment.

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[87] Pérez Rancel, "Canalización para la colonización."

[88] Benjamin R. Howe, "Secrets of the Rain Forest Panama's Trackless Wilderness Yields Evidence of Gold Mining and an Indigenous People Destroyed by Spanish Invaders," *Archaeology 54, nº. 3* (2001).

[89] Carl Ortwin Sauer, *The Early Spanish Main*, (Berkeley: University of California), 1966, 287.

Sauer acknowledges active human intervention in the Darién; there is no natural world without humans and other organisms interacting with space. His cultural geography approach was revolutionary and highly contrasted with the geographical determinism movement of his time. During the twentieth century, environmental or geographical determinism has led to consider tropical forests as blank spots on maps; this approach tends to depreciate human agency in non-Western societies. However, human societies have occupied, utilized, and actively impacted the rainforest over the long term.

Upon arrival, the Spanish witnessed a large population practicing maize agriculture and extensively modifying their environment; difficulties of traveling through the Darién were not present in early Spanish chronicles. The fact that in a matter of a few years, Balboa established and maintained relations with *caciques* on a hundred miles of the interior basin of the isthmus is a testament to the accessibility of these territories at Spanish arrival.[90] But soon after, the Spanish presence radically transformed the Darién. During the first decades of occupation, Spaniards attacked, robbed, burned, hunted down with dogs, and set Indigenous peoples in chains as enslaved people, changing the social landscape and producing a desolated and lost territory.[91] Swiftly, unsupervised Indigenous domains were rendered unhealthy, plagued with sickness and famine when crowds of newcomers invaded, generating a contagion center for malaria and other diseases that spread quickly through the Darién swamps. But even during these initial years, for Gonzalo Fernández de Oviedo, an official who arrived in the Darién in 1514

[90] Carl Ortwin Sauer, *The Early Spanish Main*, (Berkeley: University of California), 1966, 287.
[91] Ibid, 250.

and authored the *Natural History of the West Indies*, it was clear that the overcrowded conditions of Spanish migrants introduced the contagion.[92]

In 1968, based on Sauer's findings, Charles Bennett inferred that due to the catastrophic diminishing, displacing, and capturing of the Indigenous population during the first decades of the sixteenth century, the abandoned land produced ideal conditions for a lowland-tropical forest's rapid growth.[93] Bennett claims that for centuries a considerable number of Indigenous peoples inhabited the Darién before the Spanish; that those Indigenous peoples practiced *slash-and-burn* agriculture;[94] and that the current deep rain forest present nowadays could be the result of four centuries' growth. These prerequisites were hard to accept and imagine for academics at the end of the 1960s, and consequently, archaeological exploration in the Darién was scant. However, innovative research on microfossils in the last decades has proved that the Darién, with its condition of a lowland tropical forest, was a significant center of domestication and a locus where ancient agriculture originated.

Dolores Piperno, an archaeologist who centers her research on human ecology, has studied phytoliths and microscopic evidence in Mexico, Panama, and the Amazon basin, looking for microfossils to understand plant usages and human interaction over millennia. By examining maize growth, Piperno explores the prehistoric forest and plant domestication past through data obtained in microfossil evidence trapped in ancient

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[92] Gonzalo Fernández de Oviedo y Valdés, and Sterling A. Stoudemire. *Natural History of the West Indies* (Chapel Hill), 1959.

[93] Howe, "Secrets of the Rain Forest."

[94] Slash-and-burn is a cultivation method where clearings are cut and the vegetation burned before planting new ones.

mud. Pre-Columbian cultures altered the environment through fire domestication, clearing vegetation, and road construction. In the tropics, plants decay at such a speed that any fossilized research on the soil is futile. Her innovative approach looks for different kinds of plant fossils—minute inclusions of minerals inside plants called phytoliths—to formulate an environmental history in the Darién.

Piperno and Mark Bush initiated the Darién's first palaeoecological research in 1988.[95] In 1994, Piperno's research proved Bennett and Sauer's ideas of old slash-and-burn practices in the Darién. As mud is a writing substrate for nature, by obtaining sediment samples from swamps near the Cana gold mine and lake Wodehouse, her work concluded that a significant human activity existed in the Darién for over eleven thousand years. It is also noteworthy that her study asserted that maize cultivation spans over four millennia. The research confirmed Bennett's theory of the effects of Spanish activities in the Darién by showing that landscape intervention ceased by the beginning of the sixteenth century, opening up forest regeneration. Her groundbreaking phytolith data suggest uninterrupted agricultural activities maintained over millennia resulted in a considerable forest alteration.[96] During the active cultivation period, the absence of *Chusquea Simpliciflora*—a type of bamboo that depends on plentiful shade trees to survive—was crucial evidence of the landscape's alteration. Without a prehistoric agriculture analysis, the age of the Darién forest was unclear. In Piperno's words, this

[95] Dolores R. Piperno, "Phytolith and Charcoal Evidence for Prehistoric Slash-and-Burn Agriculture in the Darién Rain Forest of Panama," *The Holocene* 4, nº. 3,(1994).

[96] Ibid, 321.

enlightened historical analysis supports the postulate of the Darién "as an artificial product of human intervention and subsequent abandonment."[97]

The strong image of a desolated yet impenetrable Darién has delayed archaeological studies in the area. Until the 1990s, studies were limited to artifacts recovered from easily accessible locations. "There was a belief in a part of the scholarly community that tropical forests were unfavorable environments for cultural advances, including the development of agricultural systems."[98] The issue of not conducting or funding archaeological research in deep forests is a rounded problem born of prejudice that assumes the lack of historical human presence in dense forests. This faulty assumption is still present in scholarly imaginaries. For Piperno, the idea of the "noble savage" as the "original conservationist" is a false trope that is derived from the equally wrong description of the Darién as a "no man's land." The theory that there is little change to pristine forests over vast periods—because the Indigenous 'child of nature' refuses to act—presumes that Indigenous peoples could not interfere or eventually destroy the natural vegetation. [99]

Even though this sounds contradictory and ironic, the deep forest still present in the Darién of the twenty-first century is a direct consequence of Spanish violence; the actual forest is a byproduct of Indigenous depopulation and prehistoric agriculture compost. Indigenous peoples and their agriculture ceased to exist predominantly in the Darién as a

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[97] Ibid, 324.

[98] Tinsley H. Davis, "Profile of Dolores R. Piperno," *Proceedings of the National Academy of Sciences of the United States of America* 104, nº. 29 (July 17, 2007), 11872.

[99] Ibid.

cause of the European influence upon arrival. "These phytolith and charcoal data also are evidence that the pre-Colombian inhabitants of the Darién forest were hardly its conservators."[100] Indigenous peoples were the Darién forest's custodians, but not in a classic sense of preservation without intervention. Indeed, Kuna's predecessors shaped a particular landscape for almost four thousand years. Their maize-oriented life, repeated fires, and vegetation removal substantially altered the primary forest as part of their quest to sustain their livelihood. Yet, Indigenous peoples preserved tropical ecosystems in a dormant state and maintained the conditions centuries after for the regeneration of a rich deep rain forest. A critical environmental conclusion is that rainforest "can apparently survive human disturbance, when it involves a kind like that achieved by the protracted use of stone tools and fires, which does not result in wholesale removal and extinction of species."[101] A dormant lowland forest altered on a narrow intervention scale for forty centuries recovered in less than four because Indigenous interference preserved a rich, diverse fauna and flora.

Infrastructures as an Expanded Relation Between Nature and Culture

> Lionel Wafer found the Caribbean coast wholly forest-covered in 1681, except for some cleared and planted ground at Portobelo, which had replaced Nombre de Dios in 1584. The site of Nombre de Dios was overgrown with wild canes, the only indication that there had been a town. The islands to its west that Columbus had named Bastimentos for their abundance of food were found by Wafer to be dense forest.

[100] Piperno, "Phytolith and Charcoal Evidence," 324.

[101] Ibid.

> The Bayano basin was forest as far west as Chepo, beyond which there were savannas interspersed with fine groves.
>
> Carl Sauer,
> The Early Spanish Main (1966).

In the developed world, understanding infrastructures as disconnected from meaningful human intervention renders unfamiliar the notion of infrastructures as socially active. Infrastructures made by humans would not operate without them; they cannot self-update nor self-maintain. Automobile-dependent users in metropolitan centers could see traffic jams as a result of inadequate roads or lack of extra lanes rather than questioning their complex social behavior while using them; when traffic jams or power blackouts occur, human error is the leading cause of technological failure. Yet, this failure is not explained because of a profound social construction, undisputed automobile dependency, and unquestioned expectations of those infrastructures.

In a multigenerational effort lasting from around 2000 BC until the end of the fifteenth century, Indigenous peoples shaped a precise landscape in the Darién; savannas of large extension, smooth lands without thickets (arcabucos) capable of riding by horse in all seasons with a healthy climate.[102] "Balboa had his first view of that sea from the treeless ridge adjacent to the Gulf of San Miguel, a ridge that raises about two hundred meters above the estuarine and alluvial lowland. Such ridges, present in number to the east of that gulf, are *structural features*, now forest covered."[103] The healthy Darién enclosed the needs of a population of nearly a million inhabitants on a territory of over

[102] Carl Ortwin Sauer. *The Early Spanish Main*. Berkeley: University of California, 1966, 285.
[103] Ibid. Italics are mine.

40,000 square kilometers.[104] This significant domestication of the Darién—for lack of a better word—created a territory holding a vast number of residents that built unique cultures around this place of transit. These Indigenous inhabitants built a particular ever-evolving infrastructure that served their own needs and provided a bridge between Central and South America. Yet, the forced displacement and slaughter of Indigenous peoples by the first wave of conquistadors truncated collective sustaining processes and ultimately extinguished this pre-Columbian infrastructure.[105] Although earliest colonial accounts indicate that the Darién was constantly harvested, burned, and maintained by Indigenous peoples, conquistadors were too blind to identify an already established network of transportation and trade in the Darién. By eagerly trying to find the shortest path to the Pacific Ocean, they pruned the infrastructure and the culture that maintained preexisting paths already making this connection.

Edwards defines to be modern as "to live within and by means of infrastructures," where infrastructures serve as artificial environments, offering properties not possible by natural environments. He continues: "infrastructures constitute an artificial environment, channeling and/or reproducing properties of the natural environment which we find most useful and comfortable, providing others which the natural environment cannot, and eliminating features we find dangerous, uncomfortable, or merely inconvenient."[106] Even though Edwards acknowledges significant infrastructural differences between the north and the global south, I have distanced myself from this binary conception of

[104] Howe, "Secrets of the Rain Forest;" Piperno, *Phytolith and Charcoal Evidence.*
[105] Edwards, "Infrastructure and Modernity," 188.
[106] Ibid.

artificial versus natural environment, as in my analysis of infrastructure, nature is not its precondition but is the infrastructure itself; it becomes infrastructure as Indigenous practices activate it. The Inca road is an example that precedes the idea of *infrastructure and modernity*.[107] Nature in the Darién was adapted, modulated, and constructed; Indigenous peoples collaborated with nature shaping it to a particular state that in many ways matches the function of modern infrastructures.

The urban-modern notion of having unlimited access and uninterrupted flow of resources like water, electricity, paper, and communication systems, create for individuals an apparent disconnection with finite resources on which these infrastructures depend. Using Edwards' words, "they also structure nature as resource, fuel or 'raw material,' which must be shaped and processed by technological means to satisfy human ends."[108] However, different notions of infrastructures are possible, adapting in their systems cycles of inactivity, intermittent functionality, and leapfrogging approaches as part of their regular operation. Kuna's ancestors in Darien nurture an ecological equilibrium between non-anthropocentric humanism, other ways of life, and their environment. Since the conquest, Indigenous people in the Darién wanted to dismantle unilateral views that considered nature an object for exploitation; their infrastructures integrate nature not as a raw material but as an active agent of vital knowledge.

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[107] The Inca road as an infrastructural achievement has been undervalued by Western thinking as it was produced outside the colonial-modern model world system. In my research, I did not find a single mention on the PAH archive in the OAS library about the Inca road.

[108] Edwards, "Infrastructure and Modernity," 188.

The Darién is a space of "complex relations between operators, systems, natural conditions, and social expectations."[109] Indigenous people's self-reflexivity while interacting with the landscape produces a particular knowledge embedded in Andean culture and cosmology. Indigenous Andean peoples consider elements in the landscape as active participants; a mine is not a passive object for extraction but an actor that works jointly with miners. "Entification, hylozoism and perspectivism are corresponding cosmicentric concepts that define the sensory character of non-western, Indigenous philosophies around the world."[110] For Andean miners, there is no separation between the mine, the animal, and the human; when an accident happens, it is explained as a disruption that destabilizes the relation human-nature. Many infrastructures are an augmentation of natural forces as they operate as "amplifications of natural energies, beyond what unaided human beings or animals could achieve."[111] I propose that the pre-Columbian Darién was a mega-infrastructure embedded in nature, a technology carrying the weight of an Indigenous mode of seeing, being in nature, and bearing Indigenous worldviews and values. Technologies are products of situated knowledge that in the Darién were marginalized and partially destroyed by conquistadors. In this case, it is logical to presume that their infrastructures and technologies were also neglected with the disvaluing of their Indigenous knowledge.

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[109] Ibid, 190.

[110] Guillermo Delgado-P, "Andean Entifications," in *Contemporary Voices from Anima Mundi A Reappraisal*, ed. Frédérique Apffel-Marglin and Stefano Varese, (Peter Lang 2020), 2.

[111] Edwards, "Infrastructure and Modernity."

Intermezzo:

About the construction of 6th-grade classrooms and

an earthquake in Unguía.

In 2002, Kunas in Arquía built the elementary classrooms with funds from an anonymous Swiss donor. Independent builders constructed six classrooms in a straight row, with cement floors, brick walls, welded doors and windows with metallic fences but no glass, and installed foundations for the roof at a slope of around 18.5º. Without the palm frond roofs, classrooms were replicas of the standard ones in Unguía. Palm frond roofs provide total impermeabilization for approximately eight years using a 45º slope. But with this lower slope, the palm frond roofs failed sooner than expected, and they decided to fix it by installing fiber cement roofs. This solution increased the internal temperature in the classrooms on sunny days and created high noise levels on rainy days. I was told that elders perceived the Western elementary classrooms as jails for their children, which contrasted enormously with Kuna Indigenous modes of teaching while walking and doing other activities in their territory.

The 6th-grade classrooms were built without external funding and using local materials in 2014. They made the roof using palm fronds and applied a traditional slope using collaborative methods that included the children's active participation. They installed wooden walls and left pronounced gaps between walls and ceilings that permit plenty of natural light and excellent natural ventilation without the need for windows, as is a standard design in their houses. Not using doors, fences, or windows in the classrooms gave me that open-space sensation I experienced in their traditional constructions. Adobe floors replaced the cement floors. The 6th-grade classrooms were

an 'in-between' design of two cultures, in which they applied their building techniques to a Western notion of a classroom. Western chairs, chalkboards, and desks are still maintained in this new design, but the classroom space significantly improved compared to the old version. At that time, the school needed to hire foreign professors as, based on the guidelines of the Ministry of Education, Kuna teachers did not have enough formal qualifications to teach their children. During a field trip in August 2015, I experienced an earthquake at the school. Children were running, trying to escape from the old cement-based classrooms as fast as possible. To my surprise, some children in the newest classrooms were calmly going out, while others stayed in, less afraid of the light structure that covered them—and probably helped to build—and more curious to see the children running away from the older construction.

Chapter 3: Indigenous Infrastructuralism and Indigenous Knowledge

> Baba thus created this earth. Baba thus created Abiayala, Burganyala. (...) The earth opened its flowers. Baba created everything. Nana created everything. Many types of corn begin to sprout, such as of plantain, cassava, Otoe, and sweet potato. Everything growth. (...) The greenery enveloped mother earths' face. The wind blew very gently, and the clouds moved. The sea stirred the fins of the fish among the rocks. The sun, the moon, and the stars populated the sky. Everything was clear and dazzling.[1]

This Kuna passage or oral history is an example of Kuna past as something active and not set in stone as perhaps the conquistadors understood history.[2] While recounting new and old stories, people arrive and depart at different times; the start and end point of a recount gets blurred in the continuum of stories that get assembled one after the other; they could participate and add to the recount and leave for others to continue. Yet, they are all part of the communal experience. For Kuna indigenous modes of knowledge, history is not static; participants could actualize it with every retelling. They listen to the variations and additions, and by incorporating or not those variations into the main narrative, they actualize the recount. The plantains recount could be an example of how the Kuna people update their past, as plantain was brought to America by the conquistadors and appear in the passage as a constituent element of the beginning

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[1] Aiban Wagua, *En defensa de la vida y su armonía*. 2nd ed. (Proyecto EBI Guna, Fondo Mixto Hispano Panameño 2011), 21.

[2] Similar to the concept of Kuna past, for the Aymara people the word "past" is the same as the word for "eye." The eye looks to the past and brings the past to the present. There is no present without the past, as the past is always *looking*.

of Kuna times. At some point in their history, the presence of plantain became part of their foundation being and was incorporated since then by the Saglagan—the authorities that remember, teach and sing their chants.[3] Rethinking the Kuna past is a conscious exercise of continuity; "history is an additive process, building upon what has gone before in a kind of consciously constructive continuity."[4] It seems like plantain was always there, yet it is an ontological reorganization of the past by new knowledge.

A plurality of flows traverses knowledge in the Darién. Clifford Geertz defines local knowledge as the production of reliably local subjects and local neighborhoods.[5] While Geertz's definition helps to understand how Kuna societies are recognized and organized in their territory, I want to consider the colonial forces and external interests that forced Kuna people to adopt new practices to survive as a constituent of local knowledge. To what level is it fundamental to negotiate with external actors for cultural survival on a specific territory? For the Indigenous Cuevas, the First Contact and the inability to adapt extinguished their local knowledge and their sense of unity as a cohesive group; as a result, it is said that the Spanish exterminated the Cuevas by 1535.[6]

As an untamed territory removed from former European colonial rule, outside the political limits imposed by the nineteenth-century political divisions between Colombia and Panama, the people in the Darién are trapped between two states and are considered

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[3] Aiban Wagua, *En defensa de la vida y su armonía*, 10.

[4] Doxtator, "Inclusive and Exclusive Perceptions of Difference," 39.

[5] Appadurai, *Modernity at Large,* 181.

[6] Kathleen Romoli, *Los de la lengua de cueva: los grupos indígenas del istmo oriental en la época de la conquista española*, (Instituto Colombiano de Antropología, 1987).

foreigners by both countries.[7] At the end of the nineteenth century and during the twentieth century, Kunas have lost around 8,000 hectares as local and national governments have allowed illegal appropriations of their territories. Official statistics from 2022 state that 2,400 hectares are the actual extension of the Kuna reservation of Arquía.[8] According to Kuna's internal recounts from 1880 to 1935, sugar cane companies, Tagua exploitation, and measles epidemics were the main factors in the displacement of Kuna people and further loss of territories. The land where Unguía is located belonged to the Kuna territories but was lost because of illegal settlement after the national government allowed gold exploitation in 1940. The Kuna people's ongoing reclamation of lost territories created a sense of mobile sovereignty; in Appadurai's words, a type of sovereignty without territoriality.[9] In the Darién, local processes and large-scale interactions were promoted by colonial geographic interests and the apparent lack of cultural barriers as perceived by outsiders.

Geography scholars developed the concept of *translocality* to capture the interconnectedness and processes in and between different localities, even the remote places, as they are similarly affected by global dynamics.[10] What happened with the

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[7] In Darién, the national government has moved Kuna's territorial boundaries in multiple occasions, with the pretext of benefiting national interest. See Arjun Appadurai, *Modernity at Large: Cultural Dimensions of Globalization* (Minneapolis, Minnesota: University of Minnesota Press, 1996), 179.

[8] Report Comisión de la verdad: Maps: 2. Corridors of the armed conflict on ethnic territories. https://mapas.comisiondelaverdad.co/portal/apps/mapviewer/index.html?webmap=52faa54175bf446f82ca4c8938e74883

[9] Somewhat symbolically, this non-complying status is recognized under Colombian-Panamanian treaties, as Kunas do not need passports to cross the national borders imposed by a globalized world. Kunas consider nations an imagined construction, echoing Benedict Anderson's definition of the nation as a subconscious exercise of abstraction.

[10] The idea of locality is an insufficient descriptor for the lived experience of place because it does not reflect the relationships of a given space to a globalized world. Translocality, or that dual state of being local and global, does not mean being in different places but rather being acknowledged as a social unit

plantain in the Darién is a translocal relation, where the stapled food of Southeast Asian origin becomes a constituent and foundation element of the Kuna culture. In spatial analyses from geography and migration studies the concept of translocality is used to incorporate the dynamics, interrelation, and forms of exchange between multiple places and people. The Darién's landscape is shaped by "the historical, linguistic, and political situatedness of different sorts of actors: nation-states, multinationals, diasporic communities as well as subnational groupings and movements."[11] The Darién—as a place of intense migration flows, diverse social migrants, and an infrastructural place of reference—creates specific preconditions for translocal relations.

For instance, in the 1980s and derived from the proximity of Panama City as a worldwide distribution hub for electronic equipment, it was common for Kunas to have portable audio recorders. Kuna people produced recordings that served as spoken letters, following the style of a face-to-face conversation; travelers would go back and forth between their communities carrying the audio cassettes. The audio technology was adapted and reinforced by the traditional forms of communication between Kunas.[12] Since the first decade of this century, and given that paramilitary groups expropriated traditional Kuna trails in Colombia connecting Arquía, by foot, with the communities in Panamá, Kuna people have experienced a disconnection from their sister communities.[13]

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in a volatile state; in Darién, it could be interpreted as an opportunity for multi-territorialized connections.

[11] Meenakshi Gigi Durham and Douglas Kellner, eds. *Media and Cultural Studies Keywords* (Oxford; Malden; Carlton: Blackwell Publishing, 2006), 589.

[12] Joel Sherzer, *Kuna Ways of Speaking: An Ethnographic Perspective* (Austin: University of Texas Press, 1983), 230.

[13] In 2003, Paramilitaries killed leaders in two Kuna settlements after informing them of the particularities of these routes. Since then, these armed groups have denied Kuna people access to their

Earlier adoptions of digital technologies allowed Kuna people to send audio messages transferred via Bluetooth protocols to reconnect with friends and families. A person traveling to Panama or Arquía served as a physical messenger for digital audio correspondence. Sharing Kuna music using Bluetooth is also a common cultural exchange, even before the existence of touch screens or smartphones [14]

In *Modernity at Large: Cultural Dimensions of Globalization*, post-colonial theorist arjun Appadurai refers to the global/local movement of technologies across wide-ranging boundaries as a 'Technoscape.' He uses this concept to analyze the flow of high and low technologies, both mechanical and informational—recognizing these flows as perspectival constructs that vary radically, depending on the vision of a given actor. The Darién is a technoscape in this sense—if such expression could be permitted. For centuries non-Indigenous people have wanted efficient modes to cross the impervious boundaries in the Darién. An information-scape evolved when contracting Kuna sailors by European nations other than the Spanish empire caused an unusual distribution of technologies. The search for the canal promoted the construction of the railroad and the highway; the Darién was increasingly driven by complex commercial flows of several extractive interests of European countries in its territory, thus triggering the interest of political control and access to crucial knowledge through highly skilled Indigenous labor.

In the twenty-first century, not only do Indigenous peoples inhabit these translocal networks, but displaced people and immigrants in the Darién also activate them by

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trails. Traveling using commercial boats through the Caribbean Sea is the only way to visit Panamanian-based Kuna communities for Kunas.

[14] Kuna people in Arquía circumvented the issue of sending audio messages to family and friends in Panamá by transferring files via Bluetooth.

fluctuating under processes occurring from local to global scales. Arabic, French, Spanish, Portuguese, and English are the *Lingua francas* adopted in the Darién to communicate with people from Africa, the Middle East, Asia, and the Caribbean islands of Cuba and Haiti. The global currency is the U.S. dollar, and it is used to fund human smugglers and pays for the innumerable needs migrants have in their journey on a parallel economy that can be ten times more expensive than the local economies of non-migrant dwellers. For centuries including the current one, people have found ways to exploit the strategic location of the Darién, seen from a global perspective as a Colonial or First World reservoir.

About Separations and Apparent Incompatibilities

At First Contact, the influx of influences was not only happening for Indigenous communities; Europeans in the Americas were also pushed to re-interpret themselves after clashing with the New World. While encountering that unrecognizable other, Europeans questioned their self-image of a complete and perfect society, yet they took this analytical position with some trade-offs in America. At the point of first contact the two worlds (Europeans and Indigenous) may have been "equally ignorant of each other," but to what level was it beneficial for Europeans to maintain the appearance of *mutual ignorance* past this initial period of cohabitation?[15]

The Darién was not only a space for European operations during the initial colonial period but a complex space for encounters responding to this inflow of external and

[15] Carolyn Podruchny and Germaine Warkentin, *Decentring the Renaissance Canada and Europe in Multidisciplinary Perspective 1500-1700*, (Toronto: University of Toronto Press), 2001, XXI.

internal negotiations, cooperations, and clashes present from day one. For example, in early 1615, Fernandez de Oviedo mentioned how the Cuevas were expert herbalists and hid their botanical knowledge from the Spanish.[16] Europeans found it beneficial to appropriate and obliterate Indigenous knowledge. Yet, informally admitting that the colonial process was unattainable without Indigenous people's active presence and knowledge. The interactions of Europeans with Indigenous peoples in the Americas were invisible to Europe. Conquistadors understood but did not publicly recognize the impossibility of survival and implementation of colonial needs, interests, and ideas without the active input of Native peoples. This invisibility of Indigenous knowledge was the initial tacit agreement for a sustained inequality between Europeans and Indigenous peoples.

The desire of the Europeans to maintain a separation of knowledge between them and the Indigenous peoples was influenced by the European Renaissance, which created a system of exclusion based on Christianism and Capitalism.[17] Using this ideological division, Europeans discarded Indigenous civilization and proceeded with the occupation of the New World. Europeans believed Indigenous governments and ideologies were incompatible with the European political and economic systems; consequently, promoting Christianity was instrumental in converting Indigenous peoples to European religions, languages, and cultures.

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[16] Kathleen Romoli, *Los de la lengua de cueva: los grupos indígenas del istmo oriental en la época de la conquista española*. Instituto Colombiano de Antropología, 1987.

[17] Deborah Doxtator, "Inclusive and Exclusive Perceptions of Difference: Native and Euro Based Concepts of Time, History, Change," in *Decentring the Renaissance: Canada and Europe in Multidisciplinary Perspective, 1500– 1700*, eds. Carolyn Podruchny and Germaine Warkentin (Toronto: University of Toronto Press), 2001.

In appearance, these separations were compelling excuses for obliterating Indigenous knowledge. For example, the Indigenous conceptualization of history does not follow a pattern of chronological sequences where events are strictly connected in a set chronology. Doxtator maintains that the division between myth and history "is part of a process of compartmentalization that is unnecessary in Indigenous thought."[18] An European argument for this separation was the statement that Indigenous peoples have myths but not history. While comparing ways of conceptualizing the past, Europeans discarded Indigenous history as mere superstition. For them, pre-literate cultures were incompatible with this idea of historical consciousness.[19]

The Indigenous concept of history does not provide a clear division between past and present, yet the European perspective of history demands a clear distinction between the two. This prerequisite for Western thought helped to legitimize change—the transformations that Europeans were there to impose. Imperial history "is the geophysical predispositions of the masterful European peoples which predestine them to custodianship and conquest, and the geophysical predisposition of the natives which necessitates their subordination."[20]Negating the histories of Indigenous territories converted them into unchartered lands, allowing Europeans to start a complex process of simultaneously writing/erasing the history and geography of this new territory.

[18] Ibid, 35.

[19] Ibid, 35.

[20] Russell West-Pavlov, *Space in Theory: Kristeva, Foucault, Deleuze* (Amsterdam; New York, NY: Rodopi, 2009), 162.

Conquistadors learned enough of Indigenous protocols and rhetoric to communicate their colonial needs efficiently. Balboa and Champlain's experiences prove that Europeans and Indigenous peoples successfully shared ideas and concepts across cultures, and these experiences questioned the supposed incompatibility of knowledges. Yet, imperial history erased the Indigenous role as it was not beneficial for their unidimensional cultural discourse. Conquistadors did not want to incorporate the Indigenous past into their American history, preferring to start at ground zero for their empire.

Of Dreams, Natures, and Mimetic Capacity

Colonizers perceived Indigenous peoples as nature, and what they produced, their knowledge was further recognized as nature. Conquistadors blended Indigenous knowledge with the Darién landscape—a process of infrastructure concealment[21]. But Indigenous infrastructures surrounded conquistadors. Botanical knowledge, biological diversity, genetic variation research, and Traditional Ecological Knowledge (TEK) were all components of Indigenous bio-infrastructures that conquistadors overlooked as first nature.

Animism is the view of Indigenous people in the Darién who acknowledge that non-human agents have inwardness, a subjective capacity, that actively participate in the same space as humans. This condition renders a different notion of nature than the one called

[21] Concealment of infrastructures inhibits opportunities for technological literacy and prevents individuals from recognizing and inquiring about the material extensions they are in front of or surrounded by. See Lisa Parks, "Technostruggles and the Satellite Dish: A Populist Approach to Infrastructure." In Cultural Technologies (Routledge, 2012), 66.

naturalism by Philippe Descola and developed in the interaction between Europe and America during the seventeenth century in the colonial/modern period.[22]

To establish possible bridges between the different thresholds that united and separated nature and culture, I present a dialogue between naturalism and animism using the concepts of first, second, and third nature that McKenzie Wark developed while reflecting on the intersection of media and geography. Cultural Anthropologists, such as David McDermott Hughes, define *first nature* as the pristine, prehuman environment and *second nature* as the environment transformed by people and molded by various anthropogenic factors. Conquistadors regarded Indigenous developments as a component of *first nature*. During the European conquest and invasion, colonizers considered nature open to intervention for their material well-being; nature was the space for intensified human land use and, in general, human domination.[23]

The definition of *second nature*, "to create a more hospitable terrain through human labor,"[24] matches Edwards' description of infrastructure, "to construct infrastructures is simultaneously to construct a particular kind of nature, a Nature as Other to society and technology."[25] In many ways, Indigenous peoples were also shaping nature. However, for Indigenous peoples, nature is profoundly historical; nature is social; nature is not a commodity but a co-evolutionary partner.

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[22] Apffel-Marglin, Frédérique, and Stefano Varese. *Contemporary Voices from Anima Mundi A Reappraisal*, 2020.

[23] John F. Richards, *The Unending Frontier: An Environmental History of the Early Modern World* (Berkeley: University of California Press, 2003).

[24] McKenzie Wark, "Third Nature," *Cultural Studies* 8, nº. 1 (January 1, 1994): 124.

[25] Paul N. Edwards, "Infrastructure and Modernity: Force, Time and Social Organization in the History of Sociotechnical Systems." In *Modernity and Technology*, ed. Thomas J. Misa, Philip Brey, and Andrew Feenberg. (Cambridge, Mass: MIT Press, 2003), 189.

McKenzie Wark defines second nature as something constructed and reconstructed in the social terrain, a transformation of nature by socialized labor.[26] In Wark's media theory, *third nature* is a possible mirror world, a simulation that does not refer to observable factors but the potential, imagined transformation of the territory. I am using Wark's definition of *third nature* to locate indigeneity efforts in the Darién. By referring to a third nature, I want to signal the intricate implications of what I have understood about knowledge, infrastructures, and media from a multifaceted comprehension of nature. This third nature allows me to rethink the problematic interactions and unresolved contradictions of first and second nature; third nature is "neither natural nor architectural;" it is a shared space where the difference between *first* and *second nature* is surmounted as a network of information.[27] Third nature is the potentiality of change, a dialogue between Indigenous peoples and nature as social entities.

Kuna culture and knowledge originated from a society in close contact with the Darién rainforest.[28] Their language captures Kuna space and temporality; It is a language developed in the Darién to be used in the Darién. Kuna people can read the landscape as biogeography, gain sustenance from the earth, live in mountainous and forested regions, and be guided and lead others by reading marks they recognize in their space. A strong sense of autonomy within Indigenous communities results from the faculty to read the natural infrastructure and the information network of a third nature. Nature is "the

[26] McKenzie Wark, "Third Nature," *Cultural Studies* 8, nº. 1 (January 1, 1994): 124.

[27] Ibid, 124.

[28] Federico Luisetti, John Pickles, and Wilson Kaiser, *The Anomie of the Earth Philosophy, Politics, and Autonomy in Europe and the Americas* (Durham: Duke University Press, 2015), 205.

ultimate infrastructure."[29] The importance of autonomy is crucial to cultural survival, as this resourcefulness has proved to be a successful model for maintaining independence from external powers.

In his book, devoted to the Kuna's mimetic faculties, Michael Taussig explains the reciprocal relationship between nature and culture. "Nothing less could satisfy the claims of the mimetic faculty to be the nature that culture uses to create second nature;"[30] the faculty to copy and imitate, to make models and examine difference is to create second nature. Taussig refers to this bi-directional relation as the process of "historicizing nature" and "naturalizing history." This reciprocity could also explain why the mimetic faculties require a second nature to operate upon it, as mimesis cannot be outside history.[31]

For Taussig, "mimesis chaotically jostles for elbow room in this force field of necessary contradiction and illusion, providing the glimpse of the opportunity to dismantle that second nature and reconstruct other worlds."[32] I am adding this notion of a third nature to Taussig's idea of mimesis, as it is implicit in his arguments. Mimesis imagines or operates over second nature by projecting possible versions of other worlds. Taussig describes the mimesis and alterity phenomenon as a paradox; while referring to the Kunas, he wrote: "[capable of] absorbing the outside and changing world to stay the

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[29] Edwards, "Infrastructure and Modernity," 193.

[30] Michael T. Taussig, *Mimesis and Alterity: A Particular History of the Senses* (New York: Routledge, 1993), 251.

[31] Taussig refers to Kuna colonial history as mimesis is a crucial component of exercising Euro-American colonialism.

[32] Taussig, *Mimesis and Alterity*, 70.

same. The Indians were deeply conservative, he said, but very susceptible to novelty."[33] That mimetic faculty is the fluctuation between essence and appearance. Yet appearance is not to be read as a naive position but rather a concept that can acquire density and substance; appearance should be read as a simulacrum, as that third nature that copies and mirrors the world.

In his observations of Kuna's speech, ethno-linguist Joel Sherzer refers to this mimetic capacity. "The Kuna ability to adapt should not be confused with acculturation. It is a constant, traditional feature of Kuna social and cultural life to transform the new into the old, incorporating rather than rejecting."[34] Kuna people adapt, copy, and creatively perform an act of impression, of keep-up appearance, through the faculty of mimesis and alterity. The deceptive character of Kunas, as previously described by the Secretary of the Navy, is the mimetic faculty as an ultimate form of cultural survival.[35]

Perhaps this doubtful state could explain the solid gendered division between Kuna men and women. The marks of tradition appear to be over Kuna women; alterity pretends to be on their men. The Kuna women wear their mola blouses, nose-rings, and bead decorations; their men mostly wear blue jeans and t-shirts since at least a century ago. In the presence of foreigners, their women do not talk in languages other than Kuna; the men speak foreign languages. Similar to the custom of men adopting Western names due to external partnership—Kuna women do not seem to need to change their

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[33] Ibid, 131.

[34] Joel Sherzer, *Kuna Ways of Speaking: An Ethnographic Perspective* (Austin: University of Texas Press, 1983), 231.

[35] T. O. Selfridge, *Report[s] of Explorations and Surveys for a Ship-Canal, Isthmus of Darien* (Washington: Govt. Print. Off., 1874), 3.

names—Kuna men appropriate the Western through their dreams. During the extensive Swedish ethnographic collaboration with Kuna ethnographer Rubén Pérez, Erland Nordenskiold wrote:[36]

> The Indian is rich and the white man poor. Everything which the white man now has, such as steamboats, automobiles, and trains, will belong in the other world to the Indians. Many of the souls of these objects already exist there. If a Cuna Indian can go aboard one of the ships which pass through the Panama Canal, then this ship will belong to him in the next world. Pérez used to say jokingly that in the kingdom of the dead the Gothenburg Museum would belong to him.[37]

In Arquía, it is common to hear helicopters transporting counterinsurgency soldiers to the borders between Colombia and Panama.[38] These overflights are a source of great anxiety and curiosity, as children run chasing the machines while flying over Kuna territories. Through a Kuna girl's repetitive nightmares about these helicopters, I understood the power of dreams and *mola*—the traditional Kuna blouse—as a form of cultural assimilation. The *mola* is a textile art based on a multilayer-appliqué technique used to draw complex shapes on blouses. It is an iconic form of expression for Kuna women. For this girl, perturbed in her dreams by the helicopter's presence, the solution was to draw the aircraft in one of her mola blouses. After this empathetic act of creation,

[36] From the 1920s to the 1940s, The Göteborgs Etnografiska Museum extensive researched the Kuna language and culture, covering several publications.

[37] Erland Nordenskiold and Rubén Pérez Kantule, "An Historical and Ethnographic Study of the Cuna Indians," in *Comparative Ethnological Studies* 10 ed. Henry Wassen (Goteborg, Sweden: Goteborgs Museum, 1938), 291.

[38] The U.S. Southern Command used the Panama forests to train counterinsurgency soldiers to fight in Vietnam.

her nightmares disappeared.[39] Don Jesus, a Kuna former chief of Arquía, described how the molas emerged recently in the twentieth century. He said someone found a Western cloth of a woman on the shore, and their women inspired by it, started designing blouses using the traditional drawings for their body painting but now transferred to their textiles. Kuna women figured out a solution to use multiple colors and drawings employing the hand-based appliqué technique, a clever solution to unravel the need for textile equipment to produce Western cloth.[40] The designs that go over the molas and the molas themselves are reworked objects that operate between appropriation and cultural inspiration; an appropriation of something new into something old—as the molas represent in such a powerful way of being Kuna—tradition, conflict, change, and adaptation.

In my search to understand why Kuna children walked to the nearest Western school, I became aware of a multiscale educational and cultural pattern where Kuna people incorporate foreign systems by travel and exchange. As Wendy Chun uses the expression "updating to remain (close to) the same," Kuna people rely on long-distance exchange networks—as seen with Edinson and his experience studying in a Western school.[41] Kuna children and adults learned customs, cultural, and governmental systems

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[39] Maurizio Alí, *En estado de sitio: los kunas en Urabá: Vida cotidiana de una comunidad indígena en zona de conflicto* (Universidad de Los Andes, Bogotá, Colombia: Uniandes , 2010), 97.

[40] Ibid.

[41] Wendy Hui Kyong Chun, *Updating to Remain the Same Habitual New Media*. Cambridge, Mass.: MIT Press, 2017.

from Colombia, Panamá, and the U.S. in what Helms defines as the influence and exchange between Kuna people and "Western European-derived cultures."[42]

Achievement of wisdom in contemporary Kuna society requires extended preparation over the years. Frequent travels of elite individuals going back and forth from eastern Panama to northwestern Colombia seeking training in traditional medical, historical, linguistic, and governmental systems are expected practices documented by Wassen, Perez Kantule, and Romoli during the twentieth century.[43] Granular interactions that seem disconnected—a Kuna child going to a Western school, an apprentice traveling between Kuna communities in Panama and Colombia, and a Kuna sailor navigating the intricate waterways of the Kuna's Atrato river are constituents of a significant regional network of influence; these exchanges are forms of communication and information flow.

Update to remain close to the same, resumes the forever process of actualization in new media. On the bleeding edge of obsolescence, the responses to discern the *new* in media fall into the rapid cycling of a manic-depressive scale.[44] For Kunas, this forever process of actualization ensures cultural survival. Helms explains the open nature of Kuna education's models of "exploring the ways of foreigners." Kuna people travel and study with others; later, they return to their communities to apply and teach what they have learned. The Kuna Indigenous use of media proposes the upkeep of networks at

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[42] Mary W. Helms, *Ancient Panama: Chiefs in Search of Power*. Texas Pan American Series (Austin: University of
Texas Press, 1979), 137.
[43] Ibid, 129.
[44] Wendy Hui Kyong Chun, *Updating to Remain the Same Habitual New Media*. Cambridge, Mass.: MIT Press, 2017., 5.

different scales between the local and the global levels. Aware of the temporality of networks, Kuna people seek to maintain glocal connections through a series of long-lasting individual exchanges as many of the dynamics in the Darién are neither local nor global. Indigenous trilingualism is an indication of glocalized practices.[45]

By Way of Conclusion

> Let us observe this other house, this immense hut that covers us: the firmament, the universe. Nobody under the universe works alone; everybody works together. The universe is endless because of this reason. When we start working separated, divided, destruction will come. The most terrible hurricane that destroys houses and crops does not have power if the sea and the rain do not help it. The sun, the stars, they all work altogether. (...) We are surrounded by danger, and only united can we overcome it as a community. Baba wants it like this, and us, to live in this motherland, we want it like this, and we need it like this.[46]

During the film's production and field visits, which gave me an internal insight into the community through the Izquierdo family, I encountered unique characteristics in the Darién; elements that functioned as systems that allowed some flows while impeding others, and I named these systems mudware. I did a historical revision looking for evidence of Indigenous people in the Darién using complex systems of exclusion and inclusion. I also provided an innovative understanding of the relationship between infrastructures and nature from an Indigenous perspective. The Kuna people in Arquía

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[45] It is common to run into Mayan, Miskitu, Sumus, and Kunas, that are English speakers but not only. The Kuna, in particular, learned it while building the Panama Canal itself.

[46] Aiban Wagua, *En defensa de la vida y su armonía*. 2nd ed. (Proyecto EBI Guna, Fondo Mixto Hispano Panameño 2011), 137.

show me how they maintain their territories, adapt new, and reshape old ways of knowing for cultural survival. The absence of the Highway over the Kuna territories reminds me of this alternative present and counterfactual history where the cohabitation of old and new technologies and knowledge exist due to the failure of its completion.

In my quest to comprehend mobility and cultural exchange of historical depth as a fundamental way of being for Kuna Indigenous people, I took some distance from discussing traditional uses of old and new media. Indigenous media studies go beyond the analysis of contemporary Western technologies used by Indigenous peoples, such as radio and television broadcasting, games, XR/AR/VR, data journalism, and social video. I ask my readers to consider Indigenous media in the Darién as the achievements of selling cacao in the eighteenth century for buying firearms and using it against the Spanish; the accomplishment of decoding the complexity of international laws and applying them to interrupt the construction of a continental road, to declare war, independence, and sign peace accords with Panama and Colombia during the twentieth century. Indigenous media is dismissing when their ways of expression are discredited, persecuted, and criminalized by governments and corporations like media conglomerates, as in the case of the use of Indigenous community radios in the Cauca protest.

I chose to focus on an understudied topic of Indigenous media, and I did it though an exposition of historical details that serve as evidence of Indigenous agency, nature, infrastructure, and modern/colonial history from a deep-time perspective. As the word infrastructure is not new, I analyzed how its historicity affects significant aspects of Indigenous media forms using contemporary media theory. In that historical analysis of

the Darién as infrastructure, mud in the Darién is an elemental media that operates at intervals, producing differences and discontinuities, both separating and connecting across time and space. The hiatus of the PAH over the Darién territories is a significant achievement of Indigenous glocal networking. This hiatus and other indigenous achievements throughout the centuries *are* media used to communicate a clear and transcendental message: Let Indigenous people in the Darién live and maintain our territories.

The prioritization of Western notions of reason has extended ideas of universality and objectivity that have narrowed solutions to the current environmental crises, political crises, and exclusion of diverse epistemologies in the Darién forest. Future research will need to analyze the evidence of what Indigenous peoples intend to do with the Darién Gap and—in Western terms of obsolescence—the soon-to-become outdated PAH infrastructures in the Americas. I have described Indigenous infrastructures in an in-between state, maintained by people, where connections and disconnections happen along with unfixed trajectories and different intentions. This description matches the current state of the highway. The frequent protests of Indigenous communities all over the Americas over the PAH are enough evidence that Indigenous peoples are looking to find practices in the present and future that will allow them to inhabit these infrastructures from an Indigenous stance.

Appendix "Walking Kids of Chocó"

Description of the film

The documentary shows the daily life of Kuna child Edinson and his daily walks to school; his classes in Unguía are interrupted by a UNICEF officer briefly explaining the laws related to children as victims of internal displacement in Colombia. A broken kite given by the officer represents the failure of the applicability of human rights laws within Choco province. The film later portrays the active role of children in the Kuna community of Arquía, their games, and their daily commitments and responsibilities within the community. The documentary shares the everyday life of Kuna children in a format that reinforces Indigenous ontologies, in dialogue with other ways of seeing and understanding the entangled space of their environment. Without romanticizing or appropriating Indigenous knowledge, the project presents Indigenous practices, resisting fixation and simplification while offering a passionate construction of ways of seeing. The short film does not simply function as an informative object; it is a testament to how this knowledge has transformed me as an artist and spectator and embodies my vision of and critical attitude towards Indigenous thinking. Formal elements of the film present the act of walking as both discovering and transporting and as a singular everyday form of resistance. I used a modified lightweight Steadicam to capture the story while creating awareness of the cameraman as an active character in the film. Narrative elements unfold while walking, an aesthetic decision that resonates with the mobility aspects of the Kunas in the Darién.

Runtime: 25 minutes

Date completed: 2014

Places presented: Darién rainforest, Pan-American Highway.

Funding: Ventana Andina Fund.

Cinematography: Rolando Vargas

Music: Tada Izquierdo, Dúo Lien y Rey

Characters: Izquierdo's family and Kuna community of Arquía, Colombia.

Original Texts By: Sagladummad Manidiniwiebinabbi, Sagladummad Igwanabiginya

Festivals and Installations:

Best short film, FICVALDIVIA. Valdivia, Chile. 2014.
The MAC international Gallery, Belfast, UK. 2014.
LES INSTANT VIDEO screening at [.BOX] Videoart project space, Milan, Italy. 2014.
Festival de cine de Cusco, Cusco, Peru. 2014.
Cortocircuito Film Festival, New York, USA. 2014.
Mostra Cinema Direitos Humanos, Sao Paulo, Brazil. 2014.
Diffrazioni Firenze Festival, Florence, Italy. 2014.
Festroia Film Festival, Setubal, 2014.
Cannes Courtmetrage, Cannes, France. (non-competitive selection), 2014.
File Art Festival, Sao Paulo, Brazil, 2015.
Jozi Film Festival, Johannesburg. 2015.

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