INSCRIBED IN THE MARGINS: ENVISIONING ROAD COLONIZATION IN PERU’S AGE OF DEVELOPMENT

by

Tucker Sharon

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Abstract

Inscribed in the Margins chronicles the socio-ecological changes that attended the colonization of Peru’s Huallaga Valley from the 1950s through the 1980s. Focused on the project of road colonization, a style of both formal and informal colonization centered around the building of a 1,500-km highway called the Carretera Marginal de la Selva, the study examines the Huallaga’s hodgepodge of stymied development schemes in a way that transcends the terse logic of political economy to implicate development’s broader epistemological regime, one that enlisted architecture, photography, cartography and criminality as much as science and politics to impose its vision on the land.

Throughout, the author develops the concept of inscription as a way of understanding how environmental imaginings effect tangible socio-ecological change, arguing that the epistemological features that undergirded nature’s (primarily visual) representation as an object of development are crucial, yet often overlooked, factors in the Huallaga’s reconfiguration as a vast matrix of eco-assemblages adapted to an amalgam of capitalism and patriarchy.

The study explores how photographic rituals figured in processes of imagining development; how Cold War technoscience facilitated the Huallaga’s emergence as a developable site; and how the very gendered environmental narrative constructed around the Huallaga’s colonial project all conspired to inscribe a myopic vision of Amazonian nature into the landscape. The primary sources consulted include photographs and documents from the community development program Cooperación Popular; the writings of early climate scientist, Leslie Holdridge; aerial
photography from Peru’s *Servicio Aerofotográfico Nacional*; feasibility studies; and criminal cases from the superior courts of Huánuco and San Martín.

By emphasizing the transnational dimensions of road colonization, as well as the wide variety of professional, cultural, political and historical notions that fuelled its conception, this study complicates the phenomenon of development as much more than a projection of U.S. imperial hegemony. Moreover, it offers a challenge to the field of environmental history and the historiography of the Peruvian Amazon by arguing that culture, not just economy, effects sweeping changes in the land.
**Lay Summary**

*Inscribed in the Margins* adds to the growing dialogue between Environmental History and the history of development by bringing insights from visual studies that encourage the reader to question how modes of environmental imagining effect tangible social and environmental change. Set in what the author calls the Age of Development—the global postwar reconfiguration that, he argues, brought land and land use to the forefront of geostrategic power relations between the 1950s and 1970s—his narrative is grounded in the socio-ecological shifts undergone as an international road network was expanded through Peru’s Huallaga Valley, a diverse and dynamic area of the Western Amazon that was the site of rich, transnational imaginings for a host of actors ranging from national planners and global construction giants, to early climate scientists, *campesinos* and cocaine cartels.
Preface

This dissertation is original, independent work by the author, Tucker Sharon. A developed and translated article drawing from work in Chapters Three, Five and Seven appeared as “Preparados para el despegue: aviación y desarrollo en el Valle del Huallaga en Perú. 1948-1987”, in the spring 2017 issue of istor. An early version of Chapter Five, Section Two was co-authored with María Teresa Grillo as “Peru's Amazonian Imaginary: Marginality, Territory and National Integration”, in the edited volume Environment and Citizenship in Latin America: Nature, Subjects and Struggles (2012).
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Dedication

To my parents,

who were part of a lot of this.
Introduction: Envisioning Development Environments

In April 1967 the presidents of the Americas convened in the Uruguayan beach town of Punta del Este to renew commitments on multilateral trade, social and economic development, and regional integration. The meeting, presided over by U.S. President Lyndon Johnson, was supposed to rekindle the region's relationship with the United States now that the Alliance for Progress formed six years earlier in the same place was fraying at the edges. After a honeymoon in which the Alliance was supposed to forge new ties between Latin American governments and their northern hegemon, member states expressed a growing disillusionment with the Alliance's failure to fulfill its mission. The general feeling coming out of the 1967 conference was that the region was better off on its own. Though aid money was all well and good, important Alliance supporters like Chile's Eduardo Frei criticised large expenditures on armaments while the United States did little to promote poverty reduction and integration.²

¹ “... cuando la América se mire a sí misma, en su gigantesco espejo amazónico, verá que es mucho más hermosa y fuerte de lo que ella creía.” Unless otherwise noted, translations from Spanish are my own.

² On the Punta del Este meetings, see: Jerome I. Levinson and Juan De Onis, The Alliance That Lost Its Way; a Critical Report on the Alliance for Progress (Chicago: Quadrangle Books, 1970);
While most of those present iterated variations on the region’s discontent, it was Peru’s President Fernando Belaúnde Terry who stole the show. At Punta del Este he was in rare form, delivering an eloquent address from memory that expounded on the virtues of the meeting’s resolution. While urging action on the commitment to integrate regional economies, Belaúnde pushed against Johnson for violations of a proposed 200-mile maritime boundary by U.S. fishing vessels. He also reminded those present that Latin American development wasn’t undertaken for the selfish good of the Latin American nations alone, but that it was in the best interest of United States security and should therefore be a mutual, not a paternalistic, endeavour. As an example, he cited his decade-old pet project to unite the national economies of the Amazonian periphery through a 5,590 km road network called the Carretera Marginal de la Selva. Dubbed La Marginal, it was a Latin American project ideated in Peru and brought from the drawing table to the river valleys of the eastern Amazonian flank by fiat of the Ministries of Public Works of Bolivia, Peru, Ecuador and Colombia. And it embodied the spirit of integration that brought


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3 Alternately referred to as Peru’s Marginal Highway, The Trans-Andean Highway, The Bolivarian Highway, South America’s Marginal Highway, La Carretera Marginal de la Selva, La Carretera Bolivariana Marginal de la Selva, or simply La Marginal, for simplicity’s sake, I will use “La Marginal” to refer to the complete road network, and refer to individual road segments by their termini (eg. Tarapoto-Rio Nieva, La Morada-Tocache, etc.). Usually when the terms Bolivarian (Bolivariana) or Trans-Andean were used, they referred to the trans-continental highway agreed upon at the meeting of the Regional Conference of the International Road Federation, held in Lima, May 17-22, 1965. There, ministers of Transport from Peru, Ecuador, Bolivia and Venezuela (Colombia was later included) sketched the initial pact that would lead to discrete national construction efforts. Because the project was the brainchild of Peru’s President Belaúnde, the Peru segment received the earliest vigour and became a synecdoche for the project writ large.
the countries of Latin America to the Alliance for Progress in 1961 and which they were now chastising the United States for neglecting. Lest these be seen as provocations, however, Belaúnde also clarified that the Alliance nations—including the United States—were “frank, though not unconditional friends”.4

The speech was generally accepted as one of his best. Critics lauded him for his calculated candour and he received a hero’s welcome upon return to Lima, where he was at the apogee of his political career. Tens of thousands of proud Peruvians met him at the new Jorge Chávez International Airport and flocked to hear his remarks at Lima’s Plaza de Armas. There again he touted La Marginal as a symbol of progress rooted in the modernization of Amazonia. Reminding us that “America” is a continent, not a single country, he declared “… when America looks at herself, in her gigantic Amazonian mirror, she’ll see she is much more beautiful and stronger than she thought”.5

Though by no means an opponent of the United States, Belaúnde and the coalition he mustered around La Marginal represented the preservation of Latin American interests in the face of U.S. hegemony. Based on his studies in the United States, he rose to prominence on a platform that echoed the American New Deal of the 1930s, which he presented to Peruvians dressed in nativist rhetoric that

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appealed to a burgeoning urban middle class and rural communities alike. His political life began in 1945 when, in the National Congress, he represented Lima, a city undergoing radical transformations that hinged on the country’s land crisis.

For one thing the city’s population had more than doubled in twenty years. And as the hermetic gloss of dictator Manuel Odría’s ochenio was wearing off in the late 1950s, the Peruvian national imaginary began to contemplate inclusivity as a way to challenge the traditional rule of the aristocracy. This was the social scene sanguinely portrayed in Mario Vargas Llosa’s Los cachorros (The Cubs, 1967), where the city’s population had more than doubled in twenty years.7 It was the Lima of Rochabús7 and La prensa;8 it was the Lima of Luis de la Puente Uceda and Guillermo Lobatón,9 the Tertulia de la Calle Colina10 and the Club Waikiki. It was a time when the first power chords of punk rock could be heard in the music of Los

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6 The city grew from a population of 602,000 to 1,693,000 between the 1940 and 1961 censuses: Oficina Nacional de Estadística y Censos, “La población del Perú” (Comité Internacional de las Investigaciones Nacionales en Demografía, 1974), 22.

7 Rochabús was a political satire magazine. The name came from the term colloquially used for the protest-busting vans driven by police under Odría’s Minister of Interior, Temístocles Rocha. Carlos Contreras and Marcos Cueto, Historia del Perú contemporáneo, 4. ed., Serie Estudios Históricos 27 (Perú: Red Para el Desarrollo de las Ciencias Sociales en el Perú, 2009), 300, 304–05.


10 Through the 1950s and early 1960s, regular informal gatherings were held at the home of historian and politician Raúl Porras Barrenechea, which Manuel Burga somewhat nostalgically referred to as the Tertulia de la Calle Colina. Manuel Burga, La historia y los historiadores en el Perú (Lima: Fondo Editorial de la Universidad Nacional Mayor de San Marcos, 2005), 181–184.
Saicos\textsuperscript{11} and a place where the greatest surfers from California, Hawai‘i and Australia would look for inspiration in the talent of Felipe Pomar.\textsuperscript{12} But it was also a period in Peruvian history best encapsulated by José María Arguedas’ emblematic phrase: “Today’s boiling Peru”.\textsuperscript{13}

As part of the newfound interest in a so-called Perú profundo (“deep Peru”),\textsuperscript{14} social scientists sought to rediscover Peru’s indigenous past in the chronicles of mestizo authors like Garcilaso de la Vega and Felipe Guamán Poma, as well as to explore archaeological marvels left by the Inca. The re-imagining of Peru’s indigenous past, however, brought with it a concomitant preoccupation with the highland present. For while ethnohistorians like John Rowe, María Rostworowski, John Murra and Tom Zuidema—to name only a few—were uncovering Peru’s pre-history, another intellectual current (of diverse ideological stripes) fed direct action in the countryside around long-standing land disputes.\textsuperscript{15} Indeed, the decade


\textsuperscript{12} Pomar, a member of the Lima elite, was crowned World Surf Champion for 1965. No author, “Felipe Pomar un gran campeón,” \textit{Oiga} no. 114 (February 4, 1965): 30. He appeared, together with Jeanette Eckfeldt on the March 4 cover of \textit{Caretas} magazine.

\textsuperscript{13} “... del Perú hirviente de estos días”. The phrase appears in a letter written to John Murra focused on Arguedas’ observations of cultural assimilation and change in Chimbote, Feb. 1, 1967. Published in José María Arguedas, \textit{El zorro de arriba y el zorro de abajo}, ed. Eve-Marie Fell, Edición Crítica (San José: Editorial Universidad de Costa Rica, 1996), 380.

\textsuperscript{14} Prominent Peruvian historian, Jorge Basadre coined the phrase as a way of distinguishing between two idealised Perus: one, a modern, mestizo, coastal Peru; and the other seen as traditional, indigenous and circumscribed to the highlands. Jorge Basadre, \textit{Perú, problema y posibilidad}, ed. Jorge Puccinelli (Lima, Perú: Fundación M.J. Bustamante de la Fuente, 1994), 242.

between 1955 and 1965 was one rife with land tensions, rampant urbanization, cultural clashes and the early realization that the country was in the midst of a population boom that continues to this day. In the years between Belaúnde’s first presidential bid and his electoral win (1956-1963), 413 different peasant movements surfaced in the sierra, more than half of which identified land redistribution as their principal objective. At the same time the population climbed from 6.7 million in 1940 to more than 10 million in 1961, while the number of Peruvians self-identifying as migrants more than doubled, from 10.9 percent in 1940 to 23 percent in 1961. Arguedas’ imagery captured it all exquisitely: the surges of serrano migrants concentrating on urban coastal centers like Lima, Chimbote and Trujillo were growing like blistering air pockets, inching toward an inevitable explosion. For Arguedas this marked an erasure of millennial highland cultural practices. Yet for Belaúnde, steeped in the values of the reigning modernization theory, the assimilation of highlanders was critical to forge Peru into a productive, modern nation. The pillars of his tripartite political platform—credit reform, high-density urban housing and road colonization—were all geared toward accelerating and accommodating the processes of mass migration and population growth that the country was experiencing. As a writer, teacher, builder and president, Belaúnde made integration the watchword of his civic action. And like the

16 Pedro Gibaja, “Los movimientos campesinos en el Perú o la frustración de una revolución agraria (1945-1964)” (Tesis de Maestría en Sociología, Pontificia Universidad Católica del Perú, 1982); Quoted in Alberto Flores Galindo, Buscando un inca: identidad y utopía en los Andes, vol. 3.1, Obras Completas (Lima: Sur, Casa de Estudios del Socialismo, 2008), 325.
modernizing *Civilistas* of sixty years earlier, he turned the national gaze toward integration of the Amazon by use of gendered imagery and the promise of socio-economic progress. While Arguedas’ image of a country on slow boil confronted the national polity with the realities of social inequality, land concentration and ethnocide, Belaúnde’s triumphalist rhetoric exalted builders, planners and designers as national heroes ready to conquer nature while drawing people’s attention away from the coastal *barriadas*—or slums—to the mystified lands east of the Andes.

Manuel Burga identified this time as one of increased preoccupation with Peru as a *nación-multiple* when miscegenation arose as a nexus of intellectual debate and the foundation for Peruvian ethnohistory was set. Indeed, it marked a period that fused two permutations of what Kim Beauchesne and Alessandra Santos have termed the utopian impulse in Latin America, when urban cultural elites propagated self-contradictory movements for change rooted both in *mestizaje* and an unspent urge to refashion the once-great Inca empire. Indeed colonization of Peru’s interior was framed in these terms as an elite response to the tensions Arguedas had so poignantly described. But while Burga’s accurate assessment of the national scene helps set the stage, it is also true that much of the drive that fuelled the story that follows came from the fact that it took place during a period I am calling the Age

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of Development: the post-war period (roughly 1945-1985) in which Cold War tensions led international development to take on a prominent foreign policy role with a hitherto unimagined capacity to reshape the global environment. This was not just so for competing Cold War powers, but for countries forming regional coalitions such as Peru. The Age of Development marked an historical moment in which the technician and the planner rose to unprecedented geopolitical power and ideas about social progress and environment circulated spurred largely by international development and the ties and tribulations it forged between nations. In Peru, it was also a time when the architect reached a celebrated national status as a burgeoning limeño professional class moved from technical careers to political ones. Borrowing from Beauchesne and Santos, I consider this moment as a utopian impulse grounded in the ambiguous contradictions of modernism and the environmental imaginaries it codified, as well as the racial imaginaries emerging amongst social scientists. The beginning of the Age of Development in Peru coincided with a time when the social solutions proposed by architects and urban planners gained political purchase on a regional scale. The party that best embodied such architectural politics was one that grew out of the National Engineering University’s Faculty of Architecture and rallied around the figure of Fernando Belaúnde Terry. Belaúnde’s Popular Action Party (Acción Popular, AP) advocated policies influenced by the social preoccupations debated in modernist architecture, but reframed those concerns by drawing from a social scientific vernacular.

The elite impulse was to avoid radical reform of the likes undertaken in Bolivia and Cuba by instead expanding Peru’s agricultural frontier. A 1960 Commission on
Agrarian and Housing Reform report chaired by conservative Prime Minister and long-time leader of coastal agricultural interests, Pedro Beltrán, concluded that the dual pressures of urban demographic explosion and popular uprisings urging land reform in the rural highlands could be mitigated through massive coastal reclamation projects, modernization of the agricultural sector, and coordinated colonization of the fertile river valleys east of the Andes. (The first and last options, both requiring huge engineering efforts, were echoed in Belaúnde’s political platform.) Critical to this agenda was the Huallaga River Valley in the northeastern Department of San Martín, where the largest area of dry tropical forest not already accessible by road promised untouched land for development. While meeting the regional push toward integration in the face of U.S. imperialism, boosters of a new, internal “road colonization” hoped La Marginal would also mollify domestic land strife by proffering access to the Huallaga’s rich land base. Planners anticipated the continental project would open at least seven million hectares to agricultural colonization, more than 300,000 of which were found in the Huallaga alone.


22 The Huallaga Valley encompasses roughly 5 million hectares in total, more than four million of which were economically viable in the early 1960s. The numbers on La Marginal’s total zone if impact in the Huallaga are difficult to parse, partly because of the arbitrary and shifting boundaries drawn through the valley. In the Central Huallaga Valley, between San Rafael and Tocache, the civil engineering firm Tippetts Abbett, McCarthy and Stratton (TAMS) estimated La Marginal would influence an area of 200,000 hectares. In 1964 only about 20,000 hectares were in use through that stretch of the valley. TAMS projected road colonization would result in nearly 75,000 hectares of forestland converted to farming, and another 18,000 hectares of grassland incorporated mostly as pastures. The remaining 87,000 hectares were going to be dedicated to forest products and expansion of existing farms. In the Upper Huallaga Valley, beginning around Tocache and extending south to Tingo María, the area of influence corresponded with that of the Tingo María-Tocache Colonization Project, which in 1966 extended north to include part of the Central Valley as far as Campanilla. There, the National Office of Agrarian Reform (Oficina Nacional de Reforma Agraria, ONRA) planned to expand existing smallholder farming from 10,000 hectares to 130,000 by opening untouched forestland. Because the designs for Upper- and Central-Huallaga colonization overlapped between Tocache and Campanilla, I use a rough
Colonization of the Huallaga therefore responded to unique national circumstances with solutions being developed in a global ambit. The story of La Marginal and Huallaga colonization thus offers nuance to tendencies emerging in both the history of international development and environmental history by demonstrating the very local expression of global phenomena. Moreover, by paying closer attention to the way that Huallaga development was expressed in visual terms, I want to spur a dialogue that takes seriously the connections between environmental imaginaries and real environmental change. I suggest that culture writ large—that is, the matrix of thoughts and actions that accumulates within and beyond the reduced social field of “the political”—is an important motor of socio-ecological change. Such an assertion rests on the fact that the way people think about nature, and therefore represent it, is simultaneously reflective of existing socio-ecological communities and constitutive of their transformation. In the pages that follow I develop this argument through the concept of inscription.

**Autochthonous Development**

Because La Marginal was not something dreamt up in Washington D.C. and prescribed for the so-called third world, and therefore couldn’t enjoy the kind of calculation of 300,000 hectares of total impact. For stats on the transcontinental scope of La Marginal, see: E. Per Sorensen, “The Carretera Marginal de La Selva: A Reconnaissance Study” (International Road Federation Regional Meeting, Lima, Perú, 1965); quoted in David E Snyder, “The ‘Carretera Marginal de La Selva’: A Geographical Review and Appraisal. A ‘Carretera Marginal de La Selva’: Resenha e Avaliação,” Revista Geográfica, no. 67 (1967): 88; and Tippetts-Abbett-McCarthy-Stratton, La carretera marginal de la selva: estudio preliminar (Lima: Comisión Conjunta de Bolivia, Colombia, Ecuador y Perú, 1965); For details on the Huallaga Valley and La Marginal’s zone of impact there, see TAMS, p. 202; Carlos Peñaherrera del Aguila, “Planes de colonización en la selva peruana en conexión con la carretera marginal,” in Presented at the Colloque d'Études Péruviennes (Colloque d’Études Péruviennes – Gap : Ophrys, Aix-en-Provence, 1967), 268–69; and Servicio Cooperativo Interamericano de Fomento, “Evaluación e integración del potencial económico y social de la zona Tingo María - Tocache, Huallaga Central” (Lima: Ministerio de Fomento y Obras Públicas, May 1962).
funding that underwrote most USAID-backed megaprojects, it had to be built as a patchwork of multi-scaled projects. The Ministries of Public Works of Bolivia, Peru, Ecuador and Colombia oversaw planning and construction within their respective national territories. Within each country, however, the segmentation of the project into a collection of independent builds involved an array of local, regional, national and international actors. The Peru segment of La Marginal was split into nine total projects that involved planners and builders from the hamlets along the proposed route, regional centers of the self-help development program, *Cooperación Popular*, the Ministry of Public Works’ Roads Department, the Armed Forces’ engineering battalions, and a host of private contractors including the engineering firm Brown & Root and the world’s largest heavy construction outfit, Morrison Knudsen.

By focusing on a large Latin American road-building project, I aim to redirect the growing body of work on the history of international development that treats the phenomenon as an imperial projection of U.S. hegemony around the globe.\(^2\) Though the U.S. foreign aid complex was directly implicated in La Marginal’s funding,

imagining, and some of its construction, I prefer to look at the Peruvian Amazon as a contact zone where imperial designs were assimilated, contested, reimagined and inscribed into the landscape to produce a uniquely Latin American form of development that enlisted the heavy construction giant, Morrison Knudsen, a national survey institution, and unidentified, pick-wielding peasants in the same endeavour. The concept and practice of community development are increasingly attracting the historian’s gaze, though much of the recent scholarship on the subject still frames these phenomena as counterpoints to, or solutions for, the shortcomings of high-modernist development. That peasants enlisted in the Cooperación Popular program worked on the same highway as Morrison Knudsen employees from across the Western Hemisphere betrays an historiographical fallacy that posits community

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development as an alternative reaction to high-modernist development schemes characterized by dam building, brute force technology, urban hegemony and centralized bureaucracy. *Cooperación Popular*—or COOPOP, as boosters affectionately called it—exhibited all the trappings of community development, modeled on the U.S. Peace Corps as a means of modernizing traditional peoples through the rubric of cooperation, but it was designed as a domestic Peruvian program. Moreover, much of the technical assistance—one of the mainstays of community development—that fed colonization of the Huallaga was filtered through a network of international cooperation by institutions like the Inter-American Institute of Agricultural Sciences (*Instituto Inter-Americano de Ciencias Agrícolas, IICA*) at the very same time that high modernism was *en vogue*.

When examined through the environmental imaginaries deployed by developmentalists, it is clear that community development was not an alternative, proto-neoliberal response to high-modernist development; it was a constituent part in a patchwork of geostrategic endeavours. Building La Marginal embodied the reigning development ideology that, contrary to signifying the general improvement of humanity—as one development historian has suggested—specifically tied environmental transformation to human progress.\(^\text{25}\) Whether dealing with a village water works, or a massive hydroelectric generating facility, Latin American developmentalism saw humanity’s ability to harness nature’s power as the harbinger of all future progress. This is a specific meaning of development that only comes into focus when viewed through an environmental lens. This is why

\(^{25}\) Immerwahr, *Thinking Small*, ix–x.
development must be considered as a specific historical process with uniquely local environmental expressions. What a project like La Marginal demonstrates is that development—though it was enacted according to similar protocols and sought similar broad goals—was not a global paradigm, but a matrix of paradigms coalesced around a continuum of nature-culture configurations. In a recent article, Thomas Robertson contends that development historians need to resist the tendency to overlook the local and treat development as a generalized, global phenomenon. We need to look past development’s global designs to ask how development practice responded in different ways to specific bio-geomorphic circumstances. In particular he advocates more analysis of how and why development concentrated on the reshaping of river valleys. In the early part of this dissertation I begin by deconstructing the broad environmental imaginary deployed in Peru’s age of development (1945-1985) to then go on to explore the specificities of how that development drama played out in the Huallaga Valley. The scalar choice of the Huallaga Valley responds not only to the fact that it was also the preferred ambit of modern explorers and planners, but to the dearth of studies that question how the Age of Development remade river valleys beyond sinking them behind massive hydroelectric dams or reworking them through overwrought reclamation projects. The end goal of building La Marginal was road colonization, the relocation of highland peasants to seemingly empty wilderness on the eastern slopes of the Andes. This endeavour rested on unique forms of environmental

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imagining cobbled together from the epistemological detritus of global development, modernization theory, creole fear and aristocratic self-preservation, but shaped into a unique discourse that fed unique reconfigurations of nature and culture.

Though road colonization’s intended agents were to be found amongst the peasantry, the discourse that backed it up conscripted peasant bodies—not peasant agency—in celebratory spectacles. Despite the rhetoric, COOPOP—the primary institutional mechanism for enlisting peasant support for development—remained rigidly centralized and hierarchical. When Juan Velasco’s government appropriated the peasants’ visages as a symbol of the Peruvian nation, peasant visions were still filtered through an institutional vernacular that expressed development’s predilections for male-centred conquest of nature. In agrarian courts, smallholders largely subscribed to the tropes of jungle colonization to defend their land claims. The images of Huallaga colonialism that these institutions—COOPOP and the agrarian courts—project are products of power, both the power to articulate, disseminate and inculcate a myth about progress, and the power exercised in the archiving process to make that myth last.

As Ann Stoler makes clear, the relationship between historian and source is more complicated than that of, say, the court stenographer and witness; “doing ethnography in and of the archive” uncovers the myriad ways that selection and omission of sources can condition historical narratives based not merely on archival content but also on the politics of constituting, managing and accessing archives. It is no surprise, then, that the stories of Cooperación Popular that I can tell vary based
on those documents that remain and those that have vanished. It is also no surprise, then, that much of the work connecting development to the expansion of U.S. hegemony under the Cold War rubric has been based in official U.S. archives. By relocating development narratives to the Peruvian countryside, the story of Belaúnde-era responses to neo-Malthusian preoccupations unsettles the unidirectionality of development’s diffusion and complicates its definition as something beyond the mandates of the Ford Foundation and Point Four or USAID. However, examples from 1960s Peru were not alternatives to the brand of development engrained in the Rockefeller Foundation’s Mexican Agricultural Program, where modernization of the agricultural sector was the lynchpin of human progress.\footnote{For discussion of Mexico as an incubator for the agricultural facets of development, see Cullather, \textit{The Hungry World America’s Cold War Battle against Poverty in Asia}.} Instead, by telling the story of development from Peru, I flesh out an alternative form of that same kind of development, one in which food and population parity was a guiding principle, but the solution was tied as much to construction and building as it was to agricultural industrialization.

Early histories of the Peruvian Amazon established two historiographical tracks. On the one hand, dependency theory fuelled a current that rendered the area a peripheral region and explored the myriad ways it was articulated with the modern Peruvian nation-state. On the other hand, the area has been the subject of a large body of literature inspired by indigenous history. In more recent years, indigenous
history and ethnohistory—both strong in the historiographical literature on Peru writ large—of the Amazon has gained from the influence of subaltern studies.28

Subaltern studies have been a crucial guiding force in this endeavour to complicate the history of international development because they figured prominently in a broader project to “decenter” political struggles and address the

variety of actors involved in transforming historical structures. Moreover, the influence of subaltern studies in Latin Americanist historiography has been one of localizing the politics of Nation. This example is something that I value and draw on to guide this study, for it means that the local sphere is now the new site of history making with historians seeking out hegemonic subalterns from the varayoc of Huamachuco to the K’iché principales of Quetzaltenango. And this movement from the capitol to the municipality—foregrounding the way national political struggles were informed by myriad local power relationships, or “communal hegemonies” —offers a useful model for rethinking the phenomenon of international development.

However, with the embrace of subaltern studies has come a situation in which the local is now that elusive space where historians almost expect to find cases of peasant resistance and indigenous erasure. It is the site where global designs face

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30 Thurner, From Two Republics to One Divided.


32 Mallon, Peasant and Nation the Making of Postcolonial Mexico and Peru.
the contingencies of human agency and therefore—rightfully—the site where committed scholars seek out alternatives to oppressive paradigms. Yet, my experience in judicial archives in Huánuco and San Martín—and though they don’t figure into this project, those of Junín, as well—uncovered no such resistance, not because it wasn’t there, but because the ways that subaltern actors interfaced with the institution of the court was incommensurate with the practice of resistance when it came to environmental imaginaries. In William French’s exhaustive exploration of love and courtship in Porfirian and revolutionary Mexico, he advances the idea that laws governing courtship and marriage were inscribed onto the bodies of those individuals who stood before the court as they were defined, segregated and categorized according to the law’s highly gendered language. French argues that it was by this didactic action—not so much in punishment and incarceration—that the court was a means by which power reached everyday Mexicans.33 My understanding of how land courts functioned in 1970s Peru borrows from French’s insights to think through human-environment relationships. Despite granting the historian access to subalterns, Peru’s agrarian courts served as another institutional mechanism by which land was brought under the state’s purview and processed according the state’s modern land ethic, and in their interactions with the courts, peasant farmers subscribed to that vision of the land. Likewise, the visual record of the Cooperación Popular program gives no indication of resistance. Instead it reflects inculcation and assimilation of the modern land ethic. I do not mean to suggest that development faced no resistance, simply that my encounter with

subaltern historical actors suggests that the exercise of modernity hinged as much on the conscription of subaltern bodies—in photographic form or playing judicial roles—as it did on boosters’ vociferous embrace. The operational nature of the institutions with which subalterns interfaced thus stands out as key to conditioning local power dynamics. And I think the history of international development would do well to take seriously the way that the myriad institutional contexts through which it was articulated conditioned new localities.

Such a project needs to entail a dual approach popular in political ecology, often referred to as the hatchet-and-seed approach. Here I take my hatchet to the dominant discourse projected onto Amazonian landscapes. This momentarily requires me to put the search for alternative visions and peasant/indigenous resistance on hold, but the seed I then hope to plant is a more nuanced understanding of the local as an institutional artefact, a site of encounter that transcends the common geographic divisions of local, national, regional, and global scales. It is commonplace to see discussions of “alternative nationalisms” or “alternative modernities” and customized indigeneity; some work has even been done on what I call the alternative environmentalisms introduced by Joan Martínez-Alier and Ramachandra Guha. Yet as Arturo Escobar suggests, these are often

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37 Ramachandra Guha and Joan Martínez Alier, Varieties of Environmentalism: Essays North and South (London: Earthscan Publications, 1997); Joan Martínez-Alier, The Environmentalism of
alternate versions of the same finality. For instance, Shane Greene’s claim that the Aguaruna of the Mayo River Valley customize their indigeneity, but that indigeneity is a fundamentally modern concept, still accepts modernity as the dominant paradigm. In the Peruvian Amazon, modernity was performed through recourse to an ontological separation of nature and culture embedded in the dual currents of modernist design and Cold War modernization theory. This involved what Walter Mignolo calls the subalternization of knowledge, by which local “knowledges and languages [are] placed in a subaltern position in the exercise of the coloniality of power”. Whereas recent treatments of the colonial encounter have been framed in terms of Mary Louise Pratt’s idea of the contact zone, a site of creolization and/or hybridity, Mignolo conceptualizes that encounter as a meeting of opposed local knowledges, where one is given priority over the other as part of the ordering of power relationships inherent in the modern colonial world system. This approach acknowledges and respects the caution advanced by geographers that there is nothing inherent in scale by treating the local not as a geo-physical space of indigeneity or peasant resistance, but as a meeting point instead. It also dovetails

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40 Pratt, Imperial Eyes Travel Writing and Transculturization; Salvatore, LeGrand, and Joseph, Close Encounters of Empire; For the idea of the contact zone used in Latin American environmental history see McCook, States of Nature.


with efforts to expand the concept of local knowledge beyond its still somewhat restricted use within anthropology.\textsuperscript{43} For my purposes, local knowledge has to do with people’s encounters with and understandings of environment and the local spaces where I find that encounter are the institutions that exported development to the Huallaga.\textsuperscript{44}

**Development’s Environmental Designs**

Amongst the many institutions involved in making road colonization a reality was the Air Force’s burgeoning survey wing, the National Aerial-Photographic Service (Servicio Aerofotográfico Nacional, SAN). Through the 1950s, aerial survey grew in prominence in Peru and the SAN became the pre-eminent authority to be consulted for all kinds of large-scale development projects. Visible in large part


\textsuperscript{44} Tina Loo and Meg Stanley broaden the concept of local knowledge by exploring the kinds of knowledge developed by engineers and planners working on dam construction in the Canadian province of British Columbia. For them, the encounter these—mainly—men had with the rivers they worked to dam produced a unique, place-centred knowledge set. Tina Loo and Meg Stanley, “An Environmental History of Progress: Damming the Peace and Columbia Rivers,” *The Canadian Historical Review* 92, no. 3 (2011): 399–427; Stuart McCook offers an excellent example of the institution as site of encounter. McCook, *States of Nature*. 

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through the career of one Roads Department employee, Arturo Solís Tovar, the symbiosis of aviation and ground transport was instrumental in the Huallaga’s transformation into a valley of second-growth forests, abandoned purmas—or fallowed fields—and vast, sometimes illicit, monocultures. The story I tell here tracks that transformation from the point of view of the different people involved in enacting it. In many ways it is a story that reiterates the tropes of environmental history’s great metanarrative: the decentionist refashioning of ecology into economy. But more than a story of economy, I focus on the myriad ways in which different actors envisioned a part of Peru that was largely unknown to them. If the field of environmental history has one major obstacle to confront it rests at the confluence of tangible environmental change and contingent, malleable cultural constructions. Despite laudable first steps, environmental history still has much to learn from cultural studies and vice versa, especially regarding the variegated processes of imagining that surround nature’s representation. Ultimately I argue that environmental imaginaries have consequences in living communities, that the way people thought about and represented the land was the cornerstone of its eventual transformation.

Recent work in environmental history has concentrated on the cultural construction of environmental change, placing primacy on the production of environmental “imaginaries”. With special attention to road building, Tyler Cornelius uncovers the struggles through which one understanding of a highway’s value won out over others, showing the conflict of competing environmental
epistemologies at play in road construction.\textsuperscript{45} Looking at highway construction through the Columbia River gorge, Cornelius demonstrates how a Progressive-era “river imaginary” was channelled through road construction to reshape the land in the service of a presumed wholesome rural way of life. For boosters, the Columbia River Highway would do more than connect the towns of the gorge, it would keep kids on the farm and away from the perceived racial mixing and shifting gender roles associated with the city. Thirty years later, in Peru’s Huallaga Valley, highway construction certainly served a racialised and gendered environmental imaginary, though now embedded in the natural epistemology of development. Boosters, led above all by Belaúnde himself, framed the Amazon as what Kim Beauchesne calls a “colonial periphery”: that space where the unstable reach of colonial powers mixed with exoticism to expose ambiguities in the colonial gaze and solidify a host of tropes used to represent marginal spaces like the Amazon.\textsuperscript{46} Crucial to the portrayal of the Amazon as development’s internal colonial space was the concept of emptiness. In the case of the central and upper Huallaga Valley, the binary logic operating behind constructions of the Amazon as a peripheral—or marginal—space has a long history often rooted in environmental determinism and the racialization of space. However, contrary to the tripartite historical division of Peru’s national territory into coast, \textit{sierra}, and \textit{selva},\textsuperscript{47} the spatialization of Peru’s development

\textsuperscript{45} Tyler Cornelius, “A River Imaginary: Nature and Narrative in the Columbia River Gorge” (PhD diss., University of Michigan, 2010), 120–32.

\textsuperscript{46} Kim Maryse Beauchesne, “Narrativas de la América marginada: La construcción discursiva de la periferia en el imaginario colonial” (PhD diss., Harvard University, 2006).

drama obeyed a binary that opposed the rapidly over-populating coast and highlands against an Amazon that was misrepresented as empty. This scripting of the Amazon as *res nullius* depended on an important racial erasure of indigenous folk, but it also rested on the binary logic deployed in the gendering of Amazonian nature.

Amongst what is the vast and rapidly growing field of environmental history there remains a large blind spot where historians should be questioning the gendered imaginaries deployed in the service of environmental transformation. Important strides have been made toward resolving this shortcoming by exploring the differential roles, activities and knowledge sets of men and women *vis-à-vis* the environment or within environmental movements, but despite these pioneering works\(^4\) and the decades that have passed since some of them were published—the fusion of environmental history with the history of gender has yet to form the kind of fruitful subfield forged from other cross-disciplinary encounters like, for

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instance, the meeting of environmental studies and economics.\textsuperscript{49} It certainly can’t help that important voices in the field have seen fit to use exclamation marks when writing off environmental histories attuned to the complexities of race, class and gender.\textsuperscript{50} Despite such recalcitrance, however, the contributions made by historians of Latin America focusing on gender as the product of discourse and representation offer very productive new inroads into questioning the nature-culture divide, for they demonstrate that far from being a natural binary (male-female), gender is a socially constructed phenomenon that is naturalised through power dynamics.\textsuperscript{51} By

\begin{itemize}
  \item It is hard to miss the pre-eminence of economics in environmental history. Indeed it characterizes the better part of all first-generation environmental histories. Within Latin American history this tendency has best revealed itself as an emphasis in raubwirtschaft—or plunder economy—studies. More recently, the significance of economy has been manifest in the emphasis placed on class and environment, first in the so-called “ecology of the poor”, and studies that look at the relations between labour and environment. In the declensionist camp, see: Richard P Tucker, \textit{Insatiable Appetite: The United States and the Ecological Degradation of the Tropical World}, Concise rev. ed (Lanham: Rowman & Littlefield Publishers, 2007); Dore, “Environment and Society”; Dean, \textit{With Broadax and Firebrand the Destruction of the Brazilian Atlantic Forest}; Melville, \textit{A Plague of Sheep}; Dean, \textit{Brazil and the Struggle for Rubber}; Galeano, \textit{Las Venas Abiertas De América Latina}; On the ecology of the poor, see: Martínez-Alier, \textit{The Environmentalism of the Poor}; Guha and Martínez Alier, \textit{Varieties of Environmentalism}; Martínez-Alier, “Ecology and the Poor”; For labour and environment see: Santiago, \textit{The Ecology of Oil}; and Raffles, \textit{In Amazonia}.
  \item In a 2003 review of the field, John R. McNeill wrote: “In the 1990s the new cultural history arrived, propelled by prevailing winds sweeping over academic departments in literature and anthropology. With this the study of how Americans thought and wrote about the environment acquired renewed momentum, together with consideration of nature aesthetics, ethics, and law. The conservation movement, the establishment of parks, concepts of nature and wilderness, the writings of Thoreau, Aldo Leopold, and Rachel Carson all received new analytic treatment, sensitive to race, class, and gender, and to the social construction of knowledge and nature. Personally, while the new sensitivities are welcome as ways to widen the lenses of historians, I find the emphasis upon social construction unenlightening compared to the old cultural/intellectual environmental history of the 1970s. I think the cultural construction of nature just isn’t all that important compared to what has happened and is happening to real nature, and how nature has affected and still affects us (there is some reality out there independent of our perception!). Most of my colleagues are more receptive”. Consider me more receptive, John. John R. McNeill, “Observations on the Nature and Culture of Environmental History,” \textit{History and Theory} 42, no. 4 (December 2003): 17.
  \item William E. French and Katherine Elaine Bliss, eds., \textit{Gender, Sexuality, and Power in Latin America since Independence} (Lanham Md.: Rowman & Littlefield, 2007), 14; Here I draw from histories inspired by Michel Foucault’s insistence that sexuality is a product of discourse-mediated power. Michel Foucault, \textit{The History of Sexuality} (New York: Pantheon Books, 1978); This vein has been especially strong in the literature looking at how gender relations were
\end{itemize}
examining the gendered constructions that undergirded nature’s depiction in the Age of Development, I draw insights from histories of how gender was represented to ask about the ecological implications of how representations were gendered.\textsuperscript{52} In her study of the legacy of state violence in Chile and Argentina, Lessie Jo Frazier offers a useful starting point by arguing that the only way to overcome the cyclical repetitions of violence that subverted “transitions” from military rule in the Southern Cone is to first understand how space was embodied, and therefore gendered, by the nationalist discourses of ruling juntas. She drew from Michael Taussig’s notion of the “space of death”—the space shared by violator and

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violated—\textsuperscript{53} to argue that common analogies between the nation and the body established parallels between public and private space, the \textit{plaza} and the \textit{casa}, which in turn enabled the gendering of violence and the feminization of victimhood by junta apologists.\textsuperscript{54} Though concerned with the broad concept of space more than environment, Frazier’s framework helps me to think about how Amazonian nature was framed as constituting an internal colonial periphery because development discourse also drew parallels that helped to normalize development practice according to a binary gendering of space. Almost thirty years ago, Carolyn Merchant demonstrated how a confluence of social and ecological pressures triggered a shift from predominantly subsistence-based agriculture to a surplus-oriented agricultural structure in eighteenth-century New England. She argued that the increased demographic pressure caused by colonization coupled with new demands on the regional ecology to push farmers toward a capitalist mode of food production with massive ramifications not only for soil fertility but for the gendering of social relations, as many “farm women were not only wives, mothers and grandmothers, but also vegetable and poultry producers, food processors, cheese and butter makers, spinners, carders, weavers, sewers, herbalists, healers, and sometimes teachers or midwives, as well”.\textsuperscript{55} The concomitant exhaustion of soils and feminization of commerce was something that Merchant also attributed to the


\textsuperscript{55} Merchant, \textit{Ecological Revolutions}, 150–53.
system of patriarchal inheritance and its effect of reducing farm sizes over
generations and exacerbating their dependence on dwindling ecological reserves.
Merchant’s insights are invaluable, for they demonstrate the complex socio-
ecological tensions between production and reproduction that push settler societies
toward destructive, export-oriented agriculture. Moreover, the analytical nexus she
draws between ecology, economy and gender offers a useful paradigm for
understanding those tensions. However, her analysis neglected the important
realm of representation, especially the gendered representation of space.

In the 1980s and 1990s there was a flurry of works concerned with the
ecological significance of the Peruvian Amazon’s touch-and-go articulation into the
national market. Like Merchant, this body of work produced mostly by
anthropologists, sociologists and other students of agrarian studies, delved into the
differential effects of subsistence- and surplus-oriented agricultural ecologies on the
land base and its fertility. In one exhaustive example, Federica Barclay and
Fernando Santos-Granero treat the Selva Central provinces of Chanchamayo, Satipo

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and Oxapampa as constituting a “regional space” subject to the constant ordering and disordering of its ebb and flow from the influence of coastal and highland markets. Using cadastral data on tenurial regimes and land use, Barclay and Santos argued that production of export-oriented crops—namely coffee and fruits—operated as a model for increasing waves of migrants despite the fact it was often done on unsuitable land slated for other extractive pursuits like logging. For Barclay and Santos, deforestation in the Selva Central was the product of the region’s unruly status as hinterland, where extraction and demographic pressure met ecologically sensitive lands with disastrous consequences.58

While road colonization in the Huallaga fit within a larger agenda to reshape Amazonian nature according to a capitalist sense of order based on monoculture and extraction, a strict emphasis on the economics of land use misses other crucial components of the ecological transformations that happened there. For why, if economics alone can explain environmental change, did boosters bother crafting a discourse of justification so richly layered with gendered and racialised language? Doing environmental history that is sensitive to processes of representation argues that there are real, material consequences tied to socially constructed phenomena such as gender, race, class or religion, while also being attentive to the cultural contingencies inherent in processes of capital accumulation.

58 As but one example of the devastating effects of road colonization, Barclay and Santos analyzed SAN photographs from the Kivanaki region of the Peréné Valley. They concluded that between the years 1977 and 1983—while La Marginal was in construction through the area—annual deforestation rates rose to more than twelve percent of the land surface. Santos-Granero and Barclay, Ordenes y Desórdenes en la Selva Central, 229–47.
During the Age of Development, the Huallaga Valley transitioned from a vast complex of tropical and subtropical polycultures, dotted by occasional logging incursions and plantations along navigable bodies of water, into a patchwork of a few lucrative monocultures, most notable of which was the coca plant. This transition responded to a tapestry of interlocking international, regional and local socio-political and economic agendas, most of which surface at some point or another in my narrative. I argue that the procedural dynamics of how a transnational cohort of agencies and institutions represented the Amazon figured prominently in its ecological change. The environmental visions used to imagine road colonization came from ecological abstractions that individuated elements of the landscape and then refashioned them into simplified visual assemblages. The photographic mosaics produced by aerial survey and the ecological maps used to plan colonization not only represented this process of deconstruction and refashioning, they also foretold the Huallaga’s coming conversion into its own patchwork of capitalist eco-assemblages. This process by which the forest became a representation and those representations in turn changed the forest is what I refer to with the term inscription. Indeed, I suggest that development entailed the delicate crafting of a narrative about peoples’ relationship to nature that was physically written into the landscape, and that the socio-ecological changes undergone in the Huallaga can be thought of as resulting from the different processes by which this inscription took place.

In the late 1970s and early 1980s, anthropologist Fernando Santos-Granero conducted fieldwork with the Yanesha people of the Selva Central as the Peruvian
Army and a private contractor were working on La Marginal’s extension through the Pichis and Palcazu valleys. He documented how the Yanesha used landmarks as signifiers in recounting their collective and personal histories so that one travelled through the landscape as though reading a Yanesha history book. Road construction, through its processes of disarticulating and rearticulating the landscape, often altered, damaged or removed these landmarks. This meant the import of road construction for the Yanesha was such that it instigated an historical erasure as engineers and bulldozers reshaped the land.\footnote{Santos-Granero, “Writing History into the Landscape: Yanesha Notions of Space and Territoriality.”} By stressing the ecological epistemology of indigenous actors, Santos-Granero radically complicated the story of La Marginal and its attendant road colonization, for in this particular iteration of what he called topographical writing, colonization was a rewriting of history. I take this notion and use it to look back on the so-called moderns who carried out that colonization. Indeed, drawing from Walter Mignolo’s concept of border thinking, I treat development discourse as a sort of modernist cosmovision expressed through changes in the land and I aim to deconstruct that discourse with the intent of suggesting possible alternatives to what was ultimately destructive development.

This, of course, presents the problem of describing dominant discourses without reproducing their effects. My overarching objective is to contribute to the scholarly project of decolonizing knowledges, something Mignolo describes as:

... the constant double movement of unveiling the geo-political location of theology, secular philosophy and scientific reason and simultaneously affirming the modes and principles of knowledge that have been denied by
the rhetoric of Christianization, civilization, progress, development, [and] market democracy.\textsuperscript{60}

Yet, as José Rabasa rightly points out, one of the conundrums of doing subaltern studies rests in the fact that “If the subaltern studies scholar can inhabit several worlds within a Western tradition, she can only intuit the coexistence and compatibility of modern and nonmodern worlds in subaltern subjects”.\textsuperscript{61} The problem I face is therefore one of affirming modes and principles of knowledge that I can only intuit. Unlike other histories of the Peruvian Amazon influenced by subaltern studies, I do not endeavour to give voice to “decolonizing imaginations”, but I hope to bolster decolonial intellectual projects by deconstructing the Huallaga’s colonial imaginations, those crafted by the agents of colonization and those who fell within their sphere of influence. In this respect I follow David Scott’s lead in contributing to the project of postcolonial studies by casting a critical glance back at the so-called “great men” of history. Indeed Scott poses a direct challenge to the search for heroic subalterns by focusing his critique on two titans of black resistance: Tousaint L’Ouverture and his anti-colonial biographer, C.L.R. James. He argues that the poetics of their stories, namely James’ use of the romantic genre to portray L’Ouverture, was crucial to the anti-colonial historic moment. In doing so he places primacy on the style of James and L’Ouverture’s representation over the


\textsuperscript{61}José Rabasa, \textit{Without History: Subaltern Studies, the Zapatista Insurgency, and the Specter of History} (Pittsburgh: University of Pittsburgh Press, 2010), 67.
social field in which they operated. My reading of Huallaga history does the same. Developmentalism posed its subjects in a dramatic style that aided in the normalization of simplified solutions to complex problems. Throughout, I refer to this tendency as the development drama. But while Scott interrogates the narrative form of this development drama, I am more concerned with the sorts of subjects and spaces engendered through it, for they point to the preoccupations and utopian futures imagined for developmentalist Peru and—I contend—these envisioned socio-spatial configurations ultimately conditioned eventual socio-ecological realities. The most prominent actor throughout my narrative is an aristocratic, two-term president: Fernando Belaúnde Terry. This because few were as entwined with the project of road colonization in mid-century Peru as Belaúnde himself. But my reading of Belaúnde, his fellow architect-politicians, the functionaries and bureaucrats operating throughout the global cooperation regime, as well as the many other actors conscripted in development’s spin and spectacle, is informed by a strain of critical political ecology coming out of Latin America, which seeks out healthy, productive socio-ecological relationships both through the deconstruction of dominant environmental visions and the elevation of subalternized knowledges. Indeed, I treat Belaúnde et al as modernity’s topographical writers, inscribing their own story of progress into the landscape.

**Envisioning Peru’s Development**

Institutions such as the community development program, the agricultural research institute, the court system, the survey office and the private company all engaged with the Huallaga Valley in different ways. But the commonality among
them comes from the fact that they all fabricated representations of nature to mediate their approach to it. Development discourse and practise comprised a unique environmental imaginary that was topographically inscribed into Huallaga environs through a complex layering of cultural constructions, geo-strategic exigencies and political expediency. And the most overlooked aspect of this causal tapestry is the role played by graphic representations of nature. These representations, often photo- or cartographic, but including visual inspection reports and oral testimonies, pose a unique set of problems for the historian. On the one hand, they signified concerted efforts to reproduce the Huallaga as precisely as possible according to particular institutional logics rooted in the reigning epistemes of structuralism and systems theory, both of which stressed the isolation of data and its categorization over its interrelatedness. Yet, on the other hand, they inevitably missed the elusive subject they sought to represent. In the form of omissions, abstractions, deceptions and the occasional flat-out lie, institutions engendered what I call factical infidelities in the service of development aspirations.

The concept of a factical infidelity represents an attempt to apprehend the shifting threshold between the forest, a river or a mountain and the myriad ways they were represented in development discourse, both visually and textually. The concept resembles what Bruno Latour has called circulating reference, a mode of legitimation premised on the ability to trace a representation back to its referent by way of an unbroken chain of reference.\(^{62}\) I argue that along this chain there was

\(^{62}\) In his now canonical essay on soil studies in the Brazilian Amazon, Bruno Latour traces the extraction, packaging, reordering, analysis and representation of forest soils to demonstrate how science legitimates itself with recourse to an unbroken chain of reference that is always already
always a point of severance—at least in the sources I analyze—where the reordering and reconfiguration of nature was disconnected from the representation of nature. The sort of severance between nature and culture that I refer to when I speak of factical infidelities is the point where some element of the forest is rendered in visual and textual language and thus replaced, re-signedified and re-substantiated within a world conjured in institutional vernacular. The notion then comes from a combination of Latour’s concept of circulating reference and James Scott’s idea of legibility.63 Whether created under the guise of science, progress or justice, these ubiquitous half-truths make up the archival base of this study: photographs, maps, feasibility studies and court records, in all of them I read the story of development’s incursion into the Huallaga.

I gravitate to these troublesome sources because they force the issue of how we read over what we read. The ambiguity of factical infidelities invites us to question colonial difference and read against the normalizing thrust of how nature was envisioned. Did a peasant farmer view Huallaga landscapes through the same lens as a road builder or a president? Were the effects of their discrete viewpoints significantly different? The project I am engaged in seeks to recognize that

difference but without ordering it in a way that renders it subaltern.\textsuperscript{64} Indeed, Fernando Santos-Granero’s foregrounding of Yanesha understandings of road building fits such a project. But instead of elevating indigenous cosmovisions, I deconstruct a modernist cosmovision in the Age of Development in order to counteract the modern-traditional binaries that have afforded it a privileged space in history. Development engendered its own historical subjectivities and temporal-spatial permutations, and it ordered them according to a specific logic. In short, the conscripts of modernity engaged in Peru’s mid-century road colonization had their own histories to write, complete with origin myths (Incan legacy of engineering), heroic triumphs (conquest of unruly nature) and future premonitions (social progress comes with environmental transformation). I call the corpus of stories that constitute this modernist worldview the development drama. Moreover, while road building erased indigenous histories, it was also its own form of topographical writing. I assert that, among the different media privileged by the institutions responsible for development in the Huallaga, photography was one of the most important.

Too many historical explorations of photography adhere to what I call the Image World approach to photographic analysis: that mode of critique that says, because a photograph can be made to hold the—often ambiguous and sometimes contradictory—interpretations of its myriad viewers, the context through which it travels, the uses it was put to and the archives, publications and repositories it came

\textsuperscript{64} This is the project to identify “alternatives to modernity”. See Blaser, \textit{Storytelling Globalization from the Chaco and Beyond}, 10–13; and Escobar, \textit{Territories of Difference Place, Movements, Life, Redes}, 196–97.
to rest in, are all complicit in legitimating its utility as an historical referent. I don’t disagree with this notion; it is crucial to track down the stories of image producers, to retrace image trajectories, and to ask why the institutions endowed with the arbitration of history deemed them worthy of conservation. What is at stake in this style of critique, however, is recognition of the image’s own procedural nature and the significance of photographic production. The Image World approach treats the photograph as an object, one that is produced, one that travels, and one that is conserved. Yet because of the way early advocates of this method latched onto the idea of appropriation, the Image World approach has been slow to ask how differing ways of doing photography, that is, of producing a photographic record, could figure into the image’s historical relevance.

That photographs “furnish evidence” cannot be denied. Even Susan Sontag, who sees photography as one of the more odious tools of appropriation, cedes this point (in these exact words). Yet when imagery is reduced to a body of strictly representative objects, procedural aspects of image production that account for both the science and theatricality of invention are overlooked. This means a large part of how photographs furnish evidence gets buried in discussion of what they evince.

Sontag makes the argument that the subjectivity of the photographed is appropriated and incorporated into the image’s discursive project. Yet her treatment of ways of doing photography is restricted to the diversity of subjects depicted and the photographer’s place as observer. She paints the photographer as

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violent and aggressive, but also possessed and self-important; the camera, she claims, has become a stand-in for the gun in a global image safari where nature—really anything external to the camera-photographer diode—is hunted through the lens.\textsuperscript{66} A similar disembodiment of the medium's discursive function can be seen in Jason Pribilsky's concept of the "Cold War camera" that served social scientists intent on insinuating social change at the highland Peruvian hacienda at Vicos. Indeed, to equate picture taking to a hunt is applicable to certain genera. Street photography, for instance—in which the photographer, sporting a discreet and highly portable Leica camera, counts on the element of surprise as a way of circumventing the subject's efforts to control how s/he is represented—was at its zenith when Sontag was drafting her rebuke of photography in the 1970s. Considering she was writing during the heyday of the sort of clandestine, gotcha photography best embodied in the works of Cartier-Bresson, of Joel Meyerowitz, or of Bruce Gilden, she is correct when, in her essay on "The Heroism of Vision", she claims that "[p]hotographic seeing, when one examines its claims, turns out to be mainly the practice of a kind of dissociative seeing ..." one that discloses the "thingness of human beings".\textsuperscript{67}

That photography can be an act of subjective violence, simultaneously denaturing and assimilating that which is photographed is undeniable. Indeed, my treatment of the aerial survey rests on this assumption. That road colonization surfaced in Peru at the same time that aerial photography came into its own as a discipline was more than serendipitous. Aerial survey allowed the closest views that

\textsuperscript{66} Ibid., 15.
\textsuperscript{67} Ibid., 97, 111.
Lima planners had ever had of remote Amazonian locales, but it also served those planners as a tool for subsuming Amazonian landscapes into their story of progress. My deconstruction of Peru’s National Aerial Photographic Archive therefore relies on the concept of the Image World to trace representative fragments of Huallaga forests as they migrated and amalgamated through the National Aerial-Photographic Service in a Latourian “circulating reference”. Professional planners used aerial photography as a tool of subjective violence that reified Amazonian nature and conditioned its subjugation to developmentalist ambitions. Of vital importance to the project of tying environmental imaginaries to environmental change is the detailed unpacking of how vision and visual representation subsumed and re-made the ecologies observed through them.

Yet one of the less explored ways in which nature was apprehended was through the visual. To restate Roderick Nash’s conviction: the heart of the bias against wilderness was the modern divergence between visual media and the nature it mediated.68 For Nash it was the primal sense of sight that spurred generations of North American colonists to clear forests, for forests hindered vision and the security it instilled in a vulnerable people. My interest, however, lies in the complicated ways by which photography and other visual media instigated a severance between nature and culture that attended the building of modernity’s megaprojects. Whereas my discussion of COOPOP imagery and the machine cult

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68 Though Nash attributed the urge to conquer nature to a primitive association between security and sight, I think his emphasis on vision and—I would add—its attendant media should accompany any serious examination of how humans interacted with their surrounding environs. Roderick Nash, Wilderness and the American Mind (New Haven, Conn.: Yale University Press, 1982).
prioritizes an event-centred reading of photography, I also want to explore the environmental significance of images as representations. This endeavour necessarily calls for an emphasis on visual processes, such as the staging of photographs, the data collection that contributed to mapping, and the technological regimes of aerial photography. In his now canonical essay on soil studies in the Brazilian Amazon, Bruno Latour traces what he refers to as a closed system of “circulating reference” that underwrites scientific legitimacy. In that case, Latour followed the extraction, packaging, reordering, analysis and representation of forest soils to demonstrate how science legitimates itself with recourse to an unbroken chain of reference that is always already linked to its object of study or reference.\(^{69}\) In the cases Latour discusses, fragments of soil were actually present along much of the chain of reference until they arrived in the laboratory. Only there did the process of representation—the replacement of soil with text and graphics—occur. This is the severance between nature and culture that I refer to: the point where some element of the forest is rendered in visual and textual language and thus replaced.

Unlike the soil sciences Latour discusses, the processes of photogrammetry, its resultant cartography and Leslie Holdridge’s climate science, \textit{began} with representations, whether in the form of photographs or datasets, so the Latourian chain of reference existed separate from, not originating in, the forest from the outset. In his critique of Western logocentrism, Jacques Derrida urges us to think of language—or more specifically the linguistic sign—as “taking-the-place”. If seen as a process of becoming, any representation—be it a morpheme, a text, a measurement

\(^{69}\) Latour, “Circulating Reference: Sampling the Soil in the Amazon Rainforest.”
or an image—is a duality. As a signifier, it *takes the place* of that which it represents. However, as a speech act, it is simultaneously *taking place*, coming to life and existing on its own, apart from its referent.\(^7^0\) That aerial photo and ecological classification began as signifiers that existed separate from *and* in relation to the biogeographical communities they depicted is another example of the sort of factical infidelities one encounters in the archive. And that planners and builders relied so heavily on them helps explain some of the problems they encountered on the ground. In many ways the exorbitant cost run-ups tied to unexpected landslides and terribly challenging terrain that I discuss in Chapter Four can be read as confirmation of James Scott’s assertion that the state’s Gods-eye view figured prominently in the failure of its utopian scheming. But I want to focus on more than just the failure of aerial photographs and early climate science to stand in for the infinitely complex bio-geomorphic realities of the Huallaga and Mayo Valleys, because in their production these schematic sciences also *created* something of immense importance for the land. By extracting and reconfiguring representational fragments of the land, the men and (few if any) women who surveyed Peru’s Northeastern valleys invented a new dossier of eco-assemblages upon which could emerge the matrix of capitalist monocultures and smallholder polycultures that would characterize the Huallaga in the following decades.\(^7^1\) This process had a specific logic to it and only through a detailed examination of the procedural


\(^{71}\) See Part Three for details on the ecological changes that happened in the Huallaga through the 1960s and 1970s. In Chapter Seven I discuss the conversion of the Huallaga into a vast complex of coca monocultures. My characterization of the Huallaga as a site of developmentalist eco-assemblages is inspired by Gilles Deleuze and Félix Guattari, *A Thousand Plateaus Capitalism and Schizophrenia* (Minneapolis: University of Minnesota Press, 1987).
components of these sciences and the logic that underwrote them can one elucidate
the connection between representing the land and transforming it. The Image World
approach is useful in this endeavour for it requires the sort of diachronic analysis
that uncovers the secret lives (and impactful actions) images took on and engaged in
as they were produced, packaged, conserved and consumed.

However, the Image World approach, perhaps because Sontag was one of its
early proponents, takes violence and appropriation as photography’s de facto
condition; with the obliteration of the subject, the only use left for the photograph is
as historical object, and because of that, developments in the critique of
photography relate to how one explores the world of circuits and trajectories in
which the photo-object travels. For some, this has meant applying Marxist criteria
by treating the photo-object as a commodity and therefore endowed with an
intrinsic use value and a social exchange value, or seeing its indexical capacity as
central to a “visual primitive accumulation”.72 For Jens Andermann, the medium
played a key role in substantiating the Argentine state of the latter nineteenth
century through a visual economy that appropriated the frontier spaces of
Patagonia and the Chaco. State making is a violent affair and images, when
employed as part of the power dynamics of statecraft and imperialism, are the
products of mechanical violence, as well.73

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72 Deborah Poole, Vision, Race, and Modernity: A Visual Economy of the Andean Image World
Photography and Primitive Accumulation,” in The Optic of the State: Visuality and Power in
Argentina and Brazil, Illuminations (Pittsburgh, Pa: University of Pittsburgh Press, 2007), 185–
89.

73 This relationship is covered in detail by: Jens Andermann, The Optic of the State: Visuality
and Power in Argentina and Brazil, Illuminations (Pittsburgh, Pa: University of Pittsburgh Press,
For Deborah Poole, that rang true in the photography of Yale explorer, Hiram Bingham, who shared some of the earliest photographic images of the Apurímac gorge and the Vilcabamba Valley with a global audience when he published *Machu Picchu: a Citadel of the Incas* in 1930. Poole pays special attention to one of his most featured images, *The Most Inaccessible Corner*, and treats it as a manifestation of how the modernist obsession with form to the detriment of content produced an erasure of the subject portrayed. This erasure in turn made room for the type of possessive ideology that relied on Roman law, a sentiment echoed later by Andermann, and became part of what Poole calls an imperial visual regime. Poole describes the vantage point of Bingham’s photo as one that had to be physically occupied by the shooter, one that—laden with the modernist ethic of the self—converted landscape into space and made it something triumphantly claimed through the mountaineer’s personal sacrifice. This is precisely the way I understand the impact of aerial photography on the land.

However, these and other treatments of photography in Latin American environs have placed a premium on how the image becomes a tool of conquest and appropriation. And when dealing with spatial subjects such as landscapes and peripheries, the claims made against the genre can be apt. Yet the underlying assumption here posits that the photo has no legitimacy as a photo, that only once commoditized and inserted into an economy of signs was it charged with historical

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75 Ibid., 127–28.
value. Claims of appropriation miss the image subject’s self-constituting positionality. Through such readings, the only actors deemed worthy of interrogation are the photographers and the myriad individuals and institutions his or her production encounters as it makes its way through a veritable cosmos of commodity chains, sometimes being lumped into typologies along the way.

But in the kind of photojournalism that documented development projects in 1960s Peru, in which the photographer’s presence is obvious, and recognition of the camera’s role as storyteller effected a change in the subject’s behaviour, or in the creation of personal snapshots documenting one’s time working on a highway build, to speak of appropriation alone misses a lot of the historical processes bearing down on the moment the shutter was tripped. Instead, the historical subjects brought into being in these images need to be considered as the product of a dialogue between photographer and photographed: one mediated by lopsided power dynamics, to be sure, but one in which the everyday people in front of the lens played some role as participants. Greg Grandin exemplifies this method of reading photos when he argues that anonymous studio portraits of K’iché Indians in early twentieth-century Guatemala evince “the conscious presentation of self and family”. Grandin suggests that social identity was cast in clothing, posture, expression and selection of props, all elusively anonymous choices negotiated to

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76 Though in my discussion of the machine cult in Chapter Two, I draw from Miguel Ángel Áviles-Galán’s interpretive framework, I have to disagree with him when he says: “The value of the photographic image and its role in the history in which it participated is not inherent in the content of the image or embedded in the intrinsic and extrinsic elements of form. Rather, it is anchored to the functional context of creation and cannot be deduced from the image itself”. Miguel Ángel Áviles-Galán, “A Todo Vapor: Mechanisation in Porfírian Mexico: Steam Power and Machine Building, 1862 to 1906.” (PhD diss., University of British Columbia, 2010), 278, http://circle.ubc.ca/handle/2429/25837.

77 Grandin, “Can the Subaltern Be Seen?,” 86.
unknown degrees between the photographer and photographed. In his exploration of mechanization and steam engineering in Porfirian Mexico, Miguel Ángel Áviles-Galán argues that machines were significant historical actors. One way that he supports this claim is by examining the meanings attributed to their representation in photographs. For Áviles-Galán, the lighting, focus, camera angle and focal length of images all conspired to render machines “as exotic aliens that appeared the products of a miraculous birth”, heralding the coming age of mechanised industry. The emphasis that he and Grandin both place on the subjects represented in photographs points to a more elusive, yet critical, question: what went on in the camera’s presence around the moment the shutter was tripped?

As part of the spectacle orchestrated around the aided self-build program, Cooperación Popular, statecraft engendered a mythical campesino subject that boosters discursively endowed with a millennial inheritance. This subjectivity is an important historical artefact, though it may be far from the lived experience of many of the peasants made to embody it. After all it evinces a discourse that positioned the peasant as the muscle that would bring modernity. And it tells us something about mid-century Peruvians that real peasants lent their likeness to images that fortified this myth. They stood—tools in the air—before the lens, in an act that complicates the claim that their likeness was stolen through the photographer’s violence. Moreover, in the habits that monumentalized machines, the questions of agency and subjectivity were made even more ambiguous because the appropriator was often also the appropriated. In my discussion of the photographs of Walter

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78 Ibid., 97–99.
Miranda Pardo, we see a case of a man who was the main subject of many images, yet he too was responsible for the camera being present and capable of assimilating the altered landscapes of Peru’s Cordillera Oriental.

Still other studies have looked to photography’s indexical nature to argue for its purchase in projects of constructing racial and gender identities, often with ambiguous results. The production of photographic typologies undergirded photography’s complicity in the mid-century social scientific project to rid the Third World of so-called backward customs, but it also hinted at photography's special niche within modernity’s cult of visual regimes. Vision was the sense through which modernity legitimated itself and it provided development the means to verify its multiple ideological projects. The photograph was one form in which these developmentalist visions were fixed and reordered in the making of such “epistemic spaces” as the laboratory, the museum or the archive. A large part of my argument centres on photography because of how boosters and engineers leveraged it to practise and perpetuate the modern land ethic, and because the rituals engendered around it demonstrate some of the means that conscripted subalterns into development’s environmental project. But as road colonization progressed and the

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81 Drawing from Foucault, Alejandra Bronfman uses this term to speak to the ability of certain spaces to transcend the disjunctions between collections of seemingly incommensurate objects. Bronfman argues that the Museo de la Cátedra de Medicina Legal de la Universidad de la Havana—by way of the collecting and categorizing that went on there—represented a site where the distinct logics of social science and policing met in contentious dialogue. Alejandra Bronfman, “The Fantastic Flying Donkey and The Tattoo,” Radical History Review, no. 113 (2012): 134–42.
Huallaga Valley was further incorporated into the global matrices of transnational development, other visual regimes moved in.

Thus, my approach to the visual record that forms a large part of this dissertation is multiple and contingent. I do not pretend to prioritize one methodology over another. Instead, I engage in a genre-specific kind of analysis, happily using the insights of the Image World approach where applicable, but opting for the more event-centered reading put forth by Grandin and Áviles-Galán when the sources call for it. My intention in doing so responds to a desire for methodological cross-pollination as much as the exigencies of archival research.

**Argument**

As my narrative progresses, the stress I place on photography morphs into an exploration of visuality writ large, as I question the epistemological features that undergirded nature’s representation as an object of development. Following Arturo Escobar’s pioneering work, I argue that development discourse on and in Peru engendered a series of subjectivities and spatial configurations that justified its own necessity. Moreover, the project of road colonization inscribed this developmentalist worldview into the Huallaga’s socio-ecological landscapes with disastrous consequences. Ocular faculties and technologies constituted a critical component of this topographical writing, and the procedural aspects of their creation were fundamental in constituting their power to effect changes in the land and society.

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The narrative is divided into three parts that cover the Age of Development from 1945 through 1985 in recursive form. Part One is concerned with defining the major players mobilized through the development drama and its visualization. Here I ask how photographic rituals figured in processes of imagining development. Part Two, covering the same rough period as Part One, explores the science and technology that facilitated the Huallaga’s emergence as a developable site and La Marginal’s problematic construction. In this part, my guiding question concerns the simplifying thrust of development science’s structuralist logic and the problems resulting on the ground from the scientific invention of the Huallaga. Part Three then covers the very gendered environmental narrative constructed around the Huallaga’s colonial project. Here I pay special attention to the way that a diversity of actors adopted and adapted the amalgam of capitalism and patriarchy used to justify Huallaga colonization. By this point, my concern with visuality asks how it mediated confirmation of environmental narratives and mitigated land conflicts. With the exception of the issue of land invasions discussed in Chapter Six and the expansion of the cocaine economy looked at in Chapter Seven, the institutions and topics I cover have been woefully overlooked in histories of development, environment and Peru’s Amazonian territories.

Chapter One begins by restating the rise of the architect-politician in Peru, a subject that architectural historians are beginning to explore and theorize.83 I then

go on to introduce and deconstruct the modern land ethic as it was articulated through the community development program, *Cooperación Popular*. Through discourse and practise, *Cooperación Popular*, or COOPOP, was instrumental in introducing and inculcating the environmental visions of modernism and identifying the roles peasants, politicians, presidents and families should play in the achievement of progress. Through spectacles orchestrated around COOPOP projects, boosters succeeded in engineering a development drama that staged environmental transformation as the harbinger of progress, and—echoing Áviles-Galán—I argue that those spectacles elevated tools and other inanimate objects to the level of historical actor. Chapter Two expands on this last idea by demonstrating how the modern land ethic, with its obsession for earth moving, inculcated a cult of the machine. Building La Marginal meant importation of a veritable army of machinery that boosters praised for its capacity to radically reshape and rearticulate landscapes. These were the heroes of the development drama’s topographical writing regime.

Part Two begins with Chapter Three, which introduces the scientific invention of the Huallaga. The institutional structure that engaged rural peasants in Peruvian development through *Cooperación Popular* was an autochthonous reiteration of the Pan-American regime of cooperation enshrined in the Organization of American States and its centre for hemispheric agricultural science, the Inter-American Institute of Agricultural Sciences in Turrialba, Costa Rica. There, an American

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forester named Leslie Holdridge honed a system for ecological classification that he disseminated throughout the IICA’s sphere of influence. Holdridge’s Life Zone ecology, as it came to be known, rested on a structuralist logic that isolated a few choice constituent elements of an ecosystem and used those variables to draw stark lines of demarcation differentiating ecological areas. When Holdridge’s colleague and confidant, Joseph Tosi, used the Life Zone System to draft the first ecological map of Peru, the subtropical dry forests of the Central Huallaga stood out in bright relief, as a symbolic bull’s eye for the agricultural fixations of the mid-century Peruvian state.84 As the Huallaga began to entice state planners, the burgeoning national aerial survey unit—the Servicio Aerofotográfico Nacional—was developing new techniques to aid road building and planned colonization. Throughout the 1950s, the SAN practised a similar method of decontextualization and rearticulation as that which Holdridge and Tosi used to map ecological zones. Breaking Huallaga landscapes into isolated photographic squares, and then using those images to produce a series of reiterations including photo mosaics and indexes, as well as cartographic representations such as contour maps and longitudinal profiles, practitioners of the new science of photogrammetry—like adherents of Life Zone ecology—fashioned new virtual landscapes rife with omissions and aberrations. These two sciences, Life Zone ecology and photogrammetry, literally helped put the Huallaga on the map, but what made them so useful to planners—the rationalizing

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84 In his foundational work on cartography and land use in nineteenth-century Mexican statecraft, Raymond Craib advances the notion of state fixations to capture the importance of symbolic representation in the spatialisation of political ideology. Raymond B. Craib, Cartographic Mexico: A History of State Fixations and Fugitive Landscapes, Latin America Otherwise (Durham, N.C: Duke University Press, 2004).
god’s-eye view they provided—proved deceptively simple once road builders hit the ground. Chapter Four delves into one long-buried story of corporate corruption and government overreach that resulted from the planned omissions, and downright negligence, that went into La Marginal’s most touted segment: the highway from Tarapoto to the border between the departments of San Martín and Amazonas. Planned by the global engineering outfit, Brown & Root and built—for the most part—by the world’s largest heavy construction firm, Morrison Knudsen, the Tarapoto-Río Nieva highway project was plagued by landslides, equipment shortages and personnel problems from the outset. When the two companies colluded to cheat the Peruvian government out of the cost of slides, their final decision rested on one swift visual inspection of the problem areas. Part Two then describes an arc that begins with the abstracting views of Life Zone ecology and photogrammetry as legitimating forces in road colonization’s ideation and ends with a ground-level visual inspection’s use in the realpolitik of development.

While Part One describes Peru’s development drama and its environmental ethic and Part Two deconstructs the methods by which that ethic fuelled road colonization, Part Three looks at the colonial aspects of road colonization. Chapter Five is a thick description of the colonial imaginary that began with the 1948 expedition led by entomologist Cándido Bolívar. In this chapter, I explore emptiness, virginity and the family as governing tropes of Huallaga development and ask how booster discourse conditioned the planned colonization that became the Tingo María-Tocache-Campanilla Colonization Project in the transition zone between the upper and central regions of the Huallaga Valley. Chapter Six then asks how land
tenure fits into the story of socio-ecological decline in the Huallaga. If the
development drama represented one way in which discourse was inscribed into the
land, legal regimes, court records and laws give insight into how the land was
inscribed into the discourses of development and progress. Legal regimes are vast
and convoluted rhetorical tapestries draped over reality until corrosion, crisis or
mere circumstance lifts them up, shakes them out and judges whether they face a
good washing or wholesale replacement. Like any good yarn, that veil comes with
refurbished subjectivities; it engenders a new economy of spatial configurations;
and it constitutes its own temporality. The Tingo María-Tocache-Campanilla
Colonization Project embodied these sorts of transformations when it became the
Ministry of Agriculture’s arbiter, managing land expropriations and allocations
under the Belaúnde project launched in 1966, and then the Velasco-era agrarian

The chapter of Huallaga development that I end on was hardly a shining moment
in the valley's history. Indeed, the valley’s conversion into the global epicentre of
illicit cocaine production and trafficking is easily and often read as an example of
failed development. And it is hard to talk about the Huallaga Valley without recourse
to such a stark declension. By the mid 1970s the effort to reshape the Huallaga into
a monocultural eco-assemblage where resettled peasants sustained their families
and accumulated capital by growing coffee, cacao, maize and banana around huge
expanses of rice, ranching and African oil palm was running off the rails. Road
colonization brought migrants, and it spurred conversion of primary forests into
subsistence farms and export-oriented plantations. The developmentalist vision of
the Huallaga as a mosaic of individuated parcels was a reality. But the Age of Development ended in the Huallaga when the valley it envisioned became the site of a new global geography of cocaine.
Part One: The Age of Development in Peru

Chapter One: The Modern Land Ethic and a Dramatis Personae of the Belaúndean Development Drama

Every time I look over a Peruvian backwater, from some distant height, I ask the same question and I obtain the same response. I see a humble hamlet with its picturesque bell tower and I question my guide: Who built that church? And the guide tells me: “The people built it”. Pushing him again I ask: Who constructed the school? And again he responds: “The people built it”. And following the serpentine route through the hills, I question one more time: Who opened this road? And, once again, now resonating in my ears like a verse from some triumphal march, I hear in this expressive and eloquent phrase a history of the Peru of yesterday, today and the prophecy of tomorrow: “The people built it”.85

These words, intoned by Fernando Belaúnde Terry while visiting the hamlet of Chincheros, Apurímac, in April of 1956, formed the basis of an origin myth. For Belaúnde himself, they marked a kind of reveal, for the speech given that day initiated the first of his four presidential campaigns. And for acolytes of the Popular Action party he was soon to form, these words expressed the foundational philosophy of their political party. Underpinning the Popular Action platform were

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the tenets of corporatist citizenship, decentralization and progress through construction. But the speech delivered that day also pointed to the consolidation of a new political subjectivity, one in which the ideals of an emerging, professionalized middle class were fused with an entrenched paternalism typical of populist strategies used across the Peruvian political landscape.\textsuperscript{86} With Belaúnde’s rise to power, beginning as a representative in the Peruvian Congress (1945-1948) and culminating in two presidential terms (1963-1968, 1980-1985), the social and aesthetic preoccupations that permeated modernist architecture were given full expression through the highest echelons of state praxis for the first time in Peru. This combined with a local variation of the modernization theory emanating from the United States to forge a unique brand of Peruvian developmentalism that echoed within a transnational context, but was also exceptional in the ways it envisioned the actors of development. Alongside the advent of the new Architect-Politician embodied by Belaúnde and his followers,\textsuperscript{87} a host of other historical subjects were

\textsuperscript{86} The paternalistic aspects of modern populism that Belaúnde exhibited are something that Steve Stein dates in Peru to the regime of Luis Sánchez Cerro (1931-1933) and the emergence of the APRA party in the same period. See: Steve Stein, \textit{Populism in Peru: The Emergence of the Masses and the Politics of Social Control} (Madison, Wis: University of Wisconsin Press, 1980).

\textsuperscript{87} I take this idea first from Ben Orlove, who sees the Architect as an allegorical figure latched onto by Belaúnde in his politics. For Orlove, Belaúnde’s project of the Carretera Marginal de la Selva served less of a practical function and more of a political one: “Perhaps it fulfilled only its most important tasks: to offer Peruvians the allegory of an architect as president, to persuade them to vote for this figure, and, more generally, to have them think, as Belaunde wrote, that ‘the irascible and redoubtable conglomerate of mountains that is Peru’s heritage will, in time, wear a web of roads as never before and, thus tamed, bow to inevitable progress.’" While I agree La Marginal bolstered Belaúnde’s image as Architect-President, I obviously disagree that its import was restricted to this alone. Luis Castañeda, echoing many of the ideas elaborated by Grillo and Sharon, argues that in the figure of Belaúnde, we see more than the Architect as allegory, his time in power represented a crucial fusion of the architectural profession with unprecedented access to policy making. See: Benjamin S. Orlove, “Putting Race in Its Place: Order in Colonial and Postcolonial Peruvian Geography,” 331; Castañeda, “Pre-Columbian Skins, Developmental Souls: Architect as Politician”; María Teresa Grillo Arbulu and Tucker Sharon, “Peru’s Amazonian Imaginary: Marginality, Territory and National Integration,” in \textit{Environment and Citizenship in Latin America}, ed. Alex Latta and Hannah Wittman, CEDLA Latin America Studies (CLAS) (New
imagined as part of the elite-inspired effort to modernize that was discursively constructed in dramatic terms. The emergence of these subjectivities corresponded with a unique historical moment when fresh geostrategic lines were drawn across Latin America under the rubric of development and cooperation. In this Age of Development, the process of building helped assuage regional animosities under the guise of poverty eradication, but it also fed the global inculcation of a modern land ethic that coupled environmental change with social change.

The notion that social progress came from environmental transformations existed at the heart of modernist architecture and urban planning.\textsuperscript{88} Indeed, the earliest moves to adopt and adapt the tenets of modern architecture in Peru took the shape of so-called “social architecture” developed in the Bauhaus and advocated by the world body of modern architecture, the Congress International d'Architecture Moderne (CIAM).\textsuperscript{89} This resulted in the creation of vast \textit{unidades vecinales}, or multifamily complexes modeled on a hodgepodge of modern planning concepts including the Garden City and the super block, that engendered a wholesale transformation of the arid coastal landscape. Starting in 1945, the U.S.-trained Arequipeño aristocrat, Fernando Belaúnde Terry, entered national politics as Lima’s congressional representative on a mass-housing platform that fulfilled the four central laws of CIAM architecture: living, working, recreation and circulation. Belaúnde proved a key conduit for insinuating modernism into the Peruvian

\textsuperscript{88} For just one example, see: Le Corbusier, \textit{Towards a New Architecture} (New York: Payson & Clarke, 1927).

architectural and political scenes, not just in his capacity as representative, but also as founder and editor of the influential journal *El Arquitecto Peruano* and as professor of architecture and urban planning at the National School of Engineering’s Department of Architecture. At the school he mentored the avant-garde and advocated for the founding of the Faculty of Architecture around the same time that he launched his first presidential bid in 1956.\(^\text{90}\) In the coming years, the Faculty of Architecture became a site of political incubation through which a number of students, steeped in the ideas of the Bauhaus and Le Corbusier, would transition into government positions and implement policies of a hybrid modernism at the national level.\(^\text{91}\) The cohort of students who founded the National Democratic Youth Front that made up the nucleus of Belaúnde’s Popular Action party coalesced out of their common association at the Faculty of Architecture, and encouraged Belaúnde himself to run for president. When he eventually came to power in 1963,


\(^{91}\) The most iconic of these figures was Belaúnde himself, but two noteworthy men who followed his example include Eduardo Orrego Villaporta and Luis Vier, both eventual directors of the *Cooperación Popular* program who will be discussed later.
modernism was at the core of his three-point party platform and two of his most ambitions objectives—the colonization of the Amazon and the economic development program, Cooperación Popular (COOPOP), or Popular Cooperation—would have immediate and permanent effects on the Peruvian landscape.

During his early years as an architect-politician, Belaúnde worked tirelessly to reorder Lima into an integrated matrix of unidades vecinales as what architectural historian Helen Gyger called "a somewhat authoritarian and technocratic New Deal true believer". His vision for the city entailed demolition and clearing of informal shantytowns to be replaced by centrally planned cities within a city along the lines of the 1949 Plan Piloto, or master plan, devised with consultation from modernist icons, Josep Lluís Sert and Paul Lester Wiener. Though by the mid 1950s, he adopted a Peruvianist rhetoric that repackaged modernism as something that owed its foundation to the Incan legacy of state planning, Belaúnde and the acciopopulista rank and file held the staunch belief that progress was achieved through building.

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92 The platform of Belaúnde's Popular Action consisted of three main fronts: 1) colonization of the interior; 2) affordable, large-scale housing development; and 3) credit democratization. The first was embodied in the project of La Marginal. The second included the planning of large-scale housing projects, or unidades vecinales, in major coastal cities, and the Cooperación Popular rural building program. While this period is marked in architectural history as the death of modernism, a time when figures like Robert Venturri broke down the edifices of flat-roofed, brise solei bedazzled structures in both physical and metaphorical ways, the case of Peru offers an alternative narrative, one in which the rise of modernism comes much later and its "death" was slightly farther off, as well. This could be explained in part because Belaúnde's agenda represented the continuation of ideas he had been developing since the 1940s, when he first returned to Peru, founded El Arquitecto Peruano and built his first unidad vecinal. Modernism in Peru reached its zenith in the late 1950s and first years of the decade of the 1960s, a time that corresponds with Belaúnde's rise to power between 1956 and 1963.


94 By 1954, Belaúnde was framing his architectural ideas through a nativist lens that vindicated what he saw as an ignored Incan legacy. The concept of the garden city put forth by English urban planner, Ebenezer Howard, and which influenced Belaúnde’s unidades vecinales, was something he suggested had its roots in the Incan tradition of communal land ownership. Fernando Belaúnde Terry, "El planeamiento en el antiguo y moderno Peru," El Arquitecto
That his political platform championed both the construction of highly engineered, high-density, concrete housing complexes and Cooperación Popular, which facilitated small-scale community construction projects, would have seemed contradictory to the time’s architectural leanings, were it not for their common emphasis on building and its relationship to the land. When architect-politicians with similar visions were erecting massive high-rise slab towers on the scale of Mexico’s Nonoalco-Tlatelolco complex, or Venezuela’s superbloques, the fanfare Belaúnde drummed up for his small rural building program was out of place. But the commonality that ran through high-rise, high-density housing, and local road building projects, or the construction of a community market—both examples of common Cooperación Popular projects—was the ethos that land transformed through construction was the pathway to progress.

The construction of unidades vecinales was but one solution to the massive informal settlements, known as barriadas, that emerged—sometimes overnight—around Lima’s periphery. While the model for low-income housing that Belaúnde promoted through the formation of the National Housing Corporation (Corporación Nacional de Vivienda, CNV, 1945) posited the state as the key provider of materials, labour and credit, another brand of slum solution emerged through the work and writings of Eduardo Neira and John F. C. Turner. Neira, whose architectural style was informed both by modernist icons like Le Corbusier and by the progressive

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sociology of Peruvian José Matos Mar, held the conspicuous position of Director of Urbanism in the Ministry of Foment and Public Works through the late 1950s, when he developed an acquaintance with Englishman, John Turner. The two quickly formed a bond based on their common espousal of the urban planning theories of Patrick Geddes, which pivoted on the fundamental belief that the environment should be ordered in humankind’s best interest. In the explosive growth of the barriadas Neira and Turner didn’t see slums in need of eradication, but neighbourhoods in transition powered by the individual initiative of owner-builders. Architecturally, they both promoted the exceptional house built in vernacular materials by an uneducated campesino, Jorge Vizcarra, as a vindication of Peru’s regional style and a model to be imitated by informal builders throughout the burgeoning barriadas. In socio-political terms, the two men championed the individual over the monolithic state required to carry out the sort of grandiose housing schemes en vogue with practicing modernists. Following the theories of Geddes, Neira and Turner were interested in exploring an architectural middle ground that preserved early modernism’s social compromise without lionizing the

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95 Neira’s formation is discussed in: Gyger, “The Informal as a Project,” 84–93; and Kahatt, “Agrupación Espacio and the CIAM Peru Group: Architecture and the City in the Peruvian Modern Project”; the pioneering Peruvian anthropologist, José Matos Mar, who wrote the first and now canonical study of informal settlements in Peru, was a critical influence in Neira’s practice. Among the many collaborations between them, both men consulted on the Comisión para Reforma Agraria y Vivienda discussed in Chapter Five. José Matos Mar, Las barriadas de Lima: 1957 (Instituto de Estudios Peruanos, 1977).

96 Gyger, “The Informal as a Project,” 94.

architect as the main agent of social change. And when, in 1957, Neira invited Turner to join him in Peru, Turner was most interested in helping people build for themselves and exploring the most efficient ways that architects and bureaucrats could support them. Following the earthquake that devastated much of the southern city of Arequipa in January 1958 he suddenly found his intellectual project could meet an urgent need in the city’s levelled informal settlements. The small government agency where Turner was employed, the Office of Technical Assistance to the Popular Urbanizations of Arequipa (Oficina de Asistencia Técnica de Arequipa, OATA) was flooded with funding to assist in quickly rebuilding and they opted to support owner-builders with credits to finance new home construction. Turner and his colleagues at OATA based this form of aided self-building on a model tested in Puerto Rico in the early 1950s, where again, technical and financial assistance stood in for state-planned and built housing. Indeed, at stake in Turner’s work was no less than the state’s place in housing. While he advocated the so-called “freedom to build”—near full retrenchment of the state and, coincidentally, the title of his 1972 manifesto—the Puerto Rico model represented a middle ground in which the state played the role of financial benefactor. Finally, a third and by Turner’s assessment more paternalistic model was that of the “directed self-build”, in which the state proffered technical assistance in the form of design, planning and skills training, as

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well as materials. This third model described the form that *Cooperación Popular* building projects took.

Thus, though a far cry from the New Deal-inspired urban planning of Belaúnde, and though not particularly concerned with housing per se, the *Cooperación Popular* program represented a rural expression of uniquely modernist understandings of how progress was achieved. Following the neoliberal reconfiguration of international development that took place in the 1980s, progress was a concept enacted on the bodies of individuals—often those of women and children—in the form of hygiene, sanitation and so-called capacity building. Below I briefly expose these undercurrents in later COOPOP discourse, especially with regard to the way it envisioned the role of women and the way it displaced labour costs from the state to the individual. But despite these instances of slippage, *Cooperación Popular* was an essentially modernist creation that inculcated a modern land ethic premised on environmental conversion. More than individual bodies, COOPOP was about building. And though imbuing rural peasants with some agency in their own development, it was a paternalistic program that mandated what that development should look like and held up the state and expert technicians as the gatekeepers of modernity.

If modernist architecture proffered the method by which to achieve progress, modernization theory defined that progress. Indeed, while COOPOP had its architectural precursors in the aided self-buils pioneered by John F. C. Turner, the sociological function of the program hinged on modernization theory’s incursion

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100 Turner, *Freedom to Build*, 141–42.
into the Peruvian countryside at the highland town of Vicos. There, starting in 1952, leading researchers from Peru and the United States, including famed anthropologist, Allan Holmberg, and eminent biologist Carlos Monge, launched a sociological experiment to introduce modernity into what was perceived as a “backwards”, indigenous town. The Vicos Project, alternately called the Peru-Cornell Project after the home university of Holmberg and many of his disciples, included more than a decade of varied anthropological studies and methodologies, producing troves of data, but perhaps its most significant achievement, certainly for the purposes of this discussion, came in 1959 when Vicosinos and their social scientist counterparts wrested the eponymously named hacienda from a long-standing tenure system of peonage and distributed the land amongst community members.\(^{101}\) This micro reform that took place years before Peru’s actual agrarian reforms hinged on the peasants’ capacity to increase agricultural output. Holmberg and his colleagues targeted inefficient land management as the crack in the *arrendatario*—or subletting—system’s dam. They convinced the Ministry of Labour and Indigenous Affairs to sell the Vicos hacienda by ensuring loans to community members that would be repaid with the profits made on boosting the potato yield. Transferring the land from absentee middlemen to the community, who worked it, therefore depended on teaching the Vicosinos to adopt input-intensive agricultural methods that could ensure them a better yield. In this example, and all those that I discuss below, progress was defined as a boost in economic stature, but one tied to the creation of capital-intensive monocultures. (Incidentally, to teach this new form

of capitalist land management, Holmberg and associates brought in experts from the Inter-American Service for Agricultural Cooperation (Servicio Cooperativo Interamericano de Producción Agrícola SCIPA), an institution that appears here and there throughout this dissertation.) Indeed, as I argue throughout, the ecology of developmentalism did not merely translate to, but indeed was predicated on changes in the land.

The place of photography in this panorama has only just begun to be explored. In a recent article on the programmatic uses of photography by the prominent Vicos researcher and pioneer of visual anthropology, John Collier, Jason Pribilsky speaks of the “Cold War camera’s” function as a means for behavioural scientists to document social change. Pribilsky argues that Collier’s use of photography to understand and change the “backwards” Vicosinos was rooted in and fed the Cold War agenda of social scientists. Moreover, he contends that while Collier’s imagery generated abundant raw data for Vicos researchers to mine, it eluded Collier’s main intention of capturing the social change going on at Vicos. Ultimately, the modern Vicosino that Holmberg, Monge, Collier and their colleagues envisioned escaped the camera’s lens and though Collier could document evidence of social change, the camera could not help him to grasp why and how that change took place. Pribilsky’s analysis hinges on a disembodied rendering of the Cold War camera and the hopes with which mid-century social science endowed it. In a sense Pribilsky’s Cold War camera was simultaneously a tool and a symbol, capable

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103 Ibid., 145.
104 Ibid., 140.
of “fixing” new forms of raw data while also charged with the hopes and expectations of visual anthropologists. I concur with Pribilsky's suggestion that visuality figured prominently as a means for implementing modernization agendas through community development, but I propose a different reading of the camera's role.

In this and the following chapter I argue that the process whereby cameras moved from tool to symbol involved a series of rituals that implicated individual bodies in the creation of a national mythology of progress. I survey the varied and disparate subjects envisioned as part of the modernity pined for by the architect-politicians running Peru and situate those subjects within a visual regime that served to inculcate the value set they espoused. However, though the ideas discussed in this chapter had their origins in an upwardly mobile political class, they were acted out across race, class and gender boundaries, especially through the Cooperación Popular program. Much of this chapter is therefore preoccupied with popular cooperation both as a concept and as an institution. I begin with a discussion of one of the early manifestations of popular cooperation as it was inscribed in architectural practice and move on to tell the history of the institution itself as envisioned through the eyes of COOP POP boosters. I look at the prominent actors surrounding the program’s birth and growth because, as a conduit for diffusion of an ideology of progress, COOP POP carried out projects that became critical sites where subjectivity was constituted in the development drama. Many of these subjects were known through their own writings or press accounts of their activities, others only as characters in someone else’s story. The large majority of
those I have chosen to focus on, however, were made known through their visual likeness. Key to the successful dissemination of an ideology of progress was its inculcation into the moral economy of everyday Peruvians. And crucial to that process was the production of an iconography of progress. I want to stress, however, that such iconography was a projection of power more than a social reality. In the final section of this chapter I contrast the historical version of COOPOP proffered by booster speeches and political spectacle against the archival record of the program's later incarnation.\textsuperscript{105} Though this juxtaposition suggests that the subjects and spaces envisioned through development discourse where more myth than social fact, I argue that these archival fictions, or factual infidelities, had the power to transform. Though mythological, the development drama triggered significant historical processes and its deconstruction can help elucidate them.

When dealing with large-scale infrastructure projects, one cannot help but look at the work of engineers and a large part of the material available comes in the form of feasibility studies and impact reports. In future chapters I deconstruct these archival riches, but here I want to stress how this kind of material poses a serious obstacle to the historian’s craft in that it is produced before the fact, before the construction, before a project begins to function, before it can have an impact. Indeed, much of the material I have looked at cannot answer such seemingly simple questions as when a certain COOPOP project was built, or a given road segment was finished, or which firm actually got the contract to build it. Instead, the feasibility

\textsuperscript{105} Documents attesting to the daily workings of COOPOP projects from the 1960s don't exist, so I rely on program correspondence from the 1980s as a speculative indication of how things might have been in the 1960s.
studies, for all of their maps and charts and economic projections, are best considered expressions of what was going to happen. The story they tell is less one of construction and progress, as boosters would often promise, and more one of a desire to build in order to achieve a kind of progress. They share a concentrated obsession with what is supposed to happen, a future fetish in which the desired objective is paramount. This meant that events that occurred along the way to progress were counted as evidence of a project’s feasibility fulfilled. It is in this context that I read photographs of construction in Peru. Belaúndean modernism rested in medias res; it promised economic growth that was always about to come. I treat these images as attempts to both document movement toward that desired future and to offer the viewer glimpses of how to achieve it. But most of all I consider them as evidence of a national development drama consisting of its own internal forms of temporality and subjectivity. Specifically, I argue that photographs present evidence of what Greg Denning has called the theatricality of observation, and that photographs of construction projects across Peru not only offered glimpses of a national discourse of progress, but they evinced the methods by which dominant discursive tropes were acted out, ritualized and perpetuated. This endeavour draws from an “event-centered” reading of photographs that deconstructs what happened in front of the camera’s lens as much as it explores the

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representational qualities of finished prints and the varied agendas of those actors standing behind the lens.\textsuperscript{107}

Photographs of the \textit{Cooperación Popular} program in the 1960s re-enacted Peru’s hybrid modernity by coupling the predominant discourse of modernist architecture that held up the Architect as master designer of social change, on the one hand, with self-build ethics that championed individuals, on the other hand. This meant the peasant was endowed with an ambiguous discursive position as both subject and object of revolutionary design. Thanks in part to the incursion of modernization theory and its Peruvian permutation at Vicos, the peasant rested at the center of COOPOP rhetoric as s/he enacted progress, but at the same time COOPOP social praxis treated him/her as the recipient of the enlightened architect-politician’s instruction.

1.1: \textbf{Popular Cooperation: the Concept and Practice of Community Development}

The first example of popular cooperation expressed as an urban planning concept came in early 1962, when Alberto Cerritelli and Belaúnde’s nephew, Miguel Cruchaga, presented their idea of a directed self-build as part of their graduating theses.\textsuperscript{108} Both early graduates of the Faculty of Architecture, the two men were very much set in the mould of Cruchaga’s uncle. Indeed when Belaúnde transitioned

\textsuperscript{107} Here I am drawing from work concerned with event-centered analyses of literacy. For examples, see: French, \textit{The Heart in the Glass Jar}; and Unzueta, Fernando, “Escenas de lectura: naciones imaginadas y el romance de la historia en Hispanoamérica,” \textit{Araucaria. Revista Iberoamericana de Filosofía, Política y Humanidades} 6, no. 13 (2005): not paginated.

into the presidency in 1963, Cruchaga replaced him as editor of *El Arquitecto Peruano*, and their plan for an idealized modern community organized around Belaúnde’s concepts laid the foundation for *Cooperación Popular* projects throughout the country. In their study they outlined an “origin and methodology for the emergency” they discovered in Junín while conducting undergraduate fieldwork. That emergency was one that impressed the two young architects, but one that indeed had persisted for a long time before they arrived. What Cruchaga and Cerritelli found so abhorrent was what they characterized as a “primitive and desolately rural life”. Their solution was a plan for community development rooted in the fundamentals of modernist architecture: speed, efficiency, simplicity and planning, all encompassed under the rubric of rigorous scientific procedure. Evident in their justification for such a plan was a stress on urgency: the project title itself—“Origin and Methodology for the Emergency”—transformed the quotidian highland reality into an emergency; their method placed a premium on short-term rewards and the most expedient procedures; and their impetus was a perceived need for a “realistically and immediately applicable plan for the abandoned populations of the highlands”. Moreover, the project introduced a prototype for implementation of what would become the Law of Popular Cooperation (1963), by making use of local notables to help execute a work regime based on the *minga*, or communal work party.

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109 “... vida tan primituva y desoladamente rural imperante”, ibid., 36.

110 References to this abound, stress is constantly placed on maintaining “criterio científico”, “sustentado en principios tecnológicos”, and “investigación científica”. Ibid., 37, 39.

111 “... plan de aplicación realista e inmediata para poblaciones abandonadas de la serranía”, ibid., 39.
The plan itself offered mock-ups of a rigidly centralized community architecture that would intervene in and condition every aspect of people's lives. Sleek and low-lying, recalling the horizontality of Frank Lloyd Wright, with rammed-earth walls and ceramic-tile roofs, a riff off of Le Corbusier's later embrace of vernacular materials and the privileging of adobe represented in the work of Jorge Vizcarra, the focal point was christened the Plaza del Progreso (Figure 1.1), a testament to the need for change and, as a large spiral courtyard flanked north and south by local bureaucracy, a model for how that change was to be implemented. Indeed, the spiral layout spatialized a pathology of social transformation—or one vision of transformation—by orienting state and commercial institutions around the symbol of progress that was the plaza itself. The story of how to reach progress was then to be literally inscribed into the land and recounted as people moved through the landscape. Entering the spiral from the east, one first encountered a municipal office, followed by a series of covered parking spaces along a road that flanked the plaza's northern extreme. From there, the spiral curved toward the southwest to lead consumers past a collection of commercial posts that bordered the plaza's western edge. Continuing around the plaza, the spiral described an ever-tightening curve—now back toward the east—that brought one past more municipal offices to a large centrally located cinema, where s/he would presumably watch the newest Hollywood release or, even better, the film made to propagandize the Cooperación

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Popular program, *Los pueblos olvidados* (1964). The subjectivities engendered along this pathway to progress were clear: the modern traveller became the consumer of goods, then the consumer of government services, and finally sat down to become a passive consumer of entertainment and propaganda.

This ideal community also consisted of a sanitary installation complete with lavatories, latrine and sunken septic, a market organized around a central courtyard, a ceramics cooperative, a dairy, modular homes, and an albergue with carport and five detached bungalows situated on the banks of Lake Junín, all of which communicated the entrenchment of modern ideals by making space for the important daily activities of commerce, hygiene and leisure.

As a sketch of a real-world framework in which the burgeoning concept of popular cooperation could be articulated, Cruchaga and Cerritelli’s plan was instrumental. It expressed a new set of subjectivities, each corresponding to an imagined role in the ideal community, and spatialized them according to a hierarchy that, despite a perceived championing of rural people, literally put state institutions and propaganda at the center of daily life. It was, in this respect, an important precursor to the Cooperación Popular program launched once Belaúnde took office.

As an institution, Cooperación Popular (or COOP) was born on August 17, 1963. In its earliest incarnation it took the form of the Inter-Ministerial Executive Commission of Popular Cooperation, an independent commission comprised by

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113 The phrase “*los pueblos olvidados*” was constantly employed in newspaper accounts and official publications as synonymous with Jorge Basadre’s concept of “deep Peru”, discussed below. A 1964 documentary made to promote COOP initiatives to the Lima public took the phrase as its title.

114 Created by Supreme Decree 37-F.
delegates from the ministries of Education, Development and Public Works, Public Health and Social Assistance, Labour and Indigenous Affairs, as well as from the National Fund for Economic Development (FNDE) and the National Office for Agrarian Reform and Promotion (ONPAR). This first incarnation exemplified the Belaúndean hope that popular cooperation reach across Peruvian society to harness local forms of collective labour and supplement small-scale construction projects such as schools, community markets, comedores populares, and local branch roads with international aid funnelled through the state. According to the institutional design, projects were meant to be community initiatives, proposed and built by community members, to which COOPOP would respond with technical assistance, funding and equipment.115 However, Cooperación Popular projects were not just a way to join community labour with international aid in order to get things built. Popular Action promoters often leveraged COOPOP initiatives as political spectacle to put the Belaúnde brand of development on display. Moreover, the program became a tool of inculcation, one increasingly preoccupied with the “backwardness” of Peru’s rural landscape entrenched in social experiments like the Peru-Cornell project discussed earlier. To meet this challenge, administrators promoted modern design solutions like those exemplified in Cruchaga and Ceritelli’s “Origin and Methodology for the Emergency”. A primarily rural program at first, COOPOP dotted

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the countryside with low, flat-roofed, concrete structures, designed by the program’s ideologues, boosters and functionaries. It also promoted commerce and education, marked not only by the construction of markets and schools, but through the Cooperación Popular university program’s focus on indoctrination. Promoting these lofty goals entailed a strategic publicity campaign that elevated the symbols of progress seized upon by Belaúnde’s developmentalism—the spade, the tractor, the bulldozer, and the buildings built through popular cooperation—to the apogee of public spectacle. While Fernando Belaúnde himself played a significant role in publicizing the program, it fell to program directors—both disciples of his from the UNI’s Faculty of Architecture—to elaborate how this institutional structure translated to social progress.

Eduardo Orrego, a member of the Faculty of Architecture’s second graduating cohort, was the embodiment of the architect as agent of social change. He was one of the founding members of the National Democratic Youth Front that would form the basis for Belaúnde’s Popular Action party in 1956. After graduating he quickly established himself among the architectural community by completing graduate studies in Spain and working as an understudy at the famed Paris workshop of Le Corbusier and Vladimir Bodiansky, the Atelier des Bâtisseurs or ATBAT,116 On his return to Lima in the early 1960s he formed a partnership with Manuel Gubbins and

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Alfredo Pérez, which received a number of prestigious commissions noted for bringing the international style to Peru. Their Edificio El Pacífico\textsuperscript{117} (1963), a striking knock-off of Skidmore, Owings and Merill’s Lever House in New York, was noted especially for adapting Mies van der Rohe’s interpretation of the curtain wall design to the Peruvian cityscape.\textsuperscript{118} But while Orrego’s commercial architecture might have looked like it could have come from anywhere—one of the unfortunate trademarks of the international style—his individual work betrayed hints of the regionalism embraced by Eduardo Neira and John F.C. Turner.

Beginning in 1966, Lima was the site of the Proyecto Experimental de Vivienda (PREVI), a design competition co-sponsored by the Peruvian government and the United Nations Development Program that challenged architects to identify alternatives to the failed modernist urbanization schemes of the past. Following behind Neira’s pioneering efforts at the Agrarian Reform and Housing Commission, and directed by Peter Land, an English urban planner, the PREVI competition sought to decenter the ideology of high-rise, high-density urbanism embodied in the \textit{unidades vecinales} by promoting projects that would embody the ideals of the self-build: rationalization, stage-construction, modularity and community.\textsuperscript{119} Orrego’s inclusion among the twenty-four selected projects marked for him a continuation of

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\item Not to be confused with Fernando de Osma’s 1958 \textit{Pacífico} building on Avenida José Pardo in Miraflores, which also bears resemblance to Lever House.
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the type of humanistic architectural practice that he had pursued as director of COOPOP in 1963-1964. Indeed, his time in charge of Cooperación Popular presented a unique moment in which the architect was steeped in the emerging social theory of architecture, an experience that helped cast Orrego in the Belaúnde mould of the architect-politician.¹²⁰

In late 1963, while serving as director of COOPOP, Orrego gave a speech before the National Planning Institute that exemplified the ambiguous relationship between the architect and the people. He opened with a letter from the mayor of Lambrama, in the Department of Apurímac, that underlined the ambitious aspirations of the town’s elite.¹²¹ By the end of 1964 they planned to complete, in order of priority, a water works, a boys’ school, and a central plaza; they hoped to renovate the town church, build a town hall and a Civil Guard station. For all these projects they were soliciting aid from Cooperación Popular. Orrego, accompanied by other COOPOP administrators, had visited the town in October and the town officials were now inviting him to return and formalize a plan for support. Though it is not known if he returned, or if the Lambrama elite met their objectives, Orrego took this example to stress what he saw as the townspeople’s innate desire for development,

¹²⁰ Orrego’s move into public service existed in concert with his architectural practice during much of the early 1960s. First working in the Housing Ministry, his move to COOPOP could be seen as his first significant move out of the profession and into public life. As his career advanced he grew into the role of politician, replacing Ciro Alegría as Lima’s congressional representative in 1967. In 1980, upon Belaúnde’s return to power, Orrego was offered a ministerial position, which he rejected to run for mayor of Lima, a seat he held between 1981 and 1983. In the 1990 presidential elections, Orrego was seen by many as the Belaúnde torch-bearer, running as vice-presidential candidate representing Popular Action in Mario Vargas Llosa’s unsuccessful bid under the FREDEMO coalition. For mention of Orrego’s time as mayor of Lima, see: Gustavo Gorriti Ellenbogen, The Shining Path: A History of the Millenarian War in Peru (Chapel Hill: University of North Carolina Press, 1999), 75.

¹²¹ The signatories included the mayor, the school director, the governor, the Civil Guard commander, the town nurse and “los notables del pueblo”: Orrego Villacorta, “Cooperación Popular y desarrollo,” 1–2.
a desire he saw expressed throughout Peru's countryside. He characterized the goals of Lambrama's leaders as an expression of a millennial engineering spirit that dated back to the Inca, one that could be found in different forms throughout the country. At a time when agrarian reform and the question of redistribution were on revolutionary agendas across the political spectrum, Orrego suggested that the key to social progress lay in communal structures that could be harnessed so as to avoid construction costs. Agrarian reform alone, he said, would be too costly and had to be accompanied by a process of industrialization, one that could facilitate the articulation of expropriated lands with economies of scale. Yet the country could simply not afford the kind of outlays that would be required without shifting the burden of labour to communities and tapping into no-cost building customs that highland communities had practiced for generations.

He also argued that his program's decentralized nature was to empower the country's very marginalized peasantry because it put agency in the hands of communities. At its inception Cooperación Popular boasted a tripartite kind of independence, in organizational, political and operational terms. As an inter-ministerial commission, it was supposed to exist outside the purview of any one ministry, thus conferring a degree of institutional freedom and granting authority over its own sub-directorates, which oversaw administrative, inspections, planning and training. In regards to decision making, the institutional design was meant to

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122 Supporters from the Belaúnde wing of Popular Action repeated this argument ad infinitum. For discussion of how the argument fed the colonial discourse about the Amazon, see Chapter Five. For details on how where the argument figured in the internal politics of the Popular Action Party, see Matos Mar and Mejía, _La reforma agraria en el Perú_, 87–89.

devise a harmonization of its own entities with those of regional and local governments, making the planning process a joint effort between the Executive Commission, provincial planning committees and municipalities. In operational terms, as decisions went up the planning chain, resources were disbursed through a system of COOPOP centers with regional franchises (centrales mayores) that oversaw heavy machinery, and local franchises (centrales básicas) that coordinated tool loans and materials.¹²⁴ What this institutional framework conferred was a regional kind of agency that failed to account for what Florencia Mallon has called communal hegemony.¹²⁵ While municipalities and provincial planning committees were endowed with the power to initiate projects, those bodies were made to represent their communities in a way that conflated provinciality with the peasantry. By dint of living in one of the country’s “forgotten towns” community members were portrayed as both in need of and carrying the legacy of popular cooperation, regardless of internal, community-level power dynamics. The town of Lambrama, for instance, was treated as a cohesive unit, though it was the town’s elite who had reached out to Orrego and to Cooperación Popular. For most COOPOP projects, it was town notables who proposed and implemented projects; the labour used to build the projects, however, was drawn from the peasantry and much of the final decision making still rested in Lima.

¹²⁵ Mallon foregrounds the agency of rural actors in the process by which a state becomes hegemonic by examining the way in which ethnicity- and gender-based hierarchies influenced the way rural communities generated nationalist discourses. She calls this communal hegemony. See: Mallon, Peasant and Nation the Making of Postcolonial Mexico and Peru.
When it came to soliciting COOPOP assistance, eligible parties included municipal councils, indigenous communities and other community organizations such as neighbourhood associations constituted by the National Housing Council, and agricultural and farming associations. When one of these entities initiated a project, a chain of decisions would be triggered going up the institutional framework and—provided all was in order—filtering down resources through a series of national, regional and local centers. This decision-making cycle comprised provincial, departmental and national bodies.

A community hoping to build a central market, for example, would present a project plan to their Provincial Programming Council, which, after assessing the project’s feasibility would pass it up to the departmental level. There the project would be approved or rejected and bundled into the Departmental Council’s report to the nation-wide Executive Commission, which, in turn, secured support from international lenders such as USAID, EXIMBANK and the Alliance for Progress. The Inter-Ministerial Executive Commission of Popular Cooperation then dictated how that support would reach a community by way of departmental and provincial distribution centers: the centrales mayores and centrales básicas. These centers, in turn, distributed heavy machinery and tools, as well providing technical assistance to community members. The centrales básicas were also education centres where participants in the COOPOP University Program taught a variety of subjects meant to shape community members into modern citizens. In late 1964 this changed as the

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126 Ministerio de Fomento y Obras Públicas, “Reglamento del fondo rotatorio.”
127 Comisión Ejecutiva Interministerial de Cooperación Popular, “Bases del programa nacional de cooperación popular.”
Executive Commission was brought wholly under the umbrella of the Ministry of Development and Public Works, and the *centrales mayores* and *centrales básicas* took over the advising and assessment tasks of the departmental and provincial councils, respectively. Despite the rhetoric of decentralization, the control exercised by Lima over the lower levels of the COOPOP bureaucracy—extending as far as determining the number of chairs and typewriters in a given *central básica*—continued to reflect a high degree of centralization.\textsuperscript{128} Such paternalistic governing under the guise of decentralization made the program a lightning rod of political ire in the first years of Belaúnde’s mandate.

In mid-1964 COOPOP met with its first political challenge when the congressional opposition, led by APRA founder Víctor Raúl Haya de la Torre, initiated a series of cuts that scaled the program’s budget by almost forty percent. In March, prominent Apristas Luis Alberto Sánchez, Ramiro Priále and Carlos Melgar went after Orrego, calling for his removal, and by August his directorship was no longer politically viable.\textsuperscript{129} Targeting the institutional structure itself, they framed their assault on COOPOP as an attempt to “municipalize” the program. What to Belaúndean developmentalists resembled cooperation, looked, to opponents, like a forfeiture of power.\textsuperscript{130} Turning around the rhetoric of decentralization and community empowerment, the opposition tried to dismantle the program by

\textsuperscript{128} Ibid., 48.

\textsuperscript{129} For details on the assault against COOPOP, see: “Cooperación Popular y cooperación internacional en trance difícil,” *Caretas*, March 1964.

\textsuperscript{130} In many ways the institutional structure discussed here—and challenged by those who pushed against Belaúnde’s brand of developmentalism—is what defined cooperation. Indeed, as I discuss in Chapter Three, the kind of centralized organization with localized agency is something Cooperación Popular borrowed from the international aid regime expressed through Pan-Americanism.
striking at its institutional structure and proposing that every aspect of project management, not just the proposal and construction phases, be left to municipalities. Thus, while Sánchez, Prialé and Melgar tried to depose director Orrego, Haya de la Torre led a congressional effort to destabilize the Executive Commission by whittling down its budget, engendering a political squabble that afforded COOPOP boosters their first opportunity to test the program’s media viability.

During this period, Oiga, a weekly news and current events tabloid sympathetic to the Popular Action agenda, published a series of articles in support of the beleaguered program, marking the paper as a key conduit for articulating Popular Action political strategy. Indeed, between 1963 and 1965, Oiga would prove a crucial ally to the Belaúnde regime during a critical time in Peruvian electoral politics. As Dobyns and Doughty explain, the country saw a significant spike in the frequency of national electoral campaigns between 1962 and 1966, a time when mass-media consumption was also on the rise, and more than ever before the success of political campaigns was pegged to creative media strategies.¹³¹ When Caretas co-founder, Francisco Igartua, re-launched Oiga in 1962 it was poised to become the mouthpiece of official discourse. Oiga regularly printed sympathetic articles highlighting the government’s support of road building and Amazonian modernization, and emphatically touted the benefits brought to the nation through popular cooperation by repeating the worn tropes latched onto by other COOPOP

¹³¹ The period saw presidential campaigns in 1962 and 1963, the first municipal elections since 1919 were held in 1964 and repeated in 1966; and there was a parliamentary election in 1965. See Henry F. Dobyns and Paul Doughty, Peru: A Cultural History (New York: Oxford University Press, 1976), 234–36.
Oiga articles painted the same picture of a desolate, “abandoned” or “forgotten” interior saved by bulldozers and technocrats, all in mysteriously authorless prose that enhanced their facticity. But when COOPOP came under fire, the tabloid set out with intent to embarrass the opposition by maligning their motivations and sometimes questioning their patriotism.\footnote{Despite being considered a conservative paper by some, a review of Oiga in the 1960s shows a clear bias in favour of the embattled Belaúnde. While a majority of the magazine’s content promoted government programs and touted their successes, some articles read as outright campaigning, stressing the president’s honour and never missing a chance to point out when he kept his word. For some examples, see: Sin autor, “Belaúnde cumple su palabra: en marcha el Mantaro,” Oiga, no. 56 (enero 1964); Sin autor, “El Perú construye: un lema que se cumple a ritmo acelerado en todos los rincones de la patria,” Oiga, no. 82 (July 1964): 14–15; Sin autor, “Cajatambo: promesa que se cumplió,” Oiga, no. 165 (March 1966): 32–33; For the story of Oiga, see: Francisco Igartua, Francisco Igartua, Oiga y una pasión quijotesca (Lima, Perú: Fauno, 2010); and Gargurevich, Historia de la prensa peruana, 1594-1990, 187–89.}

The struggle came to a head in August 1964. Under the rubric of the Movimiento Comunal, peasant federations hailing from the Mantaro Valley planned a march from the Central Andes to Lima, where they would demand an explanation from President of the Chamber of Deputies, Victor Freundt Rossel, as to why his Coalition of the People (the self-applied name given to the alliance formed between the APRA party and Manuel Odría’s National Union of Odríistas, APRA-UNO) wouldn’t back Cooperación Popular. When public opinion came down in favour of Cooperación Popular, tipped by this Belaúnde brand of political spectacle, the Coalition blinked, relenting on its pressure to municipalize the program and reinstituting its operational budget. The federations returned home and sent a delegation led by

\footnote{For examples, see: Sin autor, “El pueblo y Belaúnde no dejarán que caiga Cooperación Popular,” Oiga, no. 87 (agosto 1964): 3; Enrique Congrains, “Coalición versus cooperación,” Oiga, no. 88 (agosto 1964): 8–9; and Sin autor, “Aquí las cámaras desean destruir Cooperación Popular, mientras Chile copia el programa,” Oiga, no. 102 (November 1964): 8–9, 14–15.}
peasant organizer and Aprista-turned-Acciopulista, Elías Tácunan, to declare the support of some 200 communities for Cooperación Popular.134

Oiga and other media cast this episode as a victory for the new Belaúnde government, but it wasn’t one without casualties. Caretas’ political cartoon, Ají Molido (Figure 1.2), depicted Belaúnde, together with the program’s first director, Eduardo Orrego, conducting a locomotive full of tool-wielding masses straight over Haya de la Torre as he sits on the tracks spouting political rhetoric and his cohorts look on from the sideline under a banner reading “Popular Obstruction”. Oiga’s September 17 headline read “The People Won Their Fight for Cooperación Popular” and specifically framed the Movimiento Comunal as “peasant masses, those inheritors of institutions like the minka [sic] and the ayni”,135 which further bolstered the program’s political purchase on indigenous history. Yet COOPOP, less than a year old, was damaged despite these gains. Orrego was dismissed and, in his place, a man with much the same credentials and background, Luis Vier, stepped in. And more importantly, the original program design of a ruling Executive Commission, free from ministerial oversight, was also scrapped and the program made a sub-directorate of the Ministry of Development and Public Works, where its budget would remain sheltered from congressional meddling. What would remain steadfast were the geography-based subjectivity, articulated through the program’s

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135 Sin autor, “Ganó el pueblo su lucha por Cooperación Popular.”
institutional structure, and the rhetorical embrace of traditional concepts to bring about modernization in the countryside. The former was engrained in the system of COOPOP centers and regional franchises, while the latter was dependent on strategic orchestration of political spectacle.

1.2: Popular Subjectification: COOPOP, Women and the Commodity as Spectacle

To understand how spectacle was made of a municipal building or a branch road, one has to understand the campaign tactics of President Belaúnde, the politico errant who tried to build his legitimacy on the back of a mule and on the highways of the sierra. Through his extensive travels and prolific writings, Belaúnde framed himself as the candidate who best understood how to effectively dismantle oligarchic rule and decentralize Peru’s state apparatus. He was also rather successful in framing a representation of himself and his agenda that was picked up and echoed in national media.

Using a rhetoric of el pueblo, he gleaned support based on his demonstrated knowledge of “deep Peru”, highlighting two ways in which his government’s agenda represented everyday people. First, the phrase pueblo por pueblo (town by town) was the mainstay of his campaign style. Rather than circumscribing his campaign efforts to the space of the Lima elite, he crisscrossed the countryside and, followed by cameras, used “forgotten towns” of the interior to stage photo ops that fed an

136 Belaúnde Terry, Pueblo por pueblo, 61; Fernando Belaúnde Terry, La conquista del Perú por los peruanos, 2. ed. (Lima: Ediciones “Tawantinsuyu,” 1959), 37, 56, 159; Grillo Arbulu and Sharon, “Peru's Amazonian Imaginary: Marginality, Territory and National Integration”; Castaneda, “Pre-Columbian Skins, Developmental Souls: Architect as Politician.”
ever-present political spectacle.\textsuperscript{137} Second, a slogan that embodied the COOPOP ethic—\textit{el pueblo lo hizo} (the people built it)—was the founding mantra of his Popular Action party, and the trademark of his government’s efforts to decentralize. Through COOPOP builds and other Public Works projects, budding developmentalists from peasants to architects stamped \textit{el pueblo lo hizo} (along with the motto \textit{El Perú construye}) on buildings, irrigation canals, roads, dams and other infrastructure projects across the country. This appropriation of locality served his government well in its battles against an intransigent congressional opposition and the press used it to paint a picture of Belaúnde’s development. Indeed, flipping through the pages of \textit{Oiga} from this period, one is confronted by image after image of unidentified labourers, made more anonymous by the ubiquitous \textit{bolero} hat, hard at work or standing proud around the fruits of their labour, with the president in their midst.

Imagery of this type made the narrative of popular cooperation a visually consumable good readily on display across platforms: in the press, in government reports and in Planning Institute and Public Works publications. But more than aiding the narratives used to justify a self-build ethic, this imagery offered a glimpse of what progress looked like. In a different context, Thomas Andrews posits that the role of photography goes beyond that of argument to one of posing much needed...

\textsuperscript{137} In this section I use the term spectacle not just to refer to the press-grabbing publicity events orchestrated as part of Belaúnde’s campaign style, but also the process by which individuals forfeited their subjectivity in allegiance to state discourses of modern economic development and its uniquely envisioned understanding of the environment. I draw especially from Guy Debord, \textit{Society of the Spectacle} (London: Rebel Press, 1983); and Andermann, \textit{The Optic of the State}. 
questions.\textsuperscript{138} For him the imagery produced by New Topographics photographer, Robert Adams, was interrogative as much as it was critical. In the new industrial and suburban landscapes of the 1970s American West, photography could foment dialogue about aesthetics, policy, hope, and civic and environmental ethics. Meanwhile it could also pose biting cultural critiques and serve forward-looking explorations of the nuanced interrelatedness of nature and culture. In 1960s Peru, an iconography of progress emerged around the \textit{Cooperación Popular} program that more than anything fed the inculcation of a modernist ideal according to which nature was to be subjugated to the will of culture. But alongside this vehemently guarded narrative of the build was a parallel process by which emerging modern identities were constructed through photographic rituals. The medium served not only as a way to document these new subjectivities, but it proved key to shaping them as well.

Figure 1.3 paints a compelling picture. At first glance, it’s a chaotic mess of undifferentiated, awkwardly contorted bodies filling the frame in a frustrated frenzy. For viewers, no one individual stood out. Most everyone’s face was hidden under a hat and most everyone wielded a pickaxe or a spade. The composition used bodies and bare earth to make a statement about the peasant’s role in 1960s development. Where there wasn’t a body, there was dug-up earth and rock typical of the harsh \textit{puna}. Reading this image, the eye wants to enter through the top-left corner, on the last of four distinct planes, where it follows a gradual diagonal across the frame, bumping indelicately over head after head and across bent back after back after

bent back. From there it cuts another diagonal, this time in reverse, across the third plane, where more men are bent over, hard at work clearing dirt and gravel, until it runs up against the frame’s edge at the top third; there the line of sight traces a forty-five-degree angle back across the image’s lower two thirds—and front two planes—to rest on a man, erect, holding a shovel as if describing its function to the person behind the camera. After staking this zigzag through the frame, two textures in the negative space stand out: one, bright in the highlights, composed of ordered stones, is a road’s fill slope, which divides the space into planes two and three; the other, darker, is made up of disturbed dirt, assailed by spades on three sides and filling the plane in the immediate foreground. The men in the image were at work building a road, anonymously. Indeed the only visible face was that of the man presenting the shovel, and everyone sported some slight variation of the same hat, except for one. Half way up and over to the left stood a man dressed entirely in dark clothes, his back to the camera, who pointed as if directing the work at hand. Though not facing the viewer, this man stood apart from the rest for several reasons: he was not wearing a hat; he was pointing; and he was one of only four figures standing straight. As a result of his vertical posture, he filled more of the composition than almost any other figure. He was also the only one watching over the whole scene, and by pointing he triggered an interior duplication that disembodied the point of view and then re-centered it in his own observation. His view of the work going on is also what the viewer is allowed to see and it looks like land in the process of becoming a road through hard work and collaboration. Could this have been Belaúnde on one of his frequent jaunts through the highlands,
relishing in the emergence of another local branch road? His build, his mild hunchback and conical cranium say it could well have been, but whether this figure with his back to the camera was Belaúnde or not is less relevant than the fact that this figure embodies the Belaúnde subject: the paternal overseer, momentarily stepping in to play foreman for the camera, but not for too long lest his unpreparedness leave him charred from exposure to the brutal highland sun. He should have worn a hat.

In the black-and-white image Belaúnde’s hand pops out against the darker tones of the man’s hat behind it, grabs the viewer’s eye and plugs it back into the strong diagonal that bisects the foreground, again leading the viewer to the man with the shovel in the bottom-right corner. This sightline generates a recursive movement to the shovel that accentuates its role in the story this photo tells. The shovel appears as more than an inanimate object; it is imbued with a capacity for action, held up as an important player in the building process.

Up until now, my discussion of this photograph has focused on what Roland Barthes would call its *studium* (see Figure 1.3a as a visual aid), those aspects of its form and content that generate and communicate its meaning, those elements that situate an image within a cultural cosmos of symbol and sign. As something published alongside the text of Luis Vier’s speech to the 1965 Regional Group of Bolivarian Countries, this photo complemented promotion of *Cooperación Popular* by visualizing subjectivities (the undifferentiated peasant mass, the great man orchestrating the work, the individual peasant, and I argue, the shovel, as well)

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139 Luis Vier, “Cooperación Popular: la dimensión peruana del desarrollo” (Instituto Nacional de Planificación, 1965), BNP, Sala de Investigaciones.
and fitting them into a progressive visual narrative that led the Spectator—in this case, me—through the construction process, past the figure of the president, to the newly empowered peasant, who stood erect, shovel in hand, as the agent responsible for forging dirt and rock into a thruway, and for parlaying barren earth into a link with the national road network. Vier’s message, like Orrego’s before him, spoke of the ways in which progress was forged through the spirit and ingenuity of the peasant; this photograph’s form and content reinforced that idea. This was the essence of the image’s *studium*. But Barthes advocates for a way of approaching the photographic image that simultaneously holds its *studium* while also making space for the image to have what he calls *punctum*, that aspect of an image that breaks its *studium*, “that accident which pricks me (but also bruises me, is poignant to me)”.

This is where the interrogatory function of photography stressed by Andrews comes in. For this image’s *punctum* lies at that spot where the jagged yet clear visual path leading over the backs and heads of workers was interrupted by one solitary woman in common highland garb, standing with purpose, arms crossed, and staring straight into the viewer’s eye from the top of the frame. Why does she draw the viewer in? To be sure, she was the only woman in the photo, also the only one peering directly into the viewfinder. She also seems to be the only one not engaged in the work effort. All of which begs the question as to the role women played in this and other COOPOP projects.

With the slim variety of sources available for the *Cooperación Popular* program of the 1960s, and given the broad reach of the program across a diversity of regional

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and cultural contexts, it is hard to say exactly what role women played in the typical COOPOP build of that period. But the role assigned women in COOPOP propaganda spoke volumes about how the Popular Action platform gendered development. Certainly women and the family became the focus of later iterations of the program starting in the 1990s. As part of a generalized shift in global development discourse from brick-and-mortar buildings to capacity building, and a shift in emphasis from a corporatist interest in collective subjectivities like the community to individualized subjects like the family unit, *Cooperación Popular* moved under the purview of the Cooperation Fund for Social Development (FONCODES) when it was re-launched as part of Belaúnde’s return to power in 1980. It then moved to the Presidential Ministry under Alberto Fujimori’s autocratic rule; moved again to the Ministry for the Promotion of Women and Human Development (PROMUDEH); and was finally wrapped into the Ministry of Women and Vulnerable Populations (MIMP).

While a kind of ministerial hopscotch marked COOPOP’s reincarnation as a program for women in the late 1980s, the COOPOP of the 1960s was firmly rooted in Public Works that masculinized development by presenting an image of men building as the normative way in which national development was to be achieved. This was articulated through an iconography of progress that looked much like the photo I have discussed in such detail here. And while the sources available give little indication of the role played by women in a community build, this iconography perpetuated through COOPOP boosterism tells a lot about the limited but fundamental role *imagined* for women by project planners and promoters. As mentioned before, the woman present in Figure 1.3 didn’t fit in the photo, breaking
its *studium* not just because of her posture or gaze, but because she was the only one whose likeness communicated little to no interest in the road being built. Whether she was involved or not, the photo served to isolate her from the work at hand, a theme that is reinforced by another image of the same project underway (Figure 1.4). In this photo, the only woman present (perhaps the same one, though sporting a different hat and shawl) tended to children while the majority of those in the photo were hard at work swinging pickaxes and a COOPOP dozer scraped away off to the back of the frame. For a third photo (Figure 1.5)—again, from the same event—those involved in the build lined up proudly, showing off wheelbarrows and tools for the camera. The line of community members was shot so as to form a strong diagonal, equally bisecting the frame, and guiding the eye from the top-left corner down along a procession of men, wheelbarrows, pickaxes and spades, to the bottom-right corner, where a cluster of women and children encircled one woman holding the Peruvian flag. While imagery can often present deceiving, ambiguous and sometimes contradictory messages depending on a host of varied factors, the symbolism evoked in this image would have been hard to confuse. By leading the eye through an ordered group of well-equipped men to a gathering of women and children clustered around the flag, this image offered a visual allegory for national progress as envisioned by the architects of 1960s Peruvian modernity, one that linked masculinity, labour, technology; femininity, childhood, fertility; youth, instruction; the future, Nation. All these themes could have been read into that

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photograph, but the way the men, women and children, and the tools and the Peruvian flag were ordered in front of the camera speaks to a specific understanding of how the themes they symbolized were meant to be related.

Something similar, though even less ambiguous, occurred when COOPOP put out a preliminary community survey of every village, district, province and department in the country.\textsuperscript{142} Released in March 1964 as a statistical compendium, the survey proffered details covering demographics, communications, geospatial data, education statistics, the number of COOPOP builds—even a checkbox for whether the community was involved in Allan Holmberg’s Peru-Cornell Project. What the survey showed was that a surprising number of communities were already involved in Cooperación Popular, even at this early date in the program’s history. Beyond construction projects, however, the illustration on the cover (Figure 1.6) pointed toward what the program administrators imagined as its ultimate symbolic role. In silhouette, three figures stood single-file looking directly ahead, their gaze, and the general direction they were headed signalled by a large, sweeping arrow that pointed to a map of Peru, which was marked for clarity: “PERU”. At the front of the line stood a rigidly postured man—presumably proud, confident, firm—with a pickaxe in his hand, followed by another man, this one slightly slouched, and therefore perhaps meant to be older, and leaning on a spade like it were a cane. Behind the two men with tools was a woman with a child strapped to her back. All three stood above the Cooperación Popular logo, itself composed of a pick and a spade, and all three wore the typical highland bolero hat.

This and the other depictions of women in the COOPOP world relegated them to the place of family custodian, watching over the children, and situated men as the muscle whose labour brought about progress. Yet the presence of women and family in COOPOP imagery belied the allegorical scaling that made growth and prosperity for the nuclear family synonymous with growth and progress for the Nation.\textsuperscript{143} In order for imagery of this sort to inculcate the values of pick-and-spade developmentalism, however, the themes discussed thus far were repackaged and reiterated for a diversity of audiences, in Public Works reports, in books by Belaúnde, in \textit{Oiga}, and in printed transcripts of speeches delivered by COOPOP functionaries. This meant that the conversion of COOPOP into spectacle was a bi-directional process in which the cult of modern development was acted out in front of the camera and the reiteration of themes such as labour, landscape reformation, youth, technology and the family fed a growing iconographic corpus within a variety of outlets.

In order to generate an iconography of the COOPOP self-build, boosters depended on the public rituals that accompanied Belaúnde’s visits from town to town. The image of \textit{Cooperación Popular} was composed of subjects and objects that reflected the political platform of his Popular Action party and the epistemological position that informed his brand of development so that hard-working peasants, tools and families figured at the center of program literature and press coverage.

\textsuperscript{143} Doris Sommer explores the notion that individual romance operated as a useful literary trope for representing national imaginings. Her insights help me think through the family drama as national allegory. Doris Sommer, \textit{Foundational Fictions: The National Romances of Latin America} (Berkeley: University of California Press, 1991) In Part Three I unpack the way that the idealized nuclear family figured in the ideation and implementation of Belaúndean jungle colonization.
Moreover, the COOPOP spectacle packaged images of construction and the transformation of landscapes together with images of peasants working and coming together as families and communities, all to produce a coherent picture that normalized notions of development and progress in which the reshaping of the earth’s surface was bound to the peasant’s advancement.

Two general categories describe the type of imagery that came from COOPOP propaganda: the staged and the supposedly candid. The former, on the one hand, tended to be posed, with most facing the camera, tools in the air and the project at hand—a market, a school, etc.—on display. The latter, on the other hand, often depicted an undifferentiated peasant mass bent over the earth, tools in hand, and busy building, such as in Figure 1.3. In most cases the subjectivities already discussed here—the peasant, the president, the tool and the woman—were reproduced as discrete archetypes, generating a sort of critical mass that solidified a sense of the major actors and their roles in socio-economic advancement. Both genres of photograph implicated a set of visual rituals that charged environmental features with transformational capacities and made peasants and politicians the agents performing that change. The photographer’s presence only catalyzed rituals already enacted through the public spectacle surrounding Belaúnde. In staged images, people gathered together and held up COOPOP projects as important symbols worthy of the photographer’s documenting vision. In candid imagery, the emphasis on labour and bent backs triggered a subconscious connection to bowing and reverence for cleared and reformed land. In rare instances, traces of a third
subject outside the visual ritual appeared: the COOPOP university volunteer, the technician, a Belaúnde advisor, a photographer’s shadow, etc.

To be sure, images of COOPOP projects and work parties highlighted two central categories of activity: labour (production) and public ritual (presentation/consumption). When combined, the two constituted a theatricality in which the act of working was elevated to the status of something worthy of public consumption. Indeed, COOPOP initiatives, together with Belaúnde’s official visits, generated a narrative that showed hard collective labour rewarded by public celebration and a nod from the state. That narrative was utilized to campaign in the many elections that took place in the first half of the decade. Advertisements from the municipal elections of 1966, for instance, depicted anonymous COOPOP road builders—tools in hand—at work on the Bellavista-Tarapoto segment of La Marginal. Next to the image read the slogan “Peru will forge ahead unhindered / because we’ll all vote for 4”, (4 being the Popular Action ticket, see Figure 1.7) a clear coupling of hard labour with progress to bolster the government’s campaign. But through this visualization of the progress narrative it was the kind of work—digging—that stood out. In the Age of Development, imagery told viewers that progress was the result of having transformed the earth.

Back in the puna, where the volunteers pictured in Figures 1.3, 1.4 and 1.5 had laboured to open a new branch road to their community, the environmental ethic of

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144 The image originally appeared in an April, 1966, article about Belaúnde-era efforts to conquer the jungle, but was then reused in an August article about the progress made by COOPOP on the section of La Marginal connecting Tarapoto and Juanjui. It was finally reproduced as a political ad in November. Sin autor, “En busca de la marginal,” Oiga, no. 169 (abril 1966): 29; Sin autor, “Cómo se hace la marginal,” Oiga, no. 185 (agosto 1966): 23.
COOPOP’s pick-and-spade developmentalism was put on display through a dramatically staged moment that was orchestrated solely for the camera’s indulgence. (Figure 1.8) All of the men involved in the build arranged themselves shoulder to shoulder and formed a human guardrail that stretched across the photo’s frame and faded into the landscape. Individuality and community were both accentuated by each man’s chosen position; while the collective thrust of their alignment underlined the handmade cutbank they had just scrawled into the hillside, a few men placed themselves outside the collective, one in the foreground opposite everyone else exhibited a brilliant spade set apart from his body as if almost standing alone. Dealing with similar evidence in Guatemala, Greg Grandin has argued that in the face of the anonymity of photographs about whose provenance so little is known, one is forced to look inside the frame for historicizing facts. In his analysis of early twentieth-century K’iche portraiture in Guatemala, he finds telling details in the minutia; the studio props chosen by the subjects, their gaze, their posture, all were indicators of how everyday K’iche Indians took charge of their own subjectivity to navigate racial, class and gendered identities. The same can indeed be said of group portraiture: the staged image reveals critical notions of how COOPOP’s corporatist subjectivity enmeshed with an environmental ethic that placed a premium on the built environment and the technology used to achieve it.

For the most part, this message was communicated through the prominence placed on tools, the essential subject of a COOPOP image, a crucial component of the

145 Grandin, “Can the Subaltern Be Seen?”
program’s economic plan, and together with machinery and technical support, the key to linking communities with the state. The man facing the viewer in Figure 1.3, and the man set apart in Figure 1.8, both demonstrated the emphasis placed on tools in what Guy Debord labeled “a mystical self-abandonment to commodity transcendence.” As part of such transcendence, tools used to alter nature—picks, spades, hoes, machetes, axes—appeared as more than mere objects; rather, they were held up as agents of progress and as such could be seen participating in both the work and public celebration of the development drama. Moreover, the way tools symbolically embodied the development-through-earth-moving discourse can be seen in Belaúnde’s 1963 request for a birthday gift of 25,000 tools. The spade, in particular, became the symbol of his Popular Action party, tied to the motto El Perú construye, and as a tactic to motivate communities to participate in COOPOP, gold and silver spades were awarded to the communities with the most local construction projects completed each year.

Another way that the earth’s transformation was woven into the development drama was through the emphasis placed on adobe bricks. The adobe brick is a ubiquitous transfiguration of the Andean landscape, both embodying earth and marking its bending to the human-shelter imperative. As Ben Orlove has observed, the adobe brick is also a socially imbued object rife with race and class tensions and emblematic of community cooperation. Also hard evidence of how collective

146 Debord, Society of the Spectacle, 33.
labour reshaped the earth’s surface in the service of COOPOP construction projects, adobe bricks often figured on display for the photographer’s—and the nation’s—consumption, and regularly featured at the center of the COOPOP spectacle.

In one of the few areas where Oiga’s portrayal of COOPOP builds differed from official discourse, the tabloid occasionally presented women as integral construction workers, too. Yet the way this came across visually communicated a sort of subjective ambivalence that underwrote the subtle regime of commodity spectacle seen perpetuated in COOPOP iconography. Together with an article about the purpose and objectives of Cooperación Popular, Oiga juxtaposed a photo of two women carting materials for a school build next to a more typical image of a cluster of anonymous men bent over their spades at work clearing a roadway. (Figure 1.9) The caption accompanying these women exalted their participation: “And not just men, but also the women of small towns; they know what popular cooperation is”.

But the image itself pointed to a more central subject that frequented portrayals of COOPOP events. The women were carting adobe bricks from the drying field to the job site and because of the way the photographer framed the image and the moment at which s/he captured it, the adobe was situated as the photo’s main subject. Compositionally, two strong diagonals intersected at the center of the frame, precisely where one of the women had an adobe block strapped to her back. Poignantly, the woman at center frame had her back turned to the camera, while the adobe was on full display, which suggested a counter narrative in which women’s participation was secondary to what the photographer was really

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149 “Y no sólo los hombres sino también las mujeres de los pequeños pueblos; saben lo que es cooperación popular”. Sin autor, “Lo hecho y lo que se hará,” Oiga, no. 85–86 (agosto 1964): 16.
after: the reconfigured dirt-and-straw building blocks. This fixation with the brick,\textsuperscript{150} repeated \textit{ad infinitum} in pictures from across the country, exemplified the modern ethic that fuelled the program’s design and its discursive presence in the collective imaginary.

By proffering images that highlighted the tools used to transform dirt and combining them with the spectacle of labour—earthen bricks and public ritual—all to be viewed by a national audience, the act of photographing helped to normalize a kind of development that stressed humankind’s ability to subdue and overcome a defiant nature.\textsuperscript{151} Crucial to such a “conquest” of nature was the endowment of political subjectivity in the figure of the peasant.

\textbf{1.3: Popular Appropriation: “They Were Inspired by Our Millenarian Past”}

One hundred and fifty-five million dollars was a lot of money in 1964. Considered against the roughly 3.8 million dollars (112 million \textit{soles}) that \textit{Cooperación Popular} was able to get out of the Congress and the two million dollars it got from the US Export-Import Bank,\textsuperscript{152} 155 million looked enormous. So when

\begin{footnotesize}
\textsuperscript{150} It is worth noting that after COOPOP’s re-emergence in 1980, this fixation was even more prominent. Not only did Belaúnde’s official visits generate more images, but the tropes of the COOPOP event became more solidified so that a typology of staging could be identified. On the one hand, adobe drying fields figured more prominently as staging grounds and, on the other, tools were incorporated into a ritual of construction exaltation in which most men were given machetes, or spades, or picks to raise triumphantly above their heads. This drew attention to the ritualistic aspects of materials at the same time that another general shift was taking place, one that moved away from depicting people altogether, and saw photographers occupied with documenting material stashes and tool collections.

\textsuperscript{151} A complete collection of \textit{Cooperación Popular} images gives a sense of how truly common these tropes were. See: http://www.tuckersharon.info/content/spectacle-spade-popular-cooperation-peru

\textsuperscript{152} Due to the political squabbling over COOPOP in its first year, and its move to the Ministry of Development and Public Works in subsequent years, it is difficult to tell exactly what kind of budget it was working with. It is clear that, at different times, it received support from sources as varied as USAID, the West German Government and Swedish student associations, but the extent of its funding is vague. In 1964, while still an independent inter-ministerial commission, it received roughly 3.9 million dollars from Congress and 2 million dollars from EXIMBANK. In
\end{footnotesize}
incoming Chilean president, Eduardo Frei, was able to secure a loan for that amount to fund his country’s Promoción Popular program, Oiga was incensed. “Peru: A Blackmailed Country; Because Chile, With A Peruvian Idea, Obtains Loans That We Couldn’t Even Dream Of”, quipped one headline; “Here Congress Wants to Destroy Cooperación Popular, While Chile Copies the Program”, read another. The struggle to defend Cooperación Popular against the Apristas had just ended and Oiga sought to make political hay by underlining the emergence of aided-self-build programs in the international arena and trying to credit Peru with their invention. But the tabloid’s tack took a deeper turn when it laid claim to another idea supposedly behind the aided self-build; on the cover of its Nov. 26 issue ran the headline “They Were Inspired by Our Millenarian Past.”

Indeed, the entire concept behind Cooperación Popular, not just one journalistic portrayal of it, rested on the strategic appropriation of Andean traditions of

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1965 it received a loan for another million dollars from EXIMBANK while USAID donated 120 thousand dollars to build a training center. It also benefitted from multiple European donations totaling roughly 4.8 million dollars. In 1966 COOPOP received one loan through the Alliance for Progress for 585 thousand dollars. Throughout 1964 and 1965, there was talk of an eventual loan from USAID for 18 million dollars, but I have not found proof of it ever materializing. “Cooperación Popular y cooperación internacional en trance difícil”; Sin autor, “Aquí las cámaras desean destruir Cooperación Popular, mientras Chile copia el programa”; Gobierno del Perú, “El Perú construye” mensaje presentado al Congreso de la República por el Presidente Constitucional de la República Arquitecto Fernando Belaúnde Terry (Lima, Perú, 1965), 392–94; U.S. Department of State, Peru Desk, “U.S. Aid to Peru under the Alliance for Progress,” in U.S. Foreign Policy and Peru, ed. Daniel A. Sharp (Austin: Published for the Institute of Latin American Studies by the University of Texas Press, 1972), 423–38; Daniel A. Sharp, ed., “Appendix B: Aid Loans to Peru since 1960,” in U.S. Foreign Policy and Peru. (Austin: University of Texas Press, 1972).


Sin autor, “Aquí las cámaras desean destruir Cooperación Popular, mientras Chile copia el programa”; Mario Herrera Gray, “Perú, país chantajeado: porque Chile, con una idea peruana, obtiene préstamos que nosotros ni soñamos,” Oiga, diciembre 1964, 4–5.

155 “Se inspiró en nuestro pasado milenario”.

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communal collaboration. Oiga played a crucial role as the program’s megaphone when it declared that, “what this government (the Belaúnde regime) has done is revitalize this ancestral custom, injecting it with a dose of mechanization, progress and Western culture.” In doing so, the paper was merely repeating a generalized discourse of COOPOP boosterism that reformulated current trends in modernist social architecture as Peruvian patrimony. To this task, Luis Vier was central. When he took over the program in August, not only did he expand the works initiated during Orrego’s tenure, he fleshed out the origin myth that underwrote COOPOP social praxis. In many ways he was like another Orrego: the same career, the same style, the same moustache. He too was an early graduate of the Faculty of Architecture and was active in the National Democratic Youth Front, and before being named director of Cooperación Popular, he too had worked in the Housing Ministry. Yet it was during Vier’s tenure that the program truly came into its own: more equipment was coming in, as was increased international support; the new Cooperación Popular University Program, a capacity building program modeled on the Peace Corps that took students from the country’s universities and put them to work on COOPOP projects in the summer months, was attracting more conscripts; and the program’s support for road building skyrocketed.

Vier also enhanced COOPOP’s appropriation of history when called on to explicate the rationale behind the program. In a July speech to the Regional Group of Bolivarian Countries he echoed Oiga’s claims, painting popular cooperation as

156 “Lo que ha hecho este gobierno es revitalizar esta costumbre ancestral, inyectándole una dosis de mecanización, de progreso, y de cultura de Occidente”. Sin autor, “Aquí las cámaras desean destruir Cooperación Popular, mientras Chile copia el programa.”
something that “was born in the secret heart of our indigenous peoples”.\textsuperscript{157} This attributed the central tenet behind COOP POP—the idea of leveraging communal labour for communal gain—to a marginalized political class that was owed long-due recognition. As he continued, however, he slyly subjugated the import of this airbrushed indigeneity to the brave ingenuity of one great man. For he then cited the foundational myth of the Popular Action party and situated Belaúnde’s famed speech in Chincheros as the pivotal moment when the stage was set for \textit{Cooperación Popular}, the program, to rise.\textsuperscript{158}

Vier claimed that the \textit{minga}, or communal work party, and the practice of reciprocity called \textit{ayni}, were both essential components of a modern, low-cost build ethic, components that, for Peruvians, came from an ancestral and communal trove.\textsuperscript{159} What constituted radical change, in his view, was Fernando Belaúnde’s effort to combine that patrimony with modern capital to form “the decisive element in our national development”.\textsuperscript{160} This evocation of Peru’s indigenous heritage as the source of development contrasted sharply with the program’s operational structure, which placed a premium on the state’s contributions.

Assuming everything functioned according to the institutional structure’s mandate, communities, as the designers and initiators of projects, were supposed to be the central actors in their own development; the various levels of the COOP POP

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\textsuperscript{157} “Nació en el corazón secreto de nuestros pueblos indígenas”. (my emphasis) Vier, “Cooperación Popular: la dimensión peruana del desarrollo,” 2.
\textsuperscript{158} I cover the function of this historical appropriation and how it coupled with the environmental imaginaries deployed to justify jungle colonization in Chapter Five.
\textsuperscript{159} The minga and ayni were commonly referenced in COOP POP booster discourse, though first mentioned in Belaúnde Terry, \textit{La conquista del Perú por los peruanos}, 1959, 34, 44–45. In mid 1963 they were given a racial component as part of what Belaúnde was now calling economic miscegenation, see: Belaúnde Terry, “El mestizaje de la economía,” 546–47.
\textsuperscript{160} Vier, “Cooperación Popular: la dimensión peruana del desarrollo,” 5.
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bureaucracy, with the ultimate say of the Executive Commission, served to connect those communities with the material, financial and technical support of international aid agencies. By invoking communal customs in their praise for COOPOP, Orrego and Vier parroted a concept of combining community labour and international aid characterized by what Belaúnde called the miscegenation of the economy, for it was supposed to represent a fusion of an age-old Incan heritage with the financial support of institutions that promoted a modern development ideal. On a practical level, the mestizaje model served to overcome a significant obstacle by drastically decreasing the costs of the kind of construction that the Belaúnde government had in mind. To live up to the motto *El Perú construye* (Peru builds), which was plastered on everything from the Tinajones dam to highways and municipality buildings, there had to be a way of securing unpaid labour. So in order to inculcate a pro-building ethic, boosters drew from a discourse of national integration that reproduced the myth of the “two Perus”. Invoking Basadre’s famous phrase, *Cooperación Popular* was meant to achieve the reconciliation of the creole Peru of the coast and the “deep Peru” of the sierra through the “modernization of the old traditional methods [from Peru’s] Incan legacy”.162

The *mestizaje* economy distributed the burden of development between the central state and communities, and Orrego asserted it was an effective method of community development. Orrego cited some 60,000 Peruvian hamlets, villages,

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towns and cities that could build much needed infrastructure under this system while Belaúnde exemplified the theory with the particular case of Huamantanga, in the Department of Lima, where it was estimated the community’s collective labour was used to build a branch road and represented a savings of some 3 million soles.163

In a rhetorical strategy that backed COOPOP’s organizational framework and the Popular Action Party’s political positionality, this economic ideology was presented as resulting from a racial theory championed in the works of President Belaúnde’s uncle, Víctor Andrés Belaúnde—and thus coded as uniquely Peruvian. Belaúnde wrote:

To those who can’t understand the vigorous currents that emanate from our very own land, it has seemed strange that a movement such as Popular Action has arisen without foreign influences and that, instead of hoisting its sails to float effortlessly on the winds of capitalist or Marxist extremism, it would choose the winds that blow from the Plaza of Wacaypata, that receptacle of thousand-year-old experiences and traditions, heart of an arterial system whose pulse was felt in the most remote regions of Peru.164

The opposition posited here between the foreign and the domestic was a false


164 Ha extrañado, efectivamente, a quienes por no captar las corrientes vigorosas que emanan de nuestra misma tierra, que un movimiento como el de Acción Popular haya surgido sin influencias foráneas y que, en vez de izar sus velas para dejarse llevar sin esfuerzo por vientos que se originan en los focos del capitalismo o del marxismo extremos, haya preferido los que soplan de la Plaza de Wacaypata, receptáculo de experiencias y tradiciones milenarias, corazón de un sistema arterial cuyos latidos se sintieron en las regiones más remotas del Perú. Belaúnde Terry, La conquista del Perú por los peruanos, 1959, 17.
dichotomy. By positioning the Popular Action party and, by extension, himself, as the valiant patriots willing to brave the winds of Wacaypata, Belaúnde suggested that any Peruvian who resorted to capitalist or Marxist ideology was not interested in true progress. Beneath this obviously political jab at his opponents in the APRA was a rhetorical move to authenticate Peruvian traditions as the basis of the AP platform. By foregrounding tradition, Belaúnde situated his movement as continuing a millennial legacy.

Wacaypata, the central plaza of Cuzco and epicenter of the Inca Empire, Tawantinsuyo, was synecdochically imbued with all the meaning of Peru’s Inca heritage, particularly the ingenuity manifest in the pre-Columbian empire’s vast infrastructure network and the communal structures of the minga and ayni. Through the allegorical sailing of ships, Belaúnde made an argument for this Inca heritage as the primary motor capable of pushing Peru forward into modernization. Those choosing the winds of Marxism or capitalism would sail effortlessly, but they would also be leaving behind thousands of years of Peruvian ingenuity. This point was made even more salient through the embodiment of Wacaypata as the heart of what Belaúnde saw as a long tradition of rule through roads. In 1953, Victor Von Hagen, with the support of the American Geographical Society had, unearthed the mythical Inca Highway on a 200-mile expedition that retraced the entire road system and brought Inca architectural ingenuity back to the forefront of the

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166 One of Belaúnde’s main points in “Peru as a Doctrine” demonstrates how the Inca were able to tame the harsh Andean topography and unite all the territories under their reign through a vast and intricate network of roads. This was explained in an inset essay outlining “Peru’s highway tradition”. Belaúnde Terry, La conquista del Perú por los peruanos, 1959, 23.
Peruvian national imaginary. In his 1959 book, *Peru's Own Conquest*, Belaúnde embraced the highway as a model not only of expert engineering, but a method for coordinated control of an unruly Andean landscape. Wacaypata and the Inca Highway served a metaphorical function too, one in which roads, more than mere conduits of commerce and communication, were the arteries through which pulsed the blood of Belaúnde’s mestizo Peru. For COOPOP boosters roads were a conduit through which the peasant was elevated to the status of national actor, integrated into the national imaginary. In the rhetoric of popular cooperation, it was the backward communities of the interior—those forgotten towns so often evoked—that guarded the traditions of communal labour and road building. And in COOPOP social praxis, the peasantry was most responsible for road construction.

In his study of the role played by the myth of the Incan utopia in Peruvian history, Alberto Flores Galindo distinguishes between the mythology surrounding the capital of the Neo-Incan state, Vilcabamba, and the ritualized dance, *Taqui Onkoy*. Both represented forms of resistance to Spanish colonial rule but, according to Flores Galindo, the Incan fortress at Vilcabamba came to represent a proposal for “a kind of co-government or Hispanic protectorate” in which the only Incas to actually resist the Spanish did not reject the West, but instead sought to integrate Western ways for their own purposes. While the *Taqui Onkoy* provided an iconic case of plebeian resistance and all-out opposition to the West, Vilcabamba, and more specifically the death of the last Inca, Tupac Amaru, became symbols that

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would be deployed as part of future projects to forge a mestizo Peru. Cecilia Méndez Gastelumendi has argued that it was this myth of the Inca state that the post-independence Limeño elite drew upon to construct their concept of the Peruvian nation. And by raising the sceptre of the Andean utopia they masked a deep-seated, anti-Indian racism that they channelled into their opposition against Santa Cruz and the Peru-Bolivia Confederation.\(^{169}\) To be sure, this aristocratic version of Inca revivalism is the one that fed Belaúnde’s vision of development. For in the case of mid-twentieth-century Peruvian developmentalism, the myth of the sovereign Inca state was leveraged in order to inculcate a specific discourse of progress and modernization that, ironically, was rooted in the eradication of local practices viewed as traditional and backward. In yet another instance of the “Incas sí, indios no” paradigm, Belaúnde evoked the Inca state’ ingenuity and efficiency as part of mestizo Peru’s legitimate heritage. Yet as Flores Galindo rightly criticized, the project of a mestizo Nation did not mean that both legacies—the Andean and the Spanish, or the “traditional” and the “modern”—were drawn from equally. Instead it meant the imposition of one over the other.\(^{170}\) And if the centralized institutional framework of Cooperación Popular wasn’t proof of this, then the development doctrine that it popularized and the brand of modernity that fuelled its agenda certainly were.

\(^{169}\) Méndez-Gastelumendi, “Incas Sí, Indios No.”

\(^{170}\) Flores Galindo, Buscando Un Inca, 66.
In April 1965, some 900 participants from Cooperación Popular’s University Program returned to Lima, “like soldiers from a victorious army”\(^\text{171}\). Having spent two months in more than 150 communities of the sierra and the Amazon, these students represented the fruition of a pilot project launched in August of the year before. They were represented as the heroes of COOPOP’s development drama. Evoking the language of backwardness and tradition, these students were sent to the “forgotten towns” of the hinterland as missionaries\(^\text{172}\), part of a “modern crusade” to bring peasants into national life and instil in them new habits\(^\text{173}\). For instance, among the labours of COOPOP volunteers was instruction in health and hygiene, which figured as part of the effort to rid communities of shamanism, itself considered one of the obstacles that tradition posed to progress. The efforts of the COOPOP university program are illuminating because they reveal COOPOP as much more than a construction program; instead, they illustrate how closely interwoven indoctrination and construction were in the development drama.

The ways in which the eradication of so-called traditional practices fit into the 1960s development blueprint was most clearly demonstrated in a 1966 report on the activities of the third annual Cooperación Popular University Program. The report detailed the activities of 90 volunteers who worked in several communities in Puno during the early months of 1966. Apart from detailing the daily toil of these young volunteers, Jorge Carbajal, the Puno program’s director and the report’s author, took the liberty to pose a set of crucial questions that he hoped could shape

\(^{171}\) “Como si fueran soldados de un ejército victorioso”. Sin autor, “Después de dos meses de aprender cooperación popular.”

\(^{172}\) “Herramienta para integrar al Perú,” Oiga, no. 99 (nov. 1964).

\(^{173}\) “Modernas cruzadas invaden el Ande,” Oiga, no. 113 (feb. 1965).
the program’s future direction: “To what point are a volunteer’s activities transcendental?” he asked, “In what way, by curing a wound, by restoring a school, by introducing an insecticide, or by teaching a grammar class, etc. is one orienting a community toward progress, toward the development that is, in the end, the core of this program’s action?” Carbajal’s concern was that COOPOP’s activity, while effective in terms of practice, was failing to effect any change in the peasant’s mentality. Thus the report called for COOPOP volunteers to raise public awareness about what progress meant and how the peasant could involve themselves in their own development. In this sense, the report and the Cooperación Popular University Program reflected a turning point in the COOPOP agenda, one in which a question emerged over whether development was something that could be built or something that had to be taught. In 1965, Vier already raised the issue when he began to talk of the “Works-Activities Binomial”, to express the necessity of coupling building projects with instruction, education and indoctrination. Cooperación Popular was the brainchild of socially conscious, politically active architects who embraced modern architecture’s claims on social change. They believed that construction was progress, that the reworking of raw nature through a mastery of engineering and aesthetics could produce useful things and spaces. For an architect-politician, progress was a school, an irrigation canal or, better yet, a highway. But for many young adherents and volunteers who joined COOPOP, it was contact with rural populations and the prospect of changing them through applied

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174 Jorge Carbajal, “Tercer programa universitario de Cooperación Popular” (División de Promoción de Voluntarios, Dirección General de Cooperación Popular, March 1966), BNP, Sala de Investigaciones.

175 Vier, “Cooperación Popular: la dimensión peruana del desarrollo.”
social knowledge that was attractive. Thus while designed by architects, the program was also a resting place for matured Peru-Cornell Project modernization theorists and restless burgeoning radicals looking for an opportunity to organize in the countryside. By trying to stress both construction and outreach, the Works-Activities Binomial represented Vier’s way of balancing such opposed notions of progress. But politics proved the final arbiter, and for its future, at least under Belaúnde’s rule, COOP POP remained a staunchly construction-oriented program.

1.4: History's Two COOP POPs

At the edge of Peru’s National Agrarian University in the upscale Lima district of La Molina, sits the dusty collections site of the Cooperation Fund for Social Development (Fondo de Cooperación para el Desarrollo Social, FONCODES). Conveniently situated beyond the fog belt that keeps most of Lima shrouded in muted mid-tones and buttressed against the topographical protrusions that mark the beginning of the Andes Mountains, La Molina enjoys a fruitful blend of sun and soil. This confluence of desirable ecological factors—relatively abundant sunlight, sandy alluvial soils, and nearby natural water sources at the Rímac River and Lima’s southern aquifer—made La Molina the ideal place to found an institution that would be at the center of the country’s agricultural policies. First started as an experimental station of the National Agrarian Society in 1927, the La Molina campus was host to the National School of Agriculture until, in 1960, it was elevated to the

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status of a university, a change that corresponded to its prominence in policy making processes. Indeed, throughout the 1950s, 1960s and 1970s, the knowledge produced at La Molina played a crucial part in the direction and implementation of each phase of jungle colonization I will be discussing in the coming chapters.177

It is no coincidence, then, that remnants of many such initiatives would end up at the FONCODES facility on the university’s western periphery, where, packed in rice sacks and stacked seven high outside, they lay in the sun, accumulating a cloak of fine dust shorn from the surrounding desert landscape. That is where the largest archival trove of Cooperación Popular remnants can—or could—be found. That such an environment is so conducive to agricultural knowledge production while so hostile the preservation of records that can attest to how that knowledge shaped the Peruvian landscape has a sort of poetry to it, as though an eco-epistemological dialectic imposed stasis where so many researchers and planners spoke of progress. When I visited FONCODES in July 2012 looking to find out more about Cooperación Popular, I found institutional correspondence, complete project reports, supply lists and receipts, all breaking down under exposure to the elements. In a small way the environment was breaking down the archival record of a program that did so much to promote an ethic of environmental breakdown and reformation. But climate was not the only factor slowly erasing COOPOP’s history.

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Returning to the FONCODES site again one month later, the mountains of document-stuffed rice sacks were gone, culled from the archive after functionaries from the National Archive (AGN) assessed their historical significance and concluded they could be destroyed. It turned out that state archives like many of those I visited—those considered non-historical archives—are obliged to retain their holdings for a period of 30 years, after which the AGN determines the historical value and, therefore, the fate of those records. Fortunately, a severe backlog often complicated things and I regularly found older materials, but this process presented a conundrum exemplified by my experience at FONCODES and replicated in many of the other archives I visited: in my efforts to learn the history of a Belaúnde-era development program I was racing against the country’s official arbiter of history because what I had found worthy of investigation did not fit within the confines of what the AGN considered historically valuable.

This tension between official history and rice-sack history—the rice sack is a common storage vessel in many of the archives I visited—posed a problem as the availability of records conditioned two contrary narratives of the Cooperación Popular program. The first, told through the surviving accounts that boosters drafted, newspapers published and the AGN, the National Library and major university libraries all now conserve, is the story I’ve told thus far. But from this story it is difficult to determine the extent to which 1960s COOPOP articulated with local community power dynamics. Before they were destroyed in 2012, however, collections of internal correspondence and project reports from the 1980s iteration of Cooperación Popular shed light on the program as viewed by local functionaries
and community members. What I found was the stories of 1960s COOPOP and 1980s COOPOP differ significantly because the sources available for each iteration differ. But as important as the forms of domination and resistance etched in these two histories are the continuities they convey.

Though my discussion of this experiment in community development has focused on its discursive articulation and therefore the thoughts and ambitions of its promoters, the program’s institutional structure allocated decisions to municipalities about what kinds of projects to take on and whether to embrace the COOPOP ethic. This favoured local political elites and gave them reign over the amount and sort of work volunteered by community members of all kinds, sometimes sparking bitter internal conflict. The kinds of projects themselves were also a source of political infighting. Finally, gender and social standing would certainly have been factors conditioning people’s embrace of the COOPOP program. A look at the photographs discussed earlier illustrates that, while booster discourse was gendered masculine, as I explain in Chapter Five. Especially in the case of road construction, which had greater benefits for merchants and landowners and required greater inputs of manual labour, class and gender

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178 I saw an example of this first-hand when I met the former mayor of the town of Pachiza, in San Martín. He had won the silver spade for second most builds of any community in 1985, when among other things, the people of Pachiza built an albergue through the System of Popular Cooperation. Yet when I visited in 2011, his political opponents held office and had ceased to use the building, something he saw as an affront. For Heilman’s discussion of COOPOP-infused internal strife in rural 1960s Ayacucho, see: Jaymie Patricia Heilman, Before the Shining Path: Politics in Rural Ayacucho, 1895-1980 (Stanford, Calif: Stanford University Press, 2010), 134–36, 146.
differences were significant factors determining whether one embraced a COOPOP build.

The unequally distributed costs and benefits of COOPOP road builds was best captured in José María Arguedas’ rendering of the “road fever” that afflicts the town of Puquio in his master work, *Yawar Fiesta*. A double signifier, road fever simultaneously expressed the enthusiasm and pride that the Nazca-Puquio Highway’s completion stirred up in town notables and the cultural and physical death it meant for largely indigenous labourers. Throughout the novel, characters express awe, disbelief and satisfaction at the fervour of the more than “10,000 Indians” (hyperbolic or not, the impact is the same) who worked to finish the road in 28 days. Sadly, many of them succumbed to the more literal brand of road fever, enshrined in the “crosses marking the bones of malaria victims” that lined the roadside. In one poignant scene, Arguedas depicted this duality of the road’s cultural construction. Amongst the celebratory arrival of the first truck to reach Puquio on the new road, the chief staff bearer from Pichk’achuri pulls the bishop’s deputy aside and swiftly reminds him of those celebrations’ cost: “Tayta”, he says, “you’re gonna pray for five comuneros, dying on the highway”. In one brief vignette, Arguedas was able to capture the complex and shifting discursive construction of a highway. Doing archival work in Ayacucho, Jaymie Patricia Heilman uncovered real-world instances of this imbalance. While local notables praised highway projects and orchestrated the same kind of photographic rituals

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180 Ibid., 58.
181 Ibid., 65.
that I’ve discussed at their completion, poorer community members expressed concerns about the banditry and abductions that would surely come with connection to the outside. Most of all, however, peasants resisted the unremunerated labour they were supposed to give in the name of national integration.182

Thus, while the archives depict COOPOP of the 1960s as a triumphal instrument of community development, democratic decision-making and social progress, the program surely faced murmurs of dissent. It was also the victim of broader domestic and international machinations. By 1966, the Belaúnde administration had to curtail its reliance on the U.S. aid that helped fund programs like Cooperación Popular. Though Peru could have been a showcase for the Alliance for Progress ideal of modern development through democracy and cooperation, Belaúnde faced increasing obstinacy from Washington. From day one of his presidency, he promised to resolve the growing conflict with Standard Oil of New Jersey’s subsidiary, the International Petroleum Company (IPC). The company, Peru’s largest private employer, held exclusive subsoil rights to their properties on the north coast at La Brea and Pariñas and enjoyed a very advantageous tax regime grandfathered in when the IPC purchased them in the 1920s. By the time of Belaúnde’s election in 1963, a groundswell of misgivings threatened the company’s special status and many called for him to recoup what were seen as years of “back taxes” that would have been assessed had the IPC been paying a standard tax rate. In October, Belaúnde suggested the company give up its subsoil rights and pay $50 million to

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182 Heilman, Before the Shining Path, 136–38.
resolve the issue, stirring ire in American foreign policy circles and giving a pretext to halt aid disbursements. Trying to walk a fine line between American support of the IPC and the progressively nationalistic sentiments of average Peruvians, Belaúnde’s bout with the IPC soured relations on all sides. Tensions further erupted as Belaúnde’s administration became the standard-bearer of the so-called “fisheries dispute” that was developing since Chile declared sovereignty within a two-hundred-mile maritime boundary in 1947. By 1965, overfishing threatened Peru’s lucrative fishmeal industry to the point that the National Fertilizer Corporation (Corporación Nacional de Fertilizantes, CONAFER) initiated a wholesale transition to synthetics. By the end of the decade, observers denounced how overfishing also robbed South Americans of a critical foodstuff. Georg Borgstrom calculated that, between 1966 and 1968, Chile and Peru exported enough fishmeal

... to provide 413 million people a minimum (7.5 kilograms per year) protein for a year, yet this vast amount of protein went to distant places in the well-fed world outside South America. The continent was thereby deprived of 50 percent more animal protein than its total meat production

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183 The IPC negotiations were a regular issue in Oiga through late 1963 and 1964. Of course, the issue took on a new dimension in 1968 as Belaúnde vied to prop his failing coalition with a victory against the IPC. For details on the dispute, see Contreras and Cueto, Historia del Perú contemporáneo, 319–24; Cynthia McClintock and Fabián Vallas, The United States and Peru: Cooperation at a Cost (New York: Routledge, 2003), 23–25; David P Werlich, Peru: A Short History (Carbondale: Southern Illinois University Press, 1978), 289–95; Kuczynski-Godard, Peruvian Democracy under Economic Stress, 121–24.

184 The issue of fishmeal production and scarcity was treated in several Oiga articles from early 1965. See: Oiga 108 (enero 1965); Oiga 109 (enero 1965); Oiga 111 (February 1965).
To guard dwindling tuna and anchovy fisheries for domestic industry and stave off the advance of U.S.-flagged fishing vessels, Belaúnde invoked the two-hundred-mile boundary in the 1965 Civil Aviation Law, fortifying earlier claims made in the name of conservation. Peruvian diplomats also openly encouraged other Latin American states to impose their own two-hundred-mile limits to bolster the Chilean precedent. 186

When Belaúnde cold-shouldered the U.S. Congress’ paternalistic control of regional military procurements and purchased twelve Mirage V supersonic fighters from France in 1967, he further stiffened relations that were already sore from stalled negotiations with the IPC and overtures toward maritime sovereignty. 187 These disputes encouraged Washington to choke off development aid, and the administration that began with a building boom was charging toward severe deficits by the middle of his Belaúnde’s first mandate. Cooperación Popular, the program...
that heralded the coming of the age of the Architect-Politician, faded in the archival record by 1967, when economic woes reached their height. Facing alienation from the United States, a crushing recession, and continued obstructionism in Congress, Belaúnde’s fragile political coalition unravelled and his modernist dream of building Peru out of poverty halted when Army officers whisked him out of the Presidential Palace in a bloodless coup, October 3, 1968.

During the twelve years of military rule that followed, Belaúnde-era projects and programs such as COOPOP and La Marginal continued under the guise of the Revolutionary Government of the Armed Forces’ (Gobierno Revolucionario de las Fuerzas Armadas, GRFA) corporatism.\(^{188}\) Under the mandate of General Juan Velasco Alvarado, the self-build ethic championed in Cooperación Popular projects came into its own in the urban sphere. Once again, the barriadas surrounding major population centres like Lima, Chimbote and Arequipa became important focal points of state practise, though now, following the ideas of John Turner, Eduardo Neira, and a generation of social scientists tied to the newly formed Institute of Peruvian Studies (Instituto de Estudios Peruanos, IEP, founded by José Matos Mar, among others), they represented transformational spaces in the Peruvian body politic’s gestation. In the case of Villa El Salvador, the GRAF took a 1971 land invasion on Lima’s southern periphery and touted it as an experiment in popular urban development, eventually assisting in the barriada’s creation and resettlement of its

\(^{188}\) See Chapter Four for discussion of La Marginal’s continuation during the military government. Chapter Six looks at the survival of Belaúndean tropes of jungle conquest in land conflicts fought against Velasco-era Cooperatives.
inhabitants.\textsuperscript{189} The COOPOP program, itself, was folded into the Communal Promotion (Promoción Comunal) wing of the National System of Support for Social Mobilization, SINAMOS), founded in June 1971. It was not until November 1980, with Belaúnde back in power after new elections, that COOPOP re-emerged as the National System of Popular Cooperation, instituted by Legislative Decree No. 1 of his new mandate.

In many ways, Belaúnde’s return to power created the illusion that his political decline, the coup that ousted him and the transformational twelve years of military rule had never happened. Pushing the same recipe for progress, he revived plans to continue La Marginal and road colonization in the east. He also resurrected Cooperación Popular and tried to reorient Peru’s destiny around construction projects. There were no signs of the anxious tension between building and indoctrination in this new permutation of Belaúnde’s developmentalism. Vier’s Works-Activities Binomial didn’t concern COOPOP functionaries quite like it had preoccupied Jorge Carbajal. This is perhaps because the GRAF monopolized discourse on social revolution while what really attracted the architect-politician was construction.

\textit{Cooperación Popular} emerged as a replica of its former design. Initially headed by Carlos Pestana, who ran the National Planning Institute during Belaúnde’s first mandate, it continued to practice the philosophy that equated environmental changes with social ones. Building was again the program’s \textit{raison d’etre}. But it

\textsuperscript{189} The invasion, which began with 200 families at the end of April, 1971, initially spurred contempt from the Velasco regime, but after growing to more than 9,000 people over a few days, the GRAF changed course and embraced the settlement. Gyger, “The Informal as a Project,” 277–79.
launched with new vigour and constant equipment and funding shortages.

Throughout 1981 and 1982 rural communities across the country formed new *centrales* that flooded the Lima headquarters with requests for support. While the organizational structure resembled that of the program's 1960s version, it was housed under the Special Projects division, which coordinated development based on region and could draw resources from across ministerial boundaries. COOPOP projects that could be articulated with broader development goals—such as extension of La Marginal through the *Selva Central* in the Pichis-Palcazu Project—therefore boasted more support. COOPOP *centrales* situated to contribute to the administration's everlasting obsession with the Amazon and a newfound concentration on developing the *barriadas* flourished, while areas at the blurred edges of the Belaúndean gaze struggled to meet their project goals.

However, Belaúnde's reboot of vintage developmentalism failed to meet the challenges of the new Peru forged in his stunted reform and the GRFA's unkept promise of social revolution. Indeed it was those underdeveloped regions so frequently touted in COOPOP rhetoric that posed the most serious problems.\(^{190}\) Threats of violence and sabotage from *Sendero Luminoso* militants halted construction on the Pacchancca-San José de Secce road in Ayacucho’s Huanta

\(^{190}\) In his work on the emergence of Sendero Luminoso, Carlos Iván Degregori points to roads as a source of regional dismemberment and the cause of northern and central Ayacucho’s relative isolation and underdevelopment. With the 1920s construction of the Nazca-Puquio highway to the south and the coupling of the Central Railroad and the Huancayo-Ayacucho highway to the north, two key regions of the department were splintered off and the crucial corridor that used to connect them—running straight through the central provinces of Huamanga, Cangallo and Víctor Fajardo—became obsolete. As Iván Degregori underlined, it was not surprising that these leftover provinces, the former two among the ten poorest in Peru, would be the site of Sendero's earliest actions. Degregori, *El Surgimiento de Sendero Luminoso*, 30–31.
province just after COOPOP formed a central there in 1981. In 1982, militants dynamited a COOPOP dump truck in the province of Vilcashuamán and in the provinces of Víctor Fajardo and Cangallo, all in rural Ayacucho, functionaries refused to work with the program. The chief of Cangallo's central appealed to Lima, complaining that he'd only received funding for sixteen percent of his budget. The shortcomings exposed COOPOP to ridicule, critique and disenchantment amongst the community, one that he argued represented an especially important constituency, deserving of priority given that “acts of daily provocation cause these people to live under constant anxiety”.

In other isolated communities people had to invent creative tactics to attract money and materials for COOPOP builds, regularly circumventing the centrales altogether. In May 1983, students, faculty and staff of the Superior School of Professional Education in Cerro de Pasco collected 262 signatures on a petition for COOPOP support for building new classrooms, administrative facilities and a workshop. Instead of approaching the local central, they mailed their petition to the national director in Lima. At the same time, the remote village of Chinchas in Ancash tapped into the community diaspora to nudge COOPOP. In early 1983 a social club of Chinchas natives living in Lima went to the United States embassy to see if they could garner help building a branch road to their hometown. They secured a $4,000 USAID grant to cover diesel, cement and hand tools, but they needed COOPOP to

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191 Oficio No. 009-82 dated August 13 and Memorandum No. 790 dated October 5, 1982, FONCODES.
192 "... las provincias de Cangallo y Víctor Fajardo necesita [sic] la atención prioritaria por cuanto a diario se están suscitando actos que hacen vivir en zozobra a los pueblos”. Oficio 009-82 dated August 13, ibid. The central in Oaxapampa also mentioned obstacles due to Sendero activity there in 1982.
loan a bulldozer, drilling rig and explosives for roadcuts and grading. After their request went unanswered, they again leaned on the U.S. embassy, this time to pressure COOPOP’s director, Enrique Paredes. Veronica de Ferrero, from the embassy’s Programs Office, dispensed with the formalities when she wrote him on the community’s behalf. “Dear Enrique”, began her cordial prompting. Another way communities bypassed the program’s institutional structure was through their political representatives. The communities of the Huallaga Valley routinely depended on their senator, Eduardo Yashimura Montenegro, to expedite COOPOP assistance. In one extreme case, he had the prime minister, Fernando Schwalb López Aldana, write Paredes requesting COOPOP supply materials for construction of a staircase for the community of Saposoa to access the Huallaga River. The offices of Directors Carlos Pestana and Enrique Paredes, who replaced Pestana sometime in late 1982, were inundated with these and similar requests, which exposed fissures in COOPOP’s institutional façade and hinted at the significance of old patronage networks for decision-making. Despite a clear organizational hierarchy, politics and pragmatics permeated the process of planning a COOPOP project.

Nowhere was this more evident than in the cradle of Acción Popular militancy—Arequipa. In early 1985 AP dignitaries from across the province of Caylloma appealed directly to Director Paredes with demands for the immediate removal of their central chief, Germán Zapana Gallegos. Their critique of Zapana rested on three points of argumentation. First, they discredited Zapana based on his ineffective administration. Central annual reports demonstrate that Cooperación Popular’s national office measured progress by the number of projects initiated and
completed; their scope and scale was of lesser consequence. Here the anti-Zapana políticos had an easy target in that Zapana hadn’t initiated any projects for 1984 and he only completed two of the 115 his predecessor had launched. The remaining 113 projects sat paralyzed. While this argument hit right at COOPOP’s mission to get things built, the disgruntled local notables also stressed their concern for how Zapana’s poor administration would reflect on the institution and the party. Here they echoed concerns from the central chief in Cangallo, who tried to alert Lima to the ways an inefficient local COOPOP office could translate to communities abandoning Acción Popular. Finally, the signatories in Caylloma attacked Zapana’s tactics and politics. They urged Paredes to reinstate their former central chief, Arturo Juárez Caballero, because he was an architect and had launched so many building projects; they also claimed Zapana acquired his position not through regular channels, but by lambasting Juárez in a signed petition (much like the one now being used to discredit him). In a closing declaration, they tied Zapana to his number two in the central, administrator Jorge García Montenegro, whom they labeled the “intellectual author of the party’s disintegration in Caylloma”, and accused of showing APRA sympathies. This conflation of the party (AP) and the program (COOPOP) played out through more than just the image and personnel of Cooperación Popular. As the 1985 presidential election approached, some COOPOP centrales, like the Pucallpa central in the newly created jungle department of Ucayali, functioned as campaign surrogates. In a confidential request for funds sent

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to COOPOP’s Lima technical director, Hernán Perochena García, Pucallpa’s *central* chief alluded to a meeting of COOPOP departmental chiefs held in Perochena’s office where attendees agreed on how COOPOP would assist in campaigning.¹⁹⁴

One area where COOPOP’s 1980s incarnation met the expectations set by its 1960s ideation was in roadbuilding. In spite of COOPOP’s political coopting, local projects made a sizable contribution to the national road network. From May 1981 to May 1982, COOPOP projects accounted for more than 1300 kilometers of new branch roads throughout the country.¹⁹⁵ Like their predecessors who in 1964 trampled through the dense forests of the Huallaga Valley opening pioneer roads that would become La Marginal, volunteers from the Oxapampa *central* frequently contributed to the Pichis-Palcazu Special Project that was working to link remaining segments of La Marginal through the *Selva Central*.¹⁹⁶

In Huánuco, the industrious *central* chief, Nauta Aguilera, was a veritable road czar until funding shortages paralyzed departmental COOPOP projects in September 1982. In charge of planning, execution, and often celebration of branch roads across the department, Aguilera presided over a small roadbuilding boom in 1981. Indeed Huánuco’s COOPOP road construction equalled nearly ten percent of the national total for kilometers built and the bulk of it happened in the jungle province of Leoncio Prado, where La Marginal had opened access through the Upper Huallaga

¹⁹⁴ Carta dated February 26, 1985.
¹⁹⁶ Cooperación Popular Central Oxapampa, “Informe anual de ejecución de obras de bien común 1982,” January 8, 1982, FONCODES.
fifteen years earlier. With the trunk road in place and a troubled planned colonization process spurring rampant spontaneous colonization, COOPOP led the extension of branch roads from La Marginal near Aucayacu; La Morada, at the border with San Martín; and around the provincial capital of Tingo María. The road near Aucayacu alone extended market access for some 5,000 people to nearly 1,500 hectares of farmland. All told, COOPOP contributed nearly twenty-five kilometers of branch roads in Leoncio Prado during 1981-1982 and volunteers were on track to complete eighteen more when resources dried up in September.

Aguilera himself was cast in the Belaúndean mould; he wrangled construction projects of all sorts on precarious budgets and masterfully orchestrated public spectacles around them. (Figure 1.10) Reports from the Huánuco central frequently featured more than engineering and cost details of road builds; they also trumpeted long lists of the local dignitaries who showed up to road inaugurations and showcased photos of smiling comuneros who, according to captions, rejoiced at the market connectivity coming with new roads. (Figure 1.11) Aguilera’s name appeared strategically throughout, which is why the fate of his central is so telling.

The extraordinary measures that some remote communities resorted to in order to get the Lima office’s attention spoke to serious fissures in Cooperación Popular’s institutional hierarchy. And the examples of internal squabbling in Arequipa and outright politicking in Pucallpa revealed the breakdown of the program’s mission to

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197 COOPOP volunteers built 76.9 of a planned 111.9 kilometers across the whole of Huánuco between August, 1981 and June, 1982. Of that, the projects in Leoncio Prado accounted for 21.3 completed and 39.8 kilometers planned. Victor Chalán Colorado and Cooperación Popular Central Huánuco, “Informe de Ejecución de Carreteras,” September 1982, oficio No. 142-COOP-82, FONCODES.

198 This is precisely the area discussed in Part Three.

199 Cooperación Popular Central Huánuco, “Informe general,” 1982, FONCODES.
spread progress. But the inability to support Aguilera’s efforts in Huánuco, where the value set inculcated during Belaúnde’s age of development was taking hold, represented institutional failure.

Thinking about the varied histories of Cooperación Popular, the tale of revolutionary social change rooted in millennial traditions and environmental transformation versus that of a struggling national program fraught with resource gaps and institutional breakdown, forces one to confront the contingent nature of archives and sources. On the one hand, the fact that the ideological façade upon which the COOP POP imaginary rested proved eggshell-thin by the 1980s speaks to the intimate relationship between statecraft, narrative and the arbitration of history. On the other hand, this derives from the thick ether separating discourse and action. The development drama infused into COOP POP discourse proved necessary to explain why people needed and wanted roads, or marketplaces, or waterworks, etc. But the implementation of those construction projects came down to pure pragmatics. While the visual record of the COOP POP program indicates how boosters conscripted bodies to promote a development ethos, the textual record tells that people resorted to the means at their disposal—not lofty discourse—to get things built. Both of these speak to what I mean when I refer to the factual infidelities shading the Age of Development. The documentary sources that remain express a vision of COOP POP as its creators saw it and as they hoped it would be seen by everyday Peruvians and international lenders. The FONCODES records from the 1980s, however, give a glimpse of the local level, where implementation of the Belaúndean idyll ran into real-world obstacles. But this dichotomy is a fiction of the
archive, an infidelity betrayed by the destruction of records deemed historically irrelevant. Meanwhile my narrative efforts to clarify the environmental ethic underpinning this early experiment in community development remains partly informed by a primacy afforded certain sources—writings and speeches of Belaúnde, Vier and Orrego, for example—and the wholesale erasure of others. While this broader point speaks to issues of “archival grain” and “silencing the past” that certainly conditioned COOPOP’s story, what this program’s story specifically elucidates is the importance of the environmental narrative that underwrote development in 1960s Peru.

Construction—and primarily road construction—was COOPOP’s answer to social inequality. The cult of construction also speaks to the kinds of spaces codified through development discourse. Steeped in modernist architecture and modernization theory, Cooperación Popular visionaries and functionaries perpetuated a dichotomy that separated rural and urban spaces to be sure, but they also helped imagine a new spatialization of national progress, one that for the first time included remote highland villages and the Amazon. Finally, through COOPOP discourse and spectacle, architects, planners, politicians and peasants alike imagined a new constellation of historical subjects based on the nature of their relationship with their surrounding environs. The architect-politician was the designer of Peru’s forthcoming social-ecological reality, while the peasant, endowed with the gifts bestowed by a millennial tradition of cooperation, comprised the labour force tasked with building that reality. As I discuss in the next chapter,
development discourse and practice also elevated another, stranger, subject: the machine.

Ultimately, the image of COOPOP is a product of power, both the power to articulate and disseminate, but also to inculcate a myth about progress. The power exercised in the archiving process was one more factor helping to make that myth last. Though, while power stifles the incredulous, it doesn’t stop them. In contrasting these two archival inventions, I am trying to argue that we shouldn’t trust the story told about development and its achievements. The role envisioned for peasants through the iconography of development was not the role they actually played; it was an expression of how they were expected to protagonize the story of Peru’s future. But at the same time, the way that story was crafted is of great import. Available sources don’t indicate whether COOPOP praxis ever lived up to COOPOP mythos. But by exploring how the program broke down in the 1980s and juxtaposing it against oral accounts from the 1960’s, I argue that it couldn’t have. Yet that doesn’t discount the importance of the mythos expressed through the development drama; it exposes it for what it is: a story, and one capable of significant environmental change at that.
Chapter Two: Development’s Cult of the Machine

There lies no doubt that, for the villages, the arrival of tools and equipment represents concrete proof of the attention paid them by the State, of the recognition that is made of them as active and enfranchised participants in our national development, at the same time that it symbolizes their entry into the world of modern technology. Tears glistened in the most virile eyes of our compatriots when, in the airport in Rodríguez de Mendoza, an isolated village of our montaña, at the opening of the Hercules jet and the unloading of a bulldozer, the people began to intone the National Anthem.200

Tears, modernity, national development, enfranchisement and the symbol made to embody it all in this declaration by Luis Vier—the bulldozer.

Given how popular cooperation internalized a modernist land ethic of development through environmental transformation and revolution through architecture, it’s no surprise that heavy machinery would rank high among the list of heroes it canonized. Heavy machinery proffered practical advantages, to be sure, but it could also outdo human labour in the realm of discourse, where the sheer scale of earth-moving capacity resonated with a perceived urgency to shape nature to man’s will. Large-scale, landscape-altering development is something that can be, and was, dated back to the irrigation schemes and highway network of the Inca, but only one...

200 “No cabe duda de que la llegada de herramientas y equipo representa para los pueblos, la prueba más concreta de la atención que les presta el Estado, del reconocimiento que se les hace como participantes activos, y de pleno derecho, en el desarrollo nacional, a la vez que simboliza su entrada en el mundo de la técnica moderna. Las lágrimas brillaban en los ojos más viriles de los nuestros cuando en el aeropuerto de Rodríguez de Mendoza, pueblo aislado de nuestra ceja de selva, al abrirse el avión Hércules y salir un tractor, el pueblo empezó a entonar el Himno Nacional”. Vier, “Cooperación Popular: la dimensión peruana del desarrollo,” 6.
project embodied the fusion of industrial earth-moving with the value set represented by popular cooperation: La Marginal.

Boosters framed La Carretera Marginal de la Selva as one monolithic project dreamt up by a visionary architect-president, but in reality it comprised a variety of actors, regional contexts, road segments and timespans. This makes questions, such as when it was finished or who built it, frustrating interrogatives with complex answers. In fact, it is best to look at La Marginal as a vast road network, or patchwork of varied road projects, some completed, many underway and others not yet imagined when La Marginal was first envisioned. With few exceptions—88 km near the Apurímac River in the Department of Cuzco and an auxiliary road from the Inambarí River to Puerto Maldonado in the south-eastern Department of Madre de Dios—the effort to turn this imagined super-highway into a concrete-and-gravel reality focused on the north-eastern piedmont for most of the 1960s. There, as a fleet of heavy machinery never before seen in the region and comparable to the Ministry of Public Works’ entire national inventory plowed through untouched jungle, the rituals invoking and inculcating a modern land ethic took on a new form, one in which the national narrative included simple and complex machines among the cohort of dignitaries bringing progress.

The literature on Nation formation is vast\textsuperscript{201} and a comprehensive survey of it is not my objective here. There are, however, a few currents that resonate with my

\textsuperscript{201} Regarding Peru, my thoughts are informed by: Mallon, Peasant and Nation the Making of Postcolonial Mexico and Peru; Méndez-Gastelumendi, The Plebeian Republic the Huanta Rebellion and the Making of the Peruvian State, 1820-1850; Méndez-Gastelumendi, El poder del nombre, o la construcción de identidades étnicas y nacionales en el Perú; Sarah C Chambers, From Subjects to Citizens: Honor, Gender, and Politics in Arequipa, Peru, 1780-1854 (University Park, Pa:}
argument. To begin, Nation is a fundamentally representative phenomenon in that it engenders subjectivities, temporalities and spatial configurations. But many processes of national imagining went far beyond graphic representation to include the so-called “everyday” or “performative,” as well as the ritualistic and what Eric Hobsbawm called the mass-producing of traditions. In COOPOP self-builds, high-rise social housing projects, hospital plans and road construction, developmentalist traditions were formed that re-centered the Incan past and re-imagined the Andean future, as well as posed a reformist challenge to the oligarchic rule of the 1950s. The role of imagery in those traditions went beyond documentary; it was constitutive.

Pennsylvania State University Press, 1999); Walker, Smoldering Ashes Cuzco and the Creation of Republican Peru, 1780-1840; Thurner, From Two Repubblics to One Divided.


In Chapter One I explored the means by which photographic rituals inculcated the modern land ethic. In this chapter I explore one unique facet of that process. I pay special attention to the idea that monuments served to institutionalize and spatialize national mythologies, but I ask how this invention of tradition might be addressed in light of the notion of doing “history from below”. If indeed the erection of monuments solidified a collective agreement on what constituted national heroics and who national heroes were, and then mapped that mythology onto a cityscape, it remains to be seen how those mythologies were acted out on an everyday basis. I contend that Peruvian developmentalism included rituals that fetishized such seemingly banal things as tools, building materials and machines with their own unique monumentality, one that instilled in them a kind of nationalist heroics.

Since the early twentieth-century invention of popular photography, the enacting of national mythologies has been ritualized in the act of taking a picture. As legions of tourists nomadically drift from monument to monument, posing before every one to have their picture taken, they don’t just subscribe to the version of history on display; instead, they make it a spectacle for mass consumption and charge the monument with new symbolic life. Indeed, the act of photographing—

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207 Take, for instance, most statues of Simón Bolívar. Most tend to be equestrian, telling us not only to remember Bolívar, but also to remember him for the way he rode into battle.


209 My ideas on subjectivity in photography come from: Barthes, Camera Lucida; Poole, Vision, Race, and Modernity; Nancy Stepan, Picturing Tropical Nature (Ithaca, N.Y: Cornell University Press, 2001). Greg Grandin’s work is especially significant for the emphasis placed on the way people posing for photographs took charge of their own subjectivity: Grandin, “Can the Subaltern Be Seen?”; Grandin, The Blood of Guatemala a History of Race and Nation On the idea of
that is, the theatricality of staging a photograph, as well as the production of an infinitely reproducible image—is as crucial to determining what constitutes a monument as are construction and placement.

In the rural regions of 1960s Peru, where progress was framed within the constructs of modernization theory, the modern spectacle engendered through photography demonstrated that it was not only the long-dead dignitaries, forever encased in bronze equestrian glory on the concrete plinths of Lima, who boasted the status of national heroes. Michael Adas argues that in the confluence of European colonial expansion and scientific modernity since the Enlightenment, machines became a rubric by which progress and achievement, especially in opposition to the colonial Other, could be measured. Machines were markers of progress to be sure. The arrival of a bulldozer, a dump truck, a drilling rig or a motor grader stirred people's fascination and brought them out en masse. But in the narrative of Peruvian development, machines were more than mere referents; they came to heroic and colourful life as the protagonists of roadside spectacle.

In developmentalist Peru, notions of modernity and progress rested on a bipartite process of alienation, one in which the power of everyday people was discursively constituted and supplanted by that of the machine and a cult of the earth mover was enacted through a series of animistic spectacles in which tools and

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the spectacle, I draw from: Debord, Society of the Spectacle; Taylor, Disappearing Acts; and Andermann, The Optic of the State.


212 My assertion that machines were more than evidence of human progress comes from Guy Debord's notion of the commodity as spectacle. Guy Debord, “Chapter II: Commodity as Spectacle,” in Society of the Spectacle (Rebel Press, 1983).
heavy machinery were elevated to the status of national hero. In these spectacles environmental transformation was inculcated as the harbinger of all progress. In a context where socio-economic changes were intimately tied to changes in the land, these machines served as objects of symbolic displacement and were elevated to Promethean prominence. Because of their capacity to reshape the earth’s surface they became central figures in a development drama, monuments to the moving of mountains.

2.1: Progress Through Roads

According to Belaúnde’s annual address to Congress in 1965, Cooperación Popular-supported projects laid some 2,660 kilometers of road between May 1, 1964, and June 1, 1965.213 Accompanying his address, as is tradition, came a meticulously compiled tome that reported the activities of every government ministry over the previous year. The document itself betrayed a striking capacity for orchestration and coordination by taking the achievements of entities so disparate as the Peruvian Industrial Bank (BID) and the Civic Air Service and uniting them under the title El Perú construye (Peru Builds). In 794 pages one overarching objective was communicated: building equalled progress. The authors, most of them unknown ministry functionaries, marshalled a barrage of statistics and upward-tilting graphs, as well as dozens upon dozens of photographs to reinforce the point.214

213 This number was a projection based on the hard number of 1,971 kilometers built between May and Dec. 1964. Gobierno del Perú, El Perú construye, xl, 386.
By the end of 1963, Peru could boast a total of 41,458,413 kilometers of road, a mere 10.2 percent of which (4,206,720) was paved. Belaúnde stressed these numbers in his address to highlight the need for paving and set up his government’s National Highways Plan. The numbers, when coupled with highways investments over the previous decade and aligned with the Development and Public Works Ministry’s projections, painted a compelling picture, one that not only built urgency, but also instilled a sense of progression by establishing a goal and demonstrating movement toward that goal. Using the 300 some-odd million soles spent in 1954 as a baseline, the Ministry could claim a total increase of 254 percent in highways spending by 1964, which included work toward paving the 73.5 percent of the country’s roads still not stabilized as well as construction of new roads. Moreover, the ministry’s future-looking National Highways Plan estimated that in order to fully realize the country’s agro-industrial potential, they would need to improve 8,184 kilometers of existing roads and build 3,420 kilometers of new roads, all at an estimated total cost of 17.8 billion soles over ten years. The numbers therefore set two objectives: paving 73.5 percent of the nation’s roads while also building more than 3,000 kilometers of new roads. And they established a twenty-year scale, reaching ten years back for a baseline spending figure and ten years forward for achievement of the established objectives. By situating the country at the center of that scale, the figures flattered Belaúnde’s government without instilling a sense of completion. If we play the counterfactual, the baseline highways investment figure could have been set at 1963 instead of 1954, but the laudable

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216 Ibid., xxx.
254-percent spending increase touted by the Ministry of Development and Public Works would have shrunk to only 77 percent. Likewise, the ministry could have devised a National Highways Plan looking 20 years into the future, though that would have further diluted the efficacy of its projections and perhaps also diminished the sense of urgency that those projections instilled. Instead, the statistics that quantified the country’s road reality, much like those used throughout the text of *El Perú construye*, demonstrated that significant investments were being made and planning was happening. Those numbers conveyed a sense of progress. Peru was building.

Just as the different ministries leveraged statistics to represent how Peru was building, they harnessed fifty-four graphs as a shorthand for that progression. That graphs lend visuality to numbers should not surprise, but the graphs deployed in *El Perú construye* depicted progress in another way altogether. Whether visualizing studies of potable water supply, metric tonnes of stock in world fisheries, or the number of local offices of the Agrarian Research and Promotion Service (*Servicio de Investigación y Promoción Agraria, SIPA*), the overwhelming majority of graphs presented to Congress showed a drastic upward progression. Indeed, of the fifty-four, a paltry three indicated any decline: one depicting railroad investments, the other two malaria rates. Thus as one flipped through the document s/he followed a metanarrative of growth, as the eye travelled across the page, the bars got bigger and the lines got higher.

Graphs synthesizing the achievements of the *Cooperación Popular* program

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217 Ibid., 559, 439, 425.
218 Ibid., 242, 578–79.
induced the same sense of progress while simultaneously relating economic miscegenation in visual terms. The results were ambiguous at best, however, for when condensed into graph form, the miscegenation metaphor broke down. The text framed the project as harnessing Peru’s millennial traditions so the country as a whole could achieve modern goals. Through popular cooperation, local tradition was to meet the modern state in a unifying harmony that produced results. Yet when the inputs of these two disparate entities were expressed in valuational terms they remained staunchly opposed. And the effect of maintaining the discreteness of each entity’s contribution was to situate local communities as the primary motors of development and progress.

*Cooperación Popular* projects were separated into 5 investment categories—electrification and industrial projects, road works, communal structures, irrigation projects, and sanitary works—and for each category investments were broken into two groups: the communities and the state (see Figure 2.1). Between May 1, 1964, and June 1, 1965, for instance, the value of community labour expended on building public structures was close to 60 million *soles*, while Public Works invested only about 45 million in the same period. Likewise, communities put more labour into irrigation and sanitary projects than the state directly expended. In all but industry and electrification the investment in terms of communal workdays significantly outweighed state expenditures. The authors emphasized this fact as proof of COOPOP’s success as a decentralized program, one in which a reconfiguration of Peruvian tradition prevailed and the role of the state was as midwife ushering the countryside into modernity. Nowhere was this more evident than in roadwork.
Building a branch road is labour intensive. While irrigation installations and communal buildings required substantial capital expenditures to cover materials, equipment and technical advising, branch roads of the type built under the popular cooperation rubric consisted of large groups of men with hand tools, cutting through the countryside. This made road building an exercise that was uniquely suited to the COOPOP style of development because avoidance of labour costs would significantly decrease expenditures. Indeed, for the period covering May through Dec. 1964, community labour accounted for nearly eighty-five percent of the total cost of COOPOP road projects, leaving the state to cover just over 15 percent. In comparison, the Ministry of Development and Public Works was saddled with more than thirty percent of the cost to build community structures.

Finally, photography in the report to Congress reinforced the general idea conveyed through statistics and graphing by normalizing a view of what progress looked like. Many of the images depicted political meetings or politicians in the field shaking the hands of common folk who were busy conducting their daily labour. Agro-industrial activities such as crop experiments, land-title adjudications, and irrigation also figured prominently. But an overwhelming majority of the photos included in the report represented construction. Bird’s-eye views of social housing shells, mid-build, projecting out of flat, graded, soon-to-be-urban-monotony lands; strong horizontals of rigid steel-and-concrete hospital skeletons, adorned in rebar forests; and a litany of landscapes described by S-curving, switch-backing and straight-shooting asphalt and gravel roads trailing in the wake of bulldozers and work parties. Amongst all these images, the reader was hard put to find a completed
build; everything was in the process, echoing the same sense of becoming, in medias res, enshrined in the numerical projections and graphs that fed the general narrative thrust of *El Perú construye*.

The images also hinted at who would be the actor responsible for bringing development. If Cruchaga and Cerritelli’s spatialization of popular cooperation envisioned the consumers of progress and COOPOP directors Orrego and Vier championed the peasant as its producers, *El Perú construye* hinted at a new, post-humanist subjectivity that would effect progress on a modern scale.

Few of the people photographed were identified by name. Instead, accompanying captions stressed occupations and activities over identities. Government officials were identified by their position: Minister of Agriculture, President of the Republic, Director of SIPA, etc. Yet they constituted a fraction of the people that appeared throughout the document, most of them unidentified workers engaged in economically important tasks.219 The most common subject by far, however, was the machine: hydroelectric generators, helicopters, bulldozers, derricks, loaders, excavators, motor graders, and all sorts of air- water- and land-going vehicles. The machine was a continual presence in the imagery and figured prominently in the accompanying captions. Thus, despite COOPOP’s lionization of the peasant and the obvious pre-eminence of government officials in this

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219 Government officials were identified as *jefes de la Dirección de Caminos, obreros de la Dirección de Caminos, El Sr. Presidente de la República, Ministro de Agricultura, el Director de SIPA, Secretario General del Ministerio de Agricultura, el Ministro de Trabajo, Directivos del Servicio Cívico, el gabinete del presidente*. Military personnel were referred to using *Batallón de Paracaidistas, Batallón de Ingenieros, soldados, grupos de soldados, un soldado, and nuestra Infantería de Marina*. Everyday citizens were referred to mostly regarding their role in the economy: *comuneros, agricultores, obreros, feudatarios, padres de familia, pobladores, un poblador, un ganadero, and líderes de las Comunidades Campesinas*. The captions included two names: Sr. Constantino Manzo and Arquitecto Fernando Belaúnde Terry.
government document, the report’s visual substance left no confusion as to the main motor of progress: it was the machine.

2.2: The Cult of the Machine

Building La Marginal brought together a legion of planners, engineers, lenders and builders of every sort from the global leader in heavy construction to the unnamed COOPOP volunteer. Who was involved and at what stage depends largely on where one looks and when. Since early 1961, well before the initial project survey was conducted, the Peruvian Army’s Combat Engineering Battalion No. 6 had established a camp at Ingenio and was struggling to extend the new Olmos-Marañon road to the border of Amazonas and San Martín. Under the command of Francisco Morales Bermúdez, the man who would later replace General Juan Velasco Alvarado and lead the so-called second phase of the Revolutionary Government of the Armed Forces (1975-1980), construction of this treacherous segment would become the earliest stage of what was to be La Marginal. Next came Cooperación Popular and the preliminary clearing of a pioneer road connecting Tarapoto to Bellavista in the Central Huallaga Valley. This was Vier’s pet project and happened between mid-1964 and May 1965. While COOPOP was at work on the ground, a host of international actors got involved including EXIMBANK and USAID as lenders; the prominent military contractor, Brown & Root, conducted feasibility studies and design for two of the more crucial segments, the Tarapoto-Río Nieva (along the Mayo River Valley and extending to the San Martín-Amazonas border) and the plan...
for revamping segments of the twenty-year-old Vía Central between Tingo María and Pucallpa; and in 1965, the New York-based engineering firm Tippetts-Abbett-McCarthy-Stratton (TAMS) conducted the preliminary survey for the continental project that included Colombia, Ecuador, Peru and Bolivia. Apart from Cooperación Popular and the Army engineering battalions, the Ministry of Development and Public Works (later renamed the Ministry of Transport and Communications under Velasco) handled construction through its Roads Department, which had been struggling to connect with the work of the Combat Engineering Battalion No. 6 on the San Martín-Amazonas border since the beginning of 1964. But amongst all these actors, it was the dozer and the dump truck, the road grader and the drilling rig, those complex diesel giants, who bore the responsibility of converting La Marginal from discourse to reality.

The spatial spread of La Marginal corresponded to each of the varied institutions working on it. While inching along the Mayo, the Roads Department also inherited COOPOP’s effort to extend the Tarapoto-Bellavista some 20 km south to Juanjuí. The one exception to the Road Department’s hegemony came in early 1966 when it was taken off the Tarapoto-Río Nieva. One of the few substantial east-west-oriented segments of an otherwise north-south-oriented project, this segment presented the most difficult terrain as it edged up some of the more pronounced passes of the Huancabamba Depression. Given the significant challenges that kept the Roads Department mired in similar terrain on the road from Tarapoto to Yurimaguas, Public Works contracted out the Tarapoto-Río Nieva to the supposed expertise of international giants Brown & Root (for design and monitoring) and Morrison
Knudsen (MK), as sponsor of the building consortium, Conselva. Conselva’s arrival was monumental for road building in Peru and for a time much of Marginal boosterism and the bulk of Marginal resources focused on the consortium’s work in the Mayo River Valley. In early 1967 attention split between Conselva’s advance and the Roads Department’s renewed movement through the Central Huallaga. Picking up at Juanjuí, the Roads Department forged south to Tulumayo, where it eventually met with the construction firm Laos and Bolzmann’s extension of a trunk road from the Lima-Pucallpa, along the Huallaga River to the failed Pardo-era colony of La Morada. Simultaneously, but on a smaller scale, work was being done to clear and grade the Selva Central on a bifurcation at the Chanchamayo Valley, where the Army’s Ollantaytambo Engineering Battalion No. 3 spent most of the 1970s and early 1980s prolonging the old Vía Central from Lima northward into the Perené Valley and southward to Satipo. Satipo marks a key point in the spatialization of Marginal boosterism since that was the southern-most contiguous point of the project’s 1960s romp through the eastern montane forests.

As Ben Orlove has argued, the Andes Mountains and the racial imaginaries assigned to them have long been seen as obstacles to progress. And Orlove asserts that La Marginal served only to fulfill “its most important tasks: to offer Peruvians the allegory of an architect as president, to persuade them to vote for this figure, and, more generally, to have them think, as Belaúnde wrote, that ‘the irascible and

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222 As I discuss in Chapter Four, faith put in the expertise of both companies was misplaced.
223 Though small and largely absent from the pomp and circumstance of La Marginal boosterism, this segment of highway through the area where the Upper and Central Huallaga meet epitomized the phenomenon of road colonization. See Part Three for the significance of this road segment in jungle colonization.
redoubtable conglomerate of mountains that is Peru’s heritage will, in time, wear a web of roads as never before and, thus tamed, bow to inevitable progress”. La Marginal, however, was fit into a highly gendered road building discourse that predated Belaúnde’s quixotic march toward progress. For roads at mid-century were seen as the solution to an unbalanced man-land relationship, and road discourse held that in order to resolve this imbalance there was a need to build penetration roads that would open virgin forest to domestication. La Marginal, with a north-south orientation that would connect all of the penetration roads built earlier, was thus framed as the final stage of nature’s submission to man, what Belaúnde deemed “Peru’s own conquest”. Yet in 1960s Peru the neo-conquistadores reshaping Amazonian nature did not charge valiantly into battle atop Spanish horses; they swung broadaxes and machetes; delivered fleets of monumental machines; and lurched over hillsides belching combustion out their tailpipes.

When Cooperación Popular volunteers opened the initial pioneer road that would make up the Tarapoto-Juanjuí segment of La Marginal, they did it with hand tools. With axes and machetes in hand, more than 1000 people from ten different communities hacked at the broadleaf forests of the Central Huallaga Valley to carve a 50-metre-wide, 120 km-long path that was meant to expose thousands of square kilometers to cultivation. Their work attracted the admiration and endorsement

224 Belaúnde Terry, Perú’s Own Conquest, 141, quoted in Benjamin S. Orlove, “Putting Race in Its Place: Order in Colonial and Postcolonial Peruvian Geography,” 331.
of Public Works Minister, Gastón Acurio, who visited the Huallaga Valley to inspect the nascent roadway and publicize its birth. Images from the visit show the same kind of spectacle as that which Belaúnde and his entourage orchestrated around visits to small towns across the country—habitants of the hamlet of Picota raised a mass of machetes in the air to welcome Acurio and his cadre. In one image in particular Picota’s mayor embraced Acurio and thrust his machete in the air over their heads. (Figure 2.2) That was in the final months of 1964.

But La Marginal offered another kind of earth-shattering spectacle. For while the shaping of earthen bricks and the work of the pick and the spade served as evidence of social progress in COOPOP spectacles, the construction of La Marginal was to offer proof of an actual conquest, or taming, of nature by man.227 Moreover, if the simple machines used by COOPOP beneficiaries were important in development discourse, the machines used to make La Marginal were fetishized as protagonists of the development drama. Nowhere was this more evident than in the snapshots of a Conselva worker: Walter Miranda Pardo.

Walter Miranda Pardo has worked for the Peruvian Ministry of Transport since before it was the Ministry of Transport.228 A native of Ancash, Miranda arrived in

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227 Given the way that space was gendered in road-building discourse, this noun is purposely left masculine.

228 Miranda was hired to work for an international consortium led by Boise-based Morrison Knudsen (MK) in 1966. The consortium, Conselva, was awarded a contract to complete the Tarapoto-Río Nieva segment of La Marginal under the coordination of the then Ministry of Development and Public Works’ Roads Department. Following the October, 1968, coup that installed General Juan Velasco Alvarado in the presidency, the Ministry was re-named the Ministry of Transport and Communications and it absorbed most of the work under way by foreign contractors. By February of 1970, Conselva had withdrawn entirely from its contractual obligations and all operations related to the Tarapoto-Río Nieva segment, along with Miranda’s job, were incorporated into the Ministry of Transport and Communications. See: U.S. Embassy, Lima, Peru, “U.S. Department of State Airgram, Subject: Loan N. 527-L-028 Tarapoto-Rio-Nieva
Tarapoto in April 1966 and promptly found employment at a local hotel. Originally he hoped to migrate to Yugoslavia, but when Brazilian police stopped him in Manaus without papers, they sent him back up river to Iquitos. His plans now sent asunder, he regrouped and set out for Lima, hoping the capital might promise security and employment. By late 1966 he had retraced his route along the Marañon and back up the Huallaga River to the port of Yurimaguas, where the Conselva consortium had now established a base of operations. In a fortuitous encounter, he ran into Jim Hodge, an American working with Conselva whom he had befriended back in Tarapoto; Hodge offered him a job in road construction. By 1967, Miranda was managing the company’s fleet of heavy machinery and, in 1970, when Conselva ceased construction on the Tarapoto-Río Nieva highway, Miranda—like most of his coworkers—was taken on by the Ministry of Transport and Communications, where he still works today.

During his early years at work on La Marginal, Miranda had the foresight to document his experiences. As an almost natural outgrowth of his job keeping track of Conselva’s inventory of heavy machinery, he recorded a visual inventory that tracked the progress of construction across time and landscape. More than mere snapshots, his collection of photos includes meticulous inscriptions noting dates, places, people and activities, and to this day he still recalls the details of each

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Road,” April 12, 1979 For more on the saga of Conselva’s dissolution and Morrison Knudsen’s withdrawal from Peru, see Chapter Four.  
229 Hodge, an assistant drilling superintendent for Conselva is pictured in the Feb., 1967 edition of the Em-Kayan, p. 6.  
230 Miranda’s personal history was told to me in a conversation in Moyobamba, Nov. 28, 2013.
image.\textsuperscript{231} Spatially the images mark westward progress. His earliest images, from 1967-68, depicted Miranda posing with various friends and colleagues around the Tangarana Pass (km 81-84)\textsuperscript{232} and the Bolivia Bridge, about 30km west of Tarapoto. By 1971 and 1974, however (the last years he has images for), most of the images are from the Tonchima and Uquihua bridges, both well west of the town of Moyobamba. Thus, as the years passed, one can see a vague progression westward mapping the build as it advanced and Miranda followed. But Miranda’s images underwent their own transformation, as well.

Along with the temporal and spatial changes there were thematic changes that took place as Miranda grew more accustomed to his work. His photos from 1967 and 1968—more or less covering his first year working in road construction—exoticised their subjects, made them Other, and Miranda himself regularly appeared as the explorer-tourist capturing images of the people and sites to which his new job exposed him. Often donning a sleek red-and-black dress shirt, Miranda was the subject of many of his early photos. They documented the people, places and things he deemed photo-worthy. These are images that framed new and international acquaintances, striking landscapes and the awesome power of heavy machines.

\textsuperscript{231} The complete collection of Miranda's photos can be viewed at http://www.tuckersharon.info/content/walter-miranda-pardos-photos-construction-along-la-marginal. Even when I met Miranda in 2013, some 45 years after the fact, he could recite the names and nationalities of nearly everyone he photographed.

\textsuperscript{232} Road builders usually marked distances down to the meter from the road segment’s point of origin, which always came first in the road segment’s name. For instance, the Tarapoto-Río Nieva highway had its origin in Tarapoto, with Río Nieva considered its terminus. Sometimes a road segment would be simultaneously built from both directions to meet in the middle. In those instances, to avoid confusion, the names of each segment under construction would mirror one another (e.g. Villa Rica-Puerto Bermúdez, Puerto Bermúdez-Villa Rica). So km 12+300 on the Villa Rica-Puerto Bermúdez segment would be 12 km, 300 m north of Villa Rica, while the same distance on the Puerto Bermúdez-Villa Rica segment would be 12.3 km south of Puerto Bermúdez. Miranda copied this practice in his inscriptions, but I will be rounding for simplicity’s sake.
Take, for example, a series of photos made around the Tangarana pass in November 1967.

In one image, Miranda appeared in the center, flanked by American Corky Lentz and Panamanian Martín Santamaría, whose names he inscribed on the back along with their precise location along the road: “km 81+880”. (Figure 2.3) The three men stood atop a fresh roadcut, earth-strewn and stones tossed aside, and straddled tire tracks left by some of the first vehicles to ply that path. The combination of text and photo only further enforced what Miranda deemed photo-worthy: the men, hailing from far-flung lands and the road forged from jungle, specifically the eighty-first kilometer of it.

For another photo (Figure 2.4), Miranda posed crouched upon a boulder, at the top of a fill slope overlooking the Mayo River Valley. In the background one can see the radical incision of a new roadcut, with seventy-degree walls slicing through a distant hillside. This image juxtaposed a striking verdant landscape, even more noteworthy from Miranda’s vantage point, against the transformational power of brute force technologies.233 Like the tracks in the previous photo, this juxtaposition suggested the presence, indeed the pre-eminence, of an unseen actor, one whose work was on display.

In a final image from the Tangarana Pass, (Figure 2.5) Miranda and his colleagues again posed on the roadbed. Once again, they took pause and meditated

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on how best to represent the moment. They gathered and situated themselves, yet again, with Miranda in the center, one knee bent, a bold, rigid, proud posture. This time, however, they gathered around one of their most significant tools. With Miranda in front, a colleague perched on top, another to the side and a small collective of road workers behind, this image put one of Conselva’s blast hole drilling rigs on display. Though perhaps not the most visually overpowering of heavy machines, the drilling rig embodied one of the greatest earth moving feats of all by boring holes for dynamite charges. While his more massive relatives could transport enormous loads, and as such boasted an almighty presence, roadcuts like those needed to ascend the Tangarana Pass were impossible without the petite drilling rig. By paying homage to its labour, Miranda and the other men in this image also instilled in the object a kind of subjectivity.

Indeed, in each of these photos there was a parallel narrative told alongside that of Miranda’s new encounters. As he documented the variety of people and nationalities on site at his new job, he was also marking the transformational power of the machines he managed, their capacity for moving massive loads of earth, slicing through hillsides and blasting roadcuts. In that narrative, the one that told of progress over the Tangarana Pass, the heavy machines were the central actors; their labour warranted documentation.234

March 7 1966 was the day the machines arrived. The road connecting the port of Yurimaguas, on the Huallaga River, with Olmos, on the Pan-American Highway of the coast had been in the works for nearly a decade and the most challenging

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234 This practice of posing in front of heavy machinery was very common. For a collection of photos see: http://www.tuckersharon.info/cult_of_the_machines
sections still remained unfinished. The Peruvian-American consortium, Conselva, now controlled on-the-ground construction. Oiga and Belaúnde made a big deal of the contract; when the government opened bidding they billed it in glorious chalk and charcoal as “the largest highway bidding process in the country’s history” and Oiga gave it a two-page spread with the El Perú construye logo in the center. (Figure 2.6) The feasibility and road design, along with cost projections and timeline had been the charge of Huston, Texas’, Brown & Root, and the Conselva consortium tasked with the building was made up of three Peruvian firms (Consortio de Ingenieros Contratistas Generales, Flores y Costa and Graña y Montero235) and three firms from the U.S. (Oman Construction Co., Wright Construction Co., and J.A. Jones Construction Co.) and sponsored by Morrison Knudsen.

A long-established heavy construction firm from Boise, Idaho, Morrison Knudsen boasted a resume that read like an inventory of the planet’s largest building projects: New-Deal-era reclamation projects like Hoover and Grand Coulee Dams; massive hydro and ALCAN smelter works in Western Canada; huge international earthworks for reclamation, and transportation, most notably in Afghanistan and Vietnam; and the Glen Canyon Dam so despised by the North American environmental movement. Morrison Knudsen helped invent the world’s premier opium producing region when they dammed Afghanistan’s Helmand River on a USAID contract, raising the water table and leaching salts to the surface that turned

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235 In a 2013 corporate filing, Graña y Montero claimed to be “the largest publicly-traded engineering and construction company in Latin America as measured by market capitalization”, and continues to work on La Marginal today as part of the inter-continental Initiative for the Integration of the Regional Infrastructure of South America (IIRSA) project. Graña y Montero S.S.A., “Form F-1 Registration Statement Under the Securities Act of 1933,” June 4, 2013, 1.
the soil hostile to any other crops.\textsuperscript{236} That the Huallaga Valley was to turn into one of the world’s premier cocaine production and transportation venues might then be considered a second act in their protagonizing the development of illicit drugs. Even before the benefits of hindsight, Morrison Knudsen drew idolization and ire alike for its reputation as the world’s biggest builder. A 1954 \textit{Time} Magazine cover story crowned founder Harry Morrison and his fellow heavy constructors “ambassadors with bulldozers”,\textsuperscript{237} while twenty years later his company was doted with an unsolicited cameo in Edward Abbey’s classic novel, \textit{The Monkey Wrench Gang}, playing the Enemy, with a capital E.\textsuperscript{238}

Harry Morrison had a reputation for sticking to dirt and concrete, and shying away from the drawing board, but by the early post-war era, his company begrudgingly conceded the need for in-house design and it grew into one of the century’s most prominent civil engineering firms. However, while others in the industry made that move willingly and increasingly took on highly competitive North American jobs, MK found reprieve in the relative security of cost-plus foreign work contracted by the burgeoning international aid complex. Grabbing gigs from USAID and the Export-Import Bank, MK built airbases, dams, roads and other civil projects in Afghanistan, Brazil, Ceylon, Colombia, India, Mexico, Vietnam and host of other foreign destinations.\textsuperscript{239}

\textsuperscript{236} See Cullather, \textit{The Hungry World America’s Cold War Battle against Poverty in Asia}.
Morrison Knudsen did not specialize in civil construction alone. Though it gained fame at the helm of the Six Companies venture that built the Hoover dam and had a major stake in such iconic projects as the Grand Coulee Dam and the St. Lawrence Seaway, the company derived much of its business from defense contracts. During the Second World War, MK profits grew by 500 percent, mostly as a result of the speedy effort to strengthen the American Northwest.\textsuperscript{240} It took on contracts to build bases, roads and airfields, and was part of the joint-effort to build the treacherous ALCAN highway connecting Alaska with the lower 48 U.S. states through British Columbia.\textsuperscript{241} During the war it also began its foray into Latin America, building a network of airbases through Mexico, and it did the same through North Africa as part of an effort to bolster strategic defense in the context of the Korean War. By the 1960s, the company’s defense contracts skyrocketed. It was a major player in realizing one of the U.S. military's highest priorities: building bases for the Atlas, Titan and Minutemen missiles. Yet, as Donald Wolf puts it: “All of what MK was doing, in fact much of what they had ever done, was prologue to what they would do for the American military campaign in Vietnam”.\textsuperscript{242} In Vietnam, MK forged alliances with two of the firms working on the Tarapoto-Río Nieva road: Brown & Root and J.A. Jones Co.

In Peru, the company’s history dated back more than a decade when it began work on the Río Quiroz Irrigation Project in the northern department of Piura.

\textsuperscript{240} Ibid., 255.
\textsuperscript{242} Wolf, Big Dams and Other Dreams: The Six Companies Story, 261.
There MK men and machinery pierced through the *Divortium aquarum* of the Cordillera Occidental to rob water destined for the Amazon Basin and re-route it through six miles of tunnels to the arid coastal desert. MK spent the better part of the 1950s involved in one aspect or another of the Río Quiroz Project, most notably erecting the massive San Lorenzo dam, the biggest in Peru at the time. At 200 feet in height and spanning 2,700 feet, the dam was the embodiment of the earthmover ethic, holding in it some 3,300,000 cubic yards of earth and rock.\(^{243}\) The company also contracted for private American mining firms in Peru. In 1957 it was in charge of transportation, ore-processing, and support facilities for the Southern Peruvian Cooper Corporation’s Toquepala mine in the department of Tacna, and from 1961 through the rest of that decade MK was constantly at work on different aspects of the Cerro de Pasco Corporation’s Casapalca mine, including boring two parallel tunnels, each seven miles in length, to access the mine’s core and provide ventilation and drainage.\(^{244}\)

So when people assembled in Iquitos to greet the flotilla of heavy machinery on its way to Yurimaguas, it wasn’t the first time an MK emissary had brought awe and wonder to a Peruvian backwater. Nor was it the first people had ever seen of heavy machinery. Yet the sight of 14,000 tonnes of machinery packed tightly onto barges


and charging up river drew people from all around and warranted a celebration that included the ambassadors to Canada and the United States. As the ships pulled into port at Iquitos, the new Minister of Development and Public Works, Sixto Gutiérrez Chamorro, feted the shipment, proclaiming, “These weapons are for the revolution unfolding in the jungle”.

As prior efforts of civil and military engineers had failed to connect this part of the Peruvian Amazon with coastal markets, Conselva shipped some “38 bulldozers, with other major items including 59 dump trucks, as well as water wagons, flat-bed hauling units, nine scrapers, six shovels, five cranes and an array of drills, loaders and other equipment” from ports in Baltimore and New York, through Belem, Brazil, and 2,500 miles up the Amazon, Marañón and Huallaga rivers to the port of Yurimaguas. In all, the 235-km road segment that Conselva would build involved moving more than 14,065,400 cubic meters of earth. The curiosity of such brute force brought people out en masse to watch a spectacle that, unlike the COOPOP spectacle, had no politicians as its main attraction. (Figure 2.7) Indeed, throughout the northern Peruvian Amazon, people would turn out to observe the machines themselves in a spectacle that transformed them from inanimate tools to the actors in Peru's development drama.

2.3: Conclusion
Here in Part One I have tried to present a dramatis personae of the subjects imagined as part of the developmentalist fixations embedded in the Peruvian state's

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regime of mid-1960s economic development. Using a rhetoric of corporatist citizenship articulated through the concept and institution of popular cooperation, a bureaucratic cadre steeped in the modernist theory and practice preached at the Faculty of Architecture discursively reconfigured political subjectivities in a way that echoed for public consumption through sympathetic media such as the tabloid Oiga and the speeches and writings of prominent functionaries like the president and COOPOP directors. In the communities targeted by this development regime, everyday citizens adopted and adapted, *mutatis mutandis*, the values preached to them in COOPOP builds and road construction projects that brought the symbols of a globalized modernity to their doorsteps.

Through photography, modernizers, represented most often by the president himself, met with peasants, local community notables, technicians, but also workers brought from around the world by global heavy construction and engineering firms, in a political theatre that put a Peruvian brand of transnational development on display. The visuality of such encounters—those aspects prepared for and by the camera, such as staging, posing and acting, as well as framing and freezing action—conscripted everyone involved in the creation and communication of a developmentalist value set that stressed environmental change and community empowerment. Indeed, the act of photographing could be seen as a democratizing force that gave everyone at least a modicum of control over their self-representation, enabling peasants and workers to present themselves as modernizers, too. But this process could not transcend the unbalanced power dynamics that lionized some rhetorical figures, such as the architect, the politician,
or the machine, and relegated others to anonymity (peasants) or peripheral—even merely symbolic—roles (women and children). Moreover, it should be stressed that amongst the historical subjects brought into being through the development drama, other polities that would need to play a part in national consolidation were left out entirely. The most glaring of these omissions were indigenous populations, conveniently erased because of the ways in which time and space were imagined. The Andeanness evoked to empower the peasant and value his or her labour was rooted in an ontological negation that situated tradition in the Incan past, but left no room for indigeneity in the progress-oriented present or the imagined future. In the highlands, the legacy of Incan engineering was salvaged and retooled to fit a COOPOP build ethic as what Shane Greene might consider another iteration of the “Inca slot”.247 In the Amazon, however, indigeneity was scrubbed clean. In Part Three I argue that this was due in large part to the way that Amazonian space was configured as res nullius and gendered for conquest. But erasure was also a critical component of the planning process. Here in Part One I have deconstructed the means by which visuality helped produce and project an image of progress that elevated certain historical subjectivities at the expense of others. By looking at the ritualistic nature of staging photographs I prioritize a procedural reading of visuality. Now in Part Two I want to stress not what was conjured up, but what was left out in the procedures of visuality that helped make road colonization a reality.

Part Two: Natural Schematics

Chapter Three: The Scientific Invention of the Huallaga

“The government convenes the greatest highway bidding in the country’s history.”248 That announcement in Lima newspapers in March 1964 presented the Tarapoto-Río Nieva road to the public in a fashion typical of Marginal boosterism—brash, bold, and only partially true. Tarapoto, nestled as it was in the remotest corner of the Huancabamba Depression, where the waters of the turbulent Mayo River grow calm and fuse with the Huallaga, was only reachable by air on its western approach, and the new highway promised at last to connect coastal markets with the Huallaga Valley’s vast arable lands. Yet the project was concurrently both more and less than it seemed. Because of the groundwork laid during the 1950s, the highway, practically shovel-ready when Belaúnde took office, became the lynchpin of La Marginal. Yet the Tarapoto-Río Nieva really only accounted for 232 kilometers of new road at a time when Peru was barrelling headlong into a veritable building bonanza that included Le Corbuiser-esque multi-family housing, mega hospitals, ports, plazas, power plants, and a proposed 3,420 kilometers of new highways.249 It was this ambiguous importance—the road’s place as exorbitant supplement—250—that allowed the road’s biggest booster, Fernando Belaúnde, to hold it up as the ultimate symbol of Peruvian progress, the mark of mid-century modernity, even

248 Sin autor, “El gobierno convoca a la mayor licitación vial en la historia del país,” Oiga, no. 67 (March 1964): 8–9. See Figure 2.6.
249 For details on the complete construction effort, see the discussion in Chapter Two of Belaúnde’s 1965 Message to Congress: Gobierno del Perú, El Perú construye.
250 Because I am especially concerned with the relationship between representations of La Marginal and its zone of influence, Jacques Derrida’s theory of representation as a process, one of perpetual violent erasure and simultaneous conception, is relevant. See: Derrida, Of Grammatology.
while it signified some of the starkest shortcomings of the modernist project in the Global South.

There is no question that modernization throughout Peru had drastic environmental consequences. Mining, agro-industry and its concomitant reclamation schemes, the industrialization of the fishmeal industry—these processes effected radical changes in the land and sea.251 As I detail in Part Three, road colonization and the waves of peasant migration it facilitated in the Huallaga Valley was responsible for transforming vast tropical forests into an expansive mosaic of capitalist monocultures and smallholder polycultures. Yet while the story of La Marginal and the Tarapoto-Río Nieva segment in particular can be used to weave yet another declentionist yarn about deforestation and soil degradation, what makes it significant is the way that, because of the particulars of its geopolitical locale, it offers an alternative, more nuanced, narrative of what happened when brute force technology was introduced into fresh252 landscapes as part of international development.


252 I am going to use the term “fresh,” because “pristine” and “virgin” have rightly been problematized in environmental history, but there is nonetheless a difference between the Mayo Valley circa 1965 and other, more intensively exploited anthropomorphic landscapes of the time. Though by no means untouched, that the area had seen much less human intervention before road construction began needs to be taken into consideration. The more prominent works influencing my thinking here are: Paul S. Sutter, “When Environmental Traditions Collide: Ramachandra Guha’s The Unquiet Woods and U.S. Environmental History,” Environmental History 14, no. 3 (July 2009); Carolyn Merchant, Reinventing Eden; Guha and Martínez Alier, Varieties of Environmentalism; William Cronon, ed., Uncommon Ground: Rethinking the Human Place in Nature (New York: W.W. Norton & Co, 1996).
In order to prepare for road building in the steep, remote terrain of the Mayo Valley, planners had to rely on a burgeoning knowledge set deeply rooted in a fabricated locality. Discussion of how imperial knowledge schemes from modern forestry to architecture and infrastructure planning rendered nature “legible”—to borrow James Scott’s term\textsuperscript{253}—has long been focused on the question of the local. While Scott himself, reflecting the term’s healthy lineage in anthropology, treated the local as those traditional, “performative”\textsuperscript{254} ways of knowing nature that were debased, displaced and erased by the encroachment of high modernity, others have since complicated the notion of the local. Looking at dam building and heavy construction in British Columbia, historians Loo and Stanley posit a kind of local knowledge entrenched in encounters between the agents of modernity and the nature they would inevitably transform.\textsuperscript{255} Here, surveyors, planners and politicians engendered a kind of locality as they practiced their craft “on the ground,” forging new ways of knowing the land based not on a synoptic, wide-angle rendering of the rivers and landscapes they affected, but instead on their intimate forays into them. In another relevant vein, Stuart McCook, drawing from the so-called new cultural histories of Latin America,\textsuperscript{256} emphasizes how tropicality in the “contact zone”

\textsuperscript{253} Indeed, Scott’s work on high modernity and local knowledge sets the main framework of my argument. Scott, Seeing Like a State How Certain Schemes to Improve the Human Condition Have Failed.

\textsuperscript{254} Bhabha, “DissemiNation: Time, Narrative, and the Margins of the Modern Nation.”

\textsuperscript{255} Loo and Stanley, “An Environmental History of Progress.”

\textsuperscript{256} Borrowing Mary Louise Pratt’s idea of the contact zone, a generation of Latin Americanists has complicated the binary portrayals characteristic of Dependency Theory and World-System approaches by exploring the unique and fluid amalgam generated by the encounter between two polities. Major works influencing my sense of the local include: Salvatore, LeGrand, and Joseph, Close Encounters of Empire (Especially for the emphasis placed on representation.); Pratt, Imperial Eyes Travel Writing and Transculturation; Andrien and Adorno, Transatlantic Encounters; McCook’s fruitful application of this concept to the plant sciences comes from McCook, States of Nature.
conditioned a new “creole science” unique to those places where North American science met Latin American geographical, ecological and political climates. When it came to road construction in the mid-twentieth-century Peruvian Amazon, all of these concepts converged as planners, restricted by the impenetrability of the landscapes they trained their sights on, drew from schematic sciences in preparation for the arrival of the machines. The climate science of Leslie R. Holdridge and the aerial surveys of Peru’s National Aerial-Photographic Service (*Servicio Aerofotográfico Nacional*, SAN), represented discrete ways in which Amazonian nature was made legible in the eyes of the Peruvian state and its counterparts in international funding agencies, civil engineering firms and construction outfits. The processes of conducting climate studies based at the Inter-American Institute of Agricultural Sciences (*Instituto Inter-Americano de Ciencias Agrícolas*, IICA) conditioned new localities, such as the tropical dry forest, or the subtropical wet forest. Through Leslie Holdridge’s influence at the IICA, categories such as these entered the general lexicon of all whose work involved thinking about Latin American environments. These localities were based on the encounter of North American climax ecology—which held that ecosystems evolved toward a single climatic state ordered around one super-adapted “apex” species—with Latin American biogeography. Likewise, the adaptation in Peru of new survey technologies and the professionalization of photogrammetry—making measurements based on aerial photographs—rendered new localities in the form of virtual landscapes that could be packaged into dossiers and stored in an archive.
The creation of these new localities was a central part of the scientific invention of the Huallaga Valley.

Facing an intransigent Congress and dependent on fickle foreign aid, coupled with the magnitude and difficulty of the projects he proposed, Belaúnde's execution of his infrastructural predilections was stunted and the projects themselves were often stillborn. As the capstone of La Marginal, the Tarapoto-Río Nieva stretch of highway embodied Peruvian modernity and enlisted the biggest names in heavy construction: Morrison Knudsen (MK) and Brown & Root Overseas Inc. (B&R). Yet the case of the Tarapoto-Río Nieva problematizes the notion that modernity represented a wholesale and monolithic imposition of man's will on nature, popularized in much of first-wave Latin American environmental history. Instead, because of problems on-site, ranging from poor planning, ill preparedness and lazy construction, it demonstrated how the schism between nature and culture embodied in representation could prove the Achilles heel of man's conquest of nature. In this chapter I argue that the major contributing forms of knowledge

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258 I use this phrase with intention, as the project of road colonization was framed as a conquest—modeled on a fusion of the Spanish conquest of the Americas and the westward expansion of the United States—in highly gendered terms. Indeed, as I discuss in Chapter Five, the dominant road philosophy proposed building penetration roads to domesticate the virgin forests of the Amazon in order to rectify a man-land ratio that was out of balance. See: Belaúnde Terry, La conquista del Perú por los peruanos, 1959; Tippetts-Abbett-McCarthy-Stratton, Estudio preliminar; No author, “The New Conquest,” Time 85, no. 11 (March 12, 1965): 44; Brown & Root Overseas Inc., “Estudio de factibilidad. Carretera: Marginal de la Selva, Sector: La Morada - Tocache” (Instituto Nacional de Planificación, May 1965), C-52, MTC; Brown & Root Overseas
that went into planning La Marginal relied on a structuralist logic of
decontextualization and isolation that simplified the job of planners, but ultimately
left builders unprepared for the work itself. The result was a road build that was
substantially more complicated, costly and dangerous than need be. The result,
however, was also the creation of new, virtual landscapes rendered in institutional
vernaculars that beckoned colonization.

Until now I have tried to sketch out the who and the where of pre-ISI
development in Peru. Through the institution of Cooperación Popular, development
practice engendered new subjectivities, new hats that people could wear to feel a
part of progress. In Part Three I discuss how the justificatory discourse of road
colonization rendered the Amazon a blank canvas ready to receive the
transformative power of men and machines. With new, modern bodies conscripted,
and with the Amazonian stage set, the planning apparatus in Lima believed it had a
real solution to the country’s rapid and chaotic urbanization, concentration of land,
and stirrings of revolt and reform. The who and the where, though, are just part of
the story.

Here in Part Two I look at the how of road building. While I focus on the story of
how institutions like the IICA and the SAN and private companies tasked with
planning and construction integrated their own ways of knowing the land into the
project of a modern road build, I also pay close attention to the particulars of how
those knowledge sets effected a disambiguation of landscape and ecology. As
important as the biographies of individuals like Leslie Holdridge, Arturo Solís Tovar

(Instituto Nacional de Planificación, February 1965), C-52.
or Charles Pettis, and just as significant as the institutional histories of organizations like the IICA and SAN, are the details of how the crafts perfected within these institutions conditioned new ways of relating to the land.

In this chapter I deconstruct the ecological knowledge that planners depended on. Throughout the 1950s, Leslie Holdridge, an American ex-pat based in Turrialba, Costa Rica, was innovating a new mode of ecological classification that would become the standard for planning projects in the tropical wetlands of Peru and other Latin American republics. His system—though sensitive to complexity, contingency and nuance—simplified ecological variation in a way that permitted planners to identify huge swaths of land for development with little more than a map and a key. When Holdridge’s colleague, Joseph Tosi, applied the Holdridge model to Peru, the Huallaga Valley stood out as a new potential breadbasket and the traditionally marginalized Department of San Martín drew the covetous gaze of planners enmeshed in the Lima nexus. In many ways, this raised the profile of the Tarapoto-Río Nieva road, as it promised a critical connection through the Mayo Valley.

Next, I discuss how the professionalization of the field of photogrammetry introduced radical changes to the who and how of Peruvian road survey. Reading Peru’s National Aerial-Photographic Archive along the archival grain,259 I ask how the activities of pilots, photographers and cartographers could recreate the entirety

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259 Ann Stoler’s urging to “do ethnography in and of the archive” is a major guiding force in my treatment of the National Aerial-Photographic Archive. Indeed, an analysis of how records came to rest in the archive—that is, the social, institutional, and I would add mechanical, means by which the archive was formed—is essential to answering the question of how the land was made legible. Ann Laura Stoler, Along the Archival Grain: Epistemic Anxieties and Colonial Common Sense (Princeton, NJ: Princeton University Press, 2009).
of the Peruvian landscape and make it “legible” in an archival vernacular. I also
delve into the ways in which the burgeoning science of photogrammetry introduced
a complex chain of distortions, omissions and discrepancies into the kinds of
knowledge produced about the land below.

3.1: A Zone Offense
Leslie R. Holdridge released his Life Zone System of ecological classification to
the world in the prestigious journal *Science* in April 1947 without making much of
an initial splash.\(^{260}\) As an effort to isolate a generalized, base-level building block of
ecology—something akin to the cell in contemporary biology or the element in
chemistry—his system posed two significant obstacles that slowed its adoption by
the largely North American and European scientific community. For starters, it
foregrounded Latin American biogeography by using the Neotropics as its proving
ground. And, secondly, rather than dependence on subjective taxonomic variables
such as plant or animal species, his system was based on a confluence of three more
global climatic variables: temperature, precipitation and moisture.

The Life Zone System was the quintessential product of what Stuart McCook has
come to call creole science: a knowledge set birthed in the contact zone where

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\(^{260}\) Originally referred to as world plant formations, a 1967 redux of the system moved focus
to the broader concept of the life zone. This reflected a move to highlight the relationship
between climate and vegetation that can be seen emerging in the work of Holdridge and Joseph
Tosi over the course of the 1950s. L. R. Holdridge, “Determination of World Plant Formations
discussion of the Life Zone System’s early years, see Joseph A. Tosi Jr., “Climatic Control of
Terrestrial Ecosystems: A Report on the Holdridge Model,” *Economic Geography* 40, no. 2 (April
1964): 173 For discussion of the change from plant formations to life zones, see Karl S Zimmerer,
“Vertical Environment,” in *Mapping Latin America: A Cartographic Reader*, ed. Jordana Dym and
metropolitan sciences meet the ecology of traditionally dependent regions. In Holdridge’s case, the initial formulation of his system was indebted to the know-how of Russian, European and North American scientists, but it emerged from fieldwork conducted in the mountain regions of Haiti and drew supporting cases from around Latin America. Though conceived in the confines of a relatively unique locale, Holdridge dreamt of a system that was not just global in application, but one that could be utilized in the field—where the necessary climatic data might not be readily available—with a minimum of prior study and practice. Imagining how researchers might classify distinct biomes either by observations, or through analysis, Holdridge’s ecology typified the Age of Development’s move toward outcome-oriented, or applied, sciences by streamlining and democratizing ecological classification.

The emergence of ecology as a discipline coincided with, and in many ways fed off of, the fields of cybernetics and systems theory. Indeed the concept of an “ecosystem” betrayed the influence of these fields by conceptualizing biomes as discrete systems consisting of complex series of feedback loops. This was perhaps best epitomized in the computational ecology of brothers Eugene and Howard Odum, who in the 1950s and 1960s set out to compile vast data sets representing North American grasslands in the hopes that computer analysis could uncover their

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263 I discuss the Cold War-era transformation of global science in more detail in Chapter Five.
underlying essential logic.\textsuperscript{264} Though Holdridge’s approach to ecology stressed simplification over complexity and granularity, he shared with his fellow ecologists a structuralist penchant for differentiation and boundary setting. Whether expressed in the anthropology of Claude Levi-Strauss, the linguistics of Ferdinand de Saussure, or the literature of Guy Maupassant, structuralism was a search to define, explore and question categories. It represented a massive intellectual movement whose exploration falls far beyond the scope of this dissertation. Put very simply, structuralism was a search for labels and underneath that search rested a preoccupation with difference and differentiation. As a disciple of the pioneering ecologist Frederic Clements, Holdridge’s structuralism was expressed through the field of climax ecology: the notion that ecosystems tend toward an equilibrium characterized by one apex species and that bioregional distinctions could be described by the different climax species that characterized them. His Life Zone System, as it was later to be called, broke nature down into roughly one hundred and twenty discrete life zones, neatly depicted in a graphic that debuted with the system in 1947 (see Figures 3.1 and 3.1a). At the level of the life zone, just three critical variables mattered: precipitation, temperature and ambient moisture. Though this was the partition that most mattered to planners, the system further stratified ecology into lower-level “associations”, which accounted for variations in wind, soil, dew point, and sun exposure. This is the level where the interests of foresters like Holdridge diverged from those employed in state planning institutions. For while the division into life zones proffered a global, bird’s-eye view

that articulated neatly with the state fixations that fuelled production of national resource maps, consideration of individual plant associations lent itself to more ground-level, horizontal views of the forest and its component parts. (Figure 3.2)

Prior to Holdridge’s work, biogeographers were forced to rely on a few scattered and problematic attempts at global classification. This was owed in part to the fact that systems developed by early pedologists, botanists and zoologists were skewed toward colder climates. Also biogeography’s early forays into the tropics were restricted by the laboratory-like nature of colonial island ecologies. Moreover, because of the way science figured in the imperial designs of European powers, the few cases of non-European climate studies centered on the East Indies and southern Asia, where monsoon climates hindered development of an effectively globalized system. By the 1940s, the system developed by Wladimir Köppen in 1884 was the most widely accepted method of ecosystem classification. Sorting regions into five neatly ordered categories, the Köppen system relied on temperature and precipitation data to distinguish a region’s characteristic vegetation, and used that vegetation as the overlying rubric by which a zone was identified. Yet Holdridge saw this allegiance to vegetation as the Achilles heel of the Köppen system, for it failed to explain the existence of similar climatic factors found in areas of vastly disparate vegetation types, and he swiftly wrote it off as convenient for teaching geography in classrooms, but useless in the field where the Köppen map had no exact equivalents.

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Shortly after Holdridge debuted his system to the world, another applied system, this one elaborated by Charles Thornthwaite, prioritized environmental water balance. A former student of cultural geographer Carl Sauer, Thornthwaite blended geography and climatology in much the same fashion as Holdridge, suggesting what he called “An Approach Toward a Rational Classification of Climate.”\(^{267}\) Indeed Thornthwaite was credited with devising the concept of potential evapotranspiration (PE) that worked at the heart of the Life Zone System. While the Köppen System gave primacy to plants, Thornthwaite’s scheme—though much closer in scope and intention to Holdridge’s—also prioritized one component over all else, giving too much weight to water.\(^{268}\)

Much of Holdridge’s approach was indebted to the climax ecology of his mentor Federic Clements. Though where Clements’ postulations on plant geography were fixed to time, stressing the phenomenon of succession,\(^{269}\) Holdridge sought a just-in-space\(^{270}\) classificatory system, one with practical applications for researchers and planners alike. Thus while the reigning Köppen System assigned marginally useful descriptors to plant communities, and the competing Thornthwaite model stressed climate, Holdridge purported to have devised a scheme that could explain the


The utility of such a system was that it could be applied in a bi-directional fashion. By isolating climatic variables as the independent determinants of life zones, Holdridge created a predictor that could ascertain a region’s climax vegetation based on simple climate data, or conversely, it could proffer a regional climatic profile based on vegetation. And by extracting and triangulating the effects of three central components (biotemperature, precipitation and evapotranspiration), Holdridge devised a global simulacrum of the Earth’s ecology— one easily harnessed to justify development projects across Latin America and that would prove a critical implement for road colonization in the tropics.

He also saw himself as continuing the tradition of another storied Germanic man of science, Alexander Von Humboldt, who investigated the correlations between climate and plant geography in the Spanish colonial context. The entrenchment of Latin American environs—both biological and intellectual—in Humboldt’s revelations also ran deep through Holdridge’s work. It was another trait of Humboldtian science, however, that became the cornerstone of the Life Zone System, for both men strived to paint a holistic picture of tropical nature. Like Humboldt, Holdridge had a penchant for communicating his findings through

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271 Tosi, “Climatic Control of Terrestrial Ecosystems,” 175.
graphs, sketches and maps. Photography was also a key tool deployed to substantiate the Life Zone System’s accuracy. But the visual figured into their work as much more than a communicative aid. Indeed both men relied on vision as the one sense capable of penetrating nature’s immense complexities to apprehend a globalizing snapshot of its inherent logic.

Holdridge was acutely aware of the forest’s complexity and of the limitations that human senses posed to a full knowing of its mysteries, but to cut through the overwhelming nuance, he pared his empiricism down to the visual. From the very outset, visuality conditioned his formulation of the Life Zone System. In the introduction to his treatise on the subject, he started from a human perspective, with a vignette of the tropical forest floor as absorbed through the human eye. Colours abounded as he described patches of sky leaking through the canopy’s varied leaf patterns, and the contrast of Dendrobate frogs set against a patchwork of green vegetation, gray tree trunks and deep shadow, all taken in as an imagined eye tracked a wayward Morpho butterfly on its haphazard flight path. The auditory was only a brief afterthought: “Musical or odd sounds reach the ear from unseen birds or insects out of the general weighty silence of the surroundings.” Tactile and olfactory sensations were left out entirely.

Because of the sheer impossibility of knowing the forest in its totality, the visual became a stand-in, a bookmark, in the process of absorbing, appropriating and conveying nature’s enormity in situ. Holdridge never sought a complete representation of nature, but aspired to “read out a picture”, and “sketch out the

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273 The work of Joseph Tosi, discussed below, is one especially poignant example.
274 Holdridge, Life Zone Ecology, 1.
general process to encompass nature’s nuance through a visual idiom. This, in part, explains the critical importance of the Neotropics as the site of the Life Zone System’s conception, for the system put a premium on the experimentally verifiable accord between clinical predictions made using the system and observable vegetative complexes in nature. The *punas* and *páramos*, the deserts and dry forests, the rain forests and riverine ecozones of Latin America were the Life Zone System’s incubators, where a growing body of empirical correlations fortified its legitimacy. But Holdridge’s method could not give a complete depiction of the region’s ecology. By necessity, it isolated those privileged variables that he deemed constitutive of distinct life zones.

One of the innovations proposed by Holdridge was the focus on biotemperature. Biotemperature, the heat range in which plants grow, was set from 0° to 30° Celsius with zero degrees being the point where water freezes, transpiration ceases and the vascular systems of plants go dormant while the thirty degree mark he based on contemporary studies by David Gates, which showed that under extreme heat, respiration outpaced photosynthesis and plant growth slowed to a crawl. To spatialize biotemperature, Holdridge sketched a rough global schematic based on the confluence of latitudinal regions and altitudinal belts. For each latitudinal region a base biotemperature was derived from the mean annual temperature at sea level in the region. In the tropics, biotemperature could reach thirty degrees at base level; moving toward the poles through subtropical, temperate, boreal and polar latitudes, base biotemperatures fell until eventually

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275 Ibid., 2.
276 Tosi, “Climatic Control of Terrestrial Ecosystems,” 176.
reaching zero in polar regions. To account for elevation, the Life Zone System reduced base-level biotemperature by six degrees for every one thousand meters in altitude gained.277

Of course, to define such a range of values and affix it to areas of the globe with some accuracy, Holdridge resorted to a host of justifications and refinements that often favoured the tropical end of the latitudinal scale. The emphasis placed on biotemperature, as opposed to air temperature, meant that Holdridge's scale was supported by more data from the parts of the world where plants thrive year round. Such a plant-centered metric took the expansive range of sub-zero temperatures found in polar, boreal and temperate areas and condensed them into just one value, minimizing—indeed, nullifying—the import of temperature variations across huge parts of the world because those variations were not relevant to plants. Meanwhile, at the other end of the scale, around the thirty-degree cut-off, the main determinant was the availability of surgically precise, not annual, not even daily, but hourly temperature readings. The strategy for taking a glut of data on the warm end of the spectrum and combining it with a dearth on the cold end in order to form a generalized classificatory system, was to squeeze it all into one schematic biotemperature chart. In it, configurations of altitude and latitude represented all of the theoretically possible ranges of biotemperature on earth.278 (See Figure 3.3)

As with biotemperature, the second major variable leveraged in the Life Zone System, precipitation, depended on a schematized, synoptic view of a broad overall


278 Holdridge, Life Zone Ecology, 20–25.
picture. To flesh out the characteristics of each life zone, Holdridge relied on a small army of committed ecologists and foresters dispatched from the Inter-American Institute of Agricultural Sciences, his home institution in Turrialba, Costa Rica. To determine precipitation they drew from meteorological field stations across the Neotropics, many of which didn’t measure biotemp and only measured mean annual precipitation by catching it in above-ground containers resting in open sites free of obstructing vegetation. For a plant-centric system, this presented the significant problem of excluding water condensed directly on vegetation, such as dew, which could account for substantial variations in plant distribution across areas of similar annual rainfall. Moreover, as is always the case in early climate sciences, things were complicated by the fact that a broad dataset was hard to come by, as some field stations only occasionally reported rainfall and thus could further skew the measurements for an entire region.279

The final factor determining Holdridge’s life zones symbolized a corrective confluence of biotemperature and precipitation tailored especially to the needs of plants. Potential evapotranspiration—or an area’s rate of moisture gained to moisture lost—was a useful hypothetical. Because precipitation alone says little about the environmental moisture available to plants,280 Holdridge implemented a metric that could. He took the effects of biotemperature on ambient evaporation and plant transpiration and combined them with the moisture offered by rainfall to plot

a ratio, the theoretical parity of which was that point “where a balanced movement of water downwards in leaching and upwards in evaporation would automatically maintain the fertility of the soil”. Following such plant-centric logic, those places falling along his “potential evapotranspiration ratio line of unity” (coincidentally abbreviated: PERU) represented idealized sites for human colonies, where soils could withstand a measure of food cultivation (though at this point in the system the type and intensity of cultivation that the land base could handle without exhausting soils was externalized). Conversely, sites that fit into the more arid or saturated “humidity provinces” would respectively require irrigation or imported fertilizers to sustain human populations. This became a key metric seized on by planners because it sketched out simple parameters for regional land use. Really the whole system became a potent tool for planners and their contractors because it took a vast assemblage of ecological complexity—some of the most biodiverse and topographically promiscuous locales on earth—externalized all geomorphic, edaphic and anthropomorphic contingencies, and condensed them into three constituent elements. Then, even the influence of heat, rainfall and moisture were stripped of their depth and pared down to a useful graphic.

The result was a vexing relational mosaic—to be read in three dimensions—depicting the intersecting profiles of these three constitutive aspects of climate

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281 Holdridge, Life Zone Ecology, 15–16.
282 These important variables and their influence on plant formations were not overlooked in the system, but they were omitted from the general schematic that planners used. According to Holdridge, the life zones determined by temperature, rainfall and evapotranspiration could be further divided into what he called vegetative associations. It was only at the level of the association that factors such as soil, atmosphere and topography were considered. When charting natural resource inventories, planning colonization schemes or developing road projects, however, planners were only interested in broad distinctions between life zones and paid less attention to the more granular formation of associations.
(Figure 3.1a) in a way that literally drew an individualized slot for each of the 120-odd life zones on earth. This structuralist obsession with categorization served planning institutes because it allowed them to chart the entirety of their national territories by conveniently slotting spaces on the map into spaces on the Life Zone chart. Since every life zone came with a prescribed range of land uses, the resulting chart became a key tool for national development.283

3.2: Transnationalizing the Life Zone System

Holdridge started at the IICA as an ecologist in the institute’s Inter-American Cacao Center. Arriving in January 1949, his duties entailed phytopathological research, lecturing and outreach, and as an instructor in IICA’s post-graduate program, he insinuated his new classificatory system into the institute’s mission to integrate “hemisphere research”.284 Indeed, the institute’s ambition as a clearing-house for agricultural knowledge that could be spread across the Western Hemisphere under the episteme of cooperation gave Holdridge and his system a uniquely competitive position and ensured the Life Zone System’s hegemony within the IICA’s sphere of influence. But it was only through his appointment as Head of the Department of Renewable Resources that his system was given a real-world laboratory for verification. Because of the influence Holdridge and his disciples wielded through the IICA, agronomists, foresters, ecologists and planners

throughout Latin America adopted the Life Zone System during the 1950s. In the years following his arrival at Turrialba, it became a benchmark of tropical ecology, especially appealing to national planning institutes looking to quantify natural inventories; though his system struggled to gain purchase in the temperate world, he and his colleague, Joseph Tosi, were eventually commissioned to chart the national ecological maps of countries across most of Latin America, as well as in Africa and Asia.\textsuperscript{285} To attract students, Holdridge also travelled extensively throughout the region to advertise the institute’s activities, conduct research and teach workshops and extension courses. Over the course of his year-long tenure at the Cacao Center, he visited Mexico, most of Central America and Peru to attract each country’s brightest agronomists to the institute’s new programs.\textsuperscript{286}

The years 1950 to 1953 saw significant reconfiguration and consolidation of IICA’s varied programs and departments. Marking the institute’s ascendancy within the emerging global paradigm of Cold War scientific cooperation, the work of Holdridge and his colleagues fell increasingly under the purview of the Organization of American States’ Pan-American mission and became a key administrative body of the State Department’s Point Four program in the region. This process solidified the Life Zone System’s standing as a benchmark in the agricultural sciences promoted and disseminated under the institute’s auspices. In January 1950, Holdridge left the


Cacao Center to head the institute’s burgeoning Renewable Resources Service. At the time, the IICA’s Agricultural Engineering Department was still hedging its bets with meteorological data collection. In a consolidated effort to collect and compile data from stations across Central America—and with backing from private-sector benefactors such as Pan-American Airways and the United Fruit Company—the department was in a special position to emphasize one classificatory system over another, though they had yet to concentrate on the Life Zone System and were still interpreting their new data using both Holdridge and Thornthwaite’s models. There was, however, a correlation between Holdridge’s ascendance within the institute and the increasing prevalence of his system’s use in its studies.

As Holdridge’s work gained traction within the institute, ties between IICA and Peru also grew closer. In 1950, the IICA built on Holdridge’s initial visit to Lima, and the fact-finding conducted by his colleague, J. Harvey McLaughlin, at the experimental station in Tingo María, to forge the first agreements with Peruvian institutions. By the end of the year, the institute had graduated its first Peruvian recruit, Hernán García Llosa, and had five technicians working in Lima, as well as one at Tingo María’s experimental station. The institute had also signed working agreements with the National School of Agriculture, La Molina.

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1952 and 1953 were watershed years when the IICA’s hemispheric mission articulated with Peruvian modernity. In June 1952, the Organization of American State’s Project 39, the Technical Cooperation Program, was formalized and headquartered at Turrialba, consolidating the institute’s teaching efforts and its growing network of institutional partners throughout the Americas. Project 39 was crucial for it divided the hemisphere into three zones—Northern, Andean and Southern—through which would reverberate the agricultural knowledge developed and disseminated by the institute. With this change in institutional structure also came promotions for Holdridge—he moved swiftly through the directorships of the Project’s Field Service Unit and the Northern Zone. This was also when Holdridge would meet and collaborate with colleague, confidant, and eventual Life Zone System champion, Joseph Tosi. One of the few other ecologists and foresters at Turrialba, Tosi was shaped in the Holdridge mould. Upon arrival at Turrialba, he quickly settled under Holdridge’s tutelage and the two worked together preparing seminars, training in forestry, and establishing and supervising woodland demonstration plots at the institute. The pair also travelled to Caracas together for the International Conference for the Protection of Nature.

In September, 1952, the institute selected Lima for the headquarters of Project 39’s Andean Zone and gave Tosi the job of Chief Ecologist and Forester for the zone, a position that enabled him to bring Holdridge back to Peru for a course on tropical

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292 Ibid., 122–23, 126, 129, 140, 143.
forestry the next year.\textsuperscript{293} It was Tosi’s posting in Lima, together with the institutional bonds forming between the IICA and the Inter-American Cooperative Service for Food Production (\textit{Servicio Cooperativo Interamericano de Producción de Alimentos}, SCIPA) in Lima, that proved most serendipitous in the spread of the Life Zone System. Indeed, it was bonds like these that made the Life Zone System an exemplar of how knowledge was expected to spread through the burgeoning transnational cooperation regime.

As time goes on it is expected that the host government will utilize its experience in the demonstration area in studying its agricultural resources elsewhere and in improving its extension services to rural communities throughout the country, at its expense. In time there should be little or no difference between the rural services inside and outside the area.\textsuperscript{294}

This was the modality by which influence spread under the pan-American cooperation paradigm (and it would later serve as a model for Peru’s \textit{Cooperación Popular}). Mandates came from the center in the form of skills and expertise and the burden of financing and implementation fell on the periphery. In Peru during the 1950s, the organization most responsible for carrying out this mandate was SCIPA, a semi-autonomous, bilateral cooperative program housed at the Ministry of


Agriculture that originated out of U.S. support to Peruvian agriculture during the Second World War. SCIPA quickly developed a reputation for effectively stretching aid dollars to their maximum, and because of the tight bonds it enjoyed with IICA staff and projects, it made Peru one of Project 39’s most active partners.\textsuperscript{295} In some ways a precursor to Cooperación Popular from within the agricultural sector, SCIPA took a combination of foreign aid and congressional support and parlayed it into technical advising, extension services and material support to farmers in the form of equipment pools, fertilizers, pesticides and herbicides. SCIPA was also tasked with planning agricultural development and incorporating new lands through irrigation and colonization projects, both by conducting surveys and assisting on the ground with clearing and construction.\textsuperscript{296} In this capacity, SCIPA was largely responsible for shifting focus to Peru’s east; with Tosi’s consultation, it literally put the valleys of the Huallaga, Mayo and Apurímac on the map. Indeed, the nucleus of La Marginal’s concomitant colonization in the Huallaga Valley, the Tingo María-Tocache-Campanilla Colonization, first took root as a SCIPA survey of the resources and productive potential in San Martín.\textsuperscript{297}

The IICA collaborated with various national institutions tied to La Molina and the Ministry of Agriculture, but the institutional go-between that first employed Holdridge’s work for planning purposes in Peru was SCIPA. Fulfilling its role within

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\textsuperscript{297} See Chapters Five and Six for details on the Tingo María-Tocache-Campanilla Colonizarion.
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the cooperation regime, SCIPA was a sort of sieve that connected the IICA’s applied science to farmers on the ground across Peru, but it also contributed knowledge through the commission of studies and organization of outreach programs. It participated in a rotating exchange of workshops and intensive courses with IICA’s Andean Zone staff, contributing specialists in home economics and drawing on Tosi and others for assistance in land development planning, specialized agricultural production and agricultural management.298

By the time SCIPA began calling attention to the vast untouched forests east of the Andes, the IICA had worked with governments in Guatemala, El Salvador, Costa Rica, Panama, Bolivia, Puerto Rico and Venezuela299 to inventory natural resources using Holdridge’s system. Beginning in 1953, Joseph Tosi launched an arduous seven-year process of charting the life zone map of Peru (Figures 3.4 and 3.4a). His completed map coincided with SCIPA’s interest in the east and spurred an obsession with the unique, agriculturally apt dry tropical forests nestled in the Central Huallaga, the Lower Mayo and the Apurímac valleys. All it took was a glance at his work for the valleys to steal attention. On his map splashes of sand brown, like spilled coffee, represent three fat puddles of tropical dry forest that break the monotony of eastern Peru’s green tropical wet forests: one in the north encompasses the junction of the Mayo and Huallaga rivers near Tarapoto, creeping up the Mayo toward Moyobamba and down the Huallaga (and its affluent, the Biabo)

past Juanjui; another tracks a vast swath dribbling north-south along the Ucayali River; and a final, less-substantial blot narrowly hugs the Apurímac and Perené rivers through the Selva Central. The dry forests along the Ucayali (principally surrounding Pucallpa) had already been tapped in what Jesús San Román considers the first real moment of Amazonian integration into Peruvian national life. Completion of the Lima-Pucallpa Highway in 1943 broke the region's historical dependence on Brazil and the Atlantic markets and opened the Ucayali to timber exploitation and expansive farming and ranching operations around the booming city of Pucallpa. But Tosi's map promised more than Pucallpa. Together, the valleys Tosi highlighted nearly equalled the brown blotch of the vast Ucayali, and if they could be accessed by road, they represented a huge swath of untapped land that, because of his evapotranspiration calculations, was now considered full of potential. According to the data Tosi compiled, precipitation in the dry tropical forests nearly met parity with the moisture lost through plant transpiration and soil evaporation. Because of this fortuitous balance, Tosi singled these areas out as ripe for commercial expansion. “Of the eleven distinct formations [life zones] that can be found in Peru’s so-called ‘montaña’ the tropical dry forest is among those that possess the highest potential for social and economic development”, he claimed in the explicatory text accompanying his map’s official 1960 publication. Of course, in order to tap such potential, roads were critical, and Tosi’s ecological mapping now told planners where the roads should go: the first planning efforts to consider the Huallaga’s potential included SCIPA’s natural resource surveys of San Martín and

300 San Román, Perfiles históricos de la Amazonía Peruana, 201–5.
feasibility studies for the Olmos-Río Marañoén-Tarapoto road and another road—still a planning obsession today—that would connect the department of La Libertad directly to the Central Huallaga Valley through Pajatén. When New York-based Tippetts Abbett McCarthy Stratton (TAMS) drafted La Marginal’s preliminary survey and segment-specific studies Holdridge’s model figured prominently and the cost-benefit analyses for each segment relied on many of the findings represented in Tosi’s map.

Surrounding the map’s publication in the spring of 1960, Tosi orchestrated a kind of ecologist’s publicity campaign, arming seminars and workshops where he expounded on the map’s utility—and that of Holdridge’s system—for all the country’s major planning institutions. In July he hosted Holdridge in Lima and the pair—together again—led a seminar at La Molina on the Life Zone System and its compatibility with scientific land uses, including for conservation of “virgin forests”, among other things. Promotion of the map then fell to Tosi, who in late August taught the ecological zoning of Peru “and its applications in civil engineering and national planning” at the National Engineering University’s Institute of Urbanism and Planning. Next, he traveled to Tingo María, where he instructed the experts of the Experimental Station in ecological classification “and its application in livestock, farming and forestry experimentation”. Finally, back in Lima for September, he convened more than 150 of La Molina’s upper-division students and faculty in a
series of six seminars on the Life Zone System and what was now becoming the ecological map of Peru.\textsuperscript{301}

Though at the time, Tosi’s tour might have seemed of little consequence beyond just another instance of bilateral information sharing, the exposure he and Holdridge received through both publication of the map’s explanatory text, \textit{Zonas de vida natural en el Perú}, and dialogue with Peru’s leading planners at the UNI, La Molina and the Experimental Station, set in motion a dramatic shift in Peruvian ecological thought. For the Tosi-Holdridge model wasn’t the only model on offer. In an attempt to complicate the tripartite colonial division of Peruvian biogeography into \textit{costa}, \textit{sierra}, and \textit{selva}—still alive and well in the, particularly coastal, national imaginary—\textsuperscript{302} Javier Pulgar Vidal was shopping his autochthonous system of classification, which defined eight broad ecological contexts or “natural regions,” those of \textit{Chala, Yunga, Quechua, Suni, Puná, Janca, Rupa Rupa}, and \textit{Omagua}. As Karl Zimmerer notes, the deployment of Quechua terminology gave Pulgar Vidal’s map a staunch nationalist tone by tying it to an idealized indigenous past.\textsuperscript{303} It also gave credence to the kind of nuanced and fluctuating transitions in landscape that were characteristic of Andean social ecology.\textsuperscript{304} But while Pulgar Vidal’s system may have been more amenable to nuance and, indeed, he himself would go on to hold sway in

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\textsuperscript{303} Zimmerer, “Vertical Environment.”

significant government positions from which he disseminated his geographical understanding of the country, the structuralist logic of the Holdridge-Tosi system lent itself more aptly to the Peruvian planning apparatus’s staunchly developmentalist worldview. Nowhere in SCIPA’s studies of San Martín, or in Brown & Root’s road feasibility studies, in TAMS’ preliminary survey of La Marginal, or in any Roads Department publications could one find the kind of acknowledgement of Peru’s indigenous cultures that led Pulgar Vidal to choose Quechua terminology for his classifications. Instead, it was the ease of applying the Holdridge-Tosi system that attracted planners, to such an extent that, by 1975, Tosi’s map had become the standard adopted by the National Office for Evaluation of Natural Resources (Oficina Nacional de Evaluación de Recursos Naturales, ONERN).\(^{305}\) However, while his map and Holdridge’s system gained political purchase, Tosi was the first to admit that serious flaws and discrepancies plagued his efforts to accurately chart the life zones of Peru.

Drawing on sparse climate data and a national topographical map that when it came to the eastern jungles could only be described as speculative at best, Tosi parsed the national territory into thirty-five discrete life zones. Reliance on meteorological stations was problematic because half of the forty-eight stations throughout the country were situated along the relatively climatically uniform coast (there were only five stations found in the entirety of the lowland jungle) and few supplied data reaching back more than a decade, which gave only the faintest hint of

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\(^{305}\) See Figure 4a. Tavares gives a compelling account of the ramifications resulting from the institutionalization of the Holdridge-Tosi model of Nature, which he claims began with ONERN’s adoption of the Tosi map. Tavares, “Lines of Siege: The Contested Government of Nature.”
average annual temperatures and precipitation tallies. Only in 1957 did Tosi secure funding to conduct the necessary fieldwork to flesh out his data, though even then he wasn’t able to visit many of the jungle life zones and when he could observe things on the ground much of the research that fed his cartography was strictly silvicultural.\(^{306}\) Thus, the area for which his map had the most significant impact—at least in its first decade of use—was paradoxically that area which it least accurately represented—the realm east of the Andes.

Despite the unreliable data behind it, Tosi’s map nonetheless projected a sense of certainty and stability by neatly carving the national territory into discretely coloured strata, each clearly demarcating where one life zone ended and another began.\(^{307}\) As Karl Zimmerer points out, this particular use of colour masked the complexity of overlapping ecological and economic modalities engendered by what John Murra termed the vertical archipelago of Andean biogeography.\(^{308}\) But such masking went far beyond colour, even beyond the map itself. The order of the map’s accompanying text and the use of interspersed photography further reinforced the structuralist logic that underwrote Holdridge and Tosi’s brand of ecology.

If Holdridge earned credit for devising the Life Zone System, Joe Tosi certainly deserves credit for breathing life into it. He did this by taking the system out into the

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\(^{306}\) Mayer saw this as one of the two major shortcomings of Tosi’s application of the Holdridge model, the other being how both overlook the significance of anthropogenic forces. Zimmerer also stresses how the system afforded priority to the biophysical while overlooking human ecology. Enrique Mayer, *Land Use in the Andes: Ecology and Agriculture in the Mantaro Valley of Peru, With Special Reference to Potatoes* (Lima, Peru: Centro Internacional de la Papa, 1979), 28; Zimmerer, “Vertical Environment.”

\(^{307}\) Colour was the primary distinguishing trait used in the published versions, but discrete shading and numbering were used in the hand-drawn original housed at the AGN. Joseph A Tosi, “Mapa Ecológico,” 1958, FNDE p.148.95, AGN; Tosi, *Zonas de vida natural en el Perú.*

\(^{308}\) Zimmerer, “Vertical Environment,” 265; Murra develops the concept of the “vertical archipelago” in Murra, *Formaciones económicas y políticas del mundo andino.*
field and coming back with photographs that gave depth and detail to the coloured blotches on his map. Often shot in panorama at medium scale, Tosi's photos tended to highlight one prominent individual tree or shrub while also capturing the broader ecological context in which it flourished. To the trained eye, this mimicked the predilections of climax ecology in a visual register by depicting a given life zone in all its complexity but typifying it under the rubric of one dominant species.\footnote{Tosi’s reliance on photography was heavy from the very beginning. In addition to leveraging the medium to bolster his chapters from Zonas de vida natural en el Perú, he also produced a comprehensive photographic supplement that was published with Holdridge’s 1967 revision of the Life Zone System. For areas that he couldn’t access, however, Tosi used the photographs of one E. Smith (unknown to me thus far). Smith’s photos are noteworthy in how they underlie Tosi’s aesthetic. By juxtaposing Tosi’s imagery with that of Smith, which consisted largely of panoramic landscapes with no emphasis on individual plant specimens, the effect of Tosi’s framing is even stronger.} For the non-ecologist this had the effect of tying broad areas coloured on a map to marketable forest products expressed as climax species. (Figures 3.5 and 3.6).

The outline of Zonas de vida natural en el Perú also functioned in a similar manner. To be read in the same fashion as Holdridge’s Life Zone chart, Tosi ordered his chapters beginning in the dry humidity provinces. From there, he moved through the arid and moist life zones to end with the wet forests of the east. Rather than emphasizing transition and connectivity, the isolation of each life zone into its own discrete chapter stressed difference and individualization. It also had the effect of relating a surely Lima-based reader first to the familiar coastal ecology that surrounded him or her and progressively through the farther and more foreign space of the sierra and the Amazon. Within the chapter configuration of Zonas de vida natural en el Perú, there was also a paradox that Tosi could not escape.
While the Life Zone System operated from a place of segregating the biophysical realm from that of human ecology, Tosi's use-oriented methodology and his consolidation of all the less-productive high-Andean zones into one broad chapter betrayed the importance of underlying anthropogenic forces. To gain purchase outside the select community of tropical ecologists, proponents like Holdridge and Tosi had to strike a Faustian bargain\(^{310}\) when making the Life Zone System relevant to bureaucrats like those who ran the National Planning Institute. That is, they had to justify their science as a key utility for the very men working under the conviction that progress was inextricably mated with the degree to which man and machine could alter the same life zones that Holdridge and Tosi were struggling to define. To gain such relevance, every chapter of Zonas de vida natural en el Perú cloaked serious ecological science in a vernacular of economic viability, a translation that climax ecology was uniquely suited to undertake. After all, the tendency to order landscapes around apex species lent itself to the kind of cataloguing of marketable resources that planners sought. And Tosi easily parlayed his expertise in forestry into a Rosetta Stone that articulated the development interests of SCIPA and its successors in the move to develop the east with the preservation-minded curiosity of ecologists.\(^{311}\)

The awkward yet complementary meeting of planning and ecology was first inscribed right into Tosi's chapter outlines. He began by summarizing the

\(^{310}\) Tavares attributes the ambivalent position of mid-century ecology to the paradoxical Cold War logic of biopolitics in which the security doctrine of international development was enmeshed with apocalyptic neo-Malthusianism and the emergence of first-world environmentalism. Holdridge's writing bears the weight of all these contradictory forces. Tavares, "Lines of Siege: The Contested Government of Nature."

\(^{311}\) I flesh out this sort of ambiguous positionality with the case of Cándido Bolívar and the Huallaga expedition discussed in Chapter Five.
biogeographical distribution for each life zone across Peru, as well as its characteristic ranges of biotemperature, precipitation and evapotranspiration. Next followed a section outlining the various geomorphic, atmospheric and edaphic qualities that tended to be found in the life zone. This section also tended to inventory prominent plant species, paying special attention to forest resources and other commercially viable biota. While the opening section detailed traits that were seen as existing outside the realm of human ecology (he treated location, rainfall and temperature as immune to anthropogenic forces), the second section exhibited slippage between a primeval sense of the natural and a tacit acknowledgement of where humans intervened in the landscape. The ways in which humans could and should use the land then became the subject of the final requisite section of every chapter. In this final section, Tosi the forester came into his own, synthesizing a broad knowledge of the land’s myriad features into concise and simplified economic prescriptions.

To do so, Tosi grappled with gaping holes in his data. These were due, in part, to the inaccessibility of many of the areas he studied and the sparse distribution of meteorological stations. Regardless of these limitations that he openly owned and lamented, he nonetheless ventured some rather granular land-use prescriptions for each of the thirty-five zones, usually urging modernization in the forest sector and sometimes rejecting thoughts of colonization outright. Indeed, after introducing the ecological map of Peru, Tosi started deriding most of the colonization schemes he saw in his travels throughout Latin America as little more than ill-advised tropical land grabs. The wholesale replacement of diverse forest communities with
commercial monocultures that he saw in much of the region unsettled him, not just because it was proven to alter basic ecological equilibrium, but because it meant certain hardship for those pioneers sent to form colonies.312 As he put in a 1964 article proposing a mode of colonization more sensitive to biodiversity: “The men with the machetes are ahead of the road builders trying, in the honest tradition of the pioneer, to carve a home out of the forest. We believe it all too likely that they are unwittingly destroying their future”.313

Yet, because of the fluidity with which Tosi’s land-use prescriptions and the life-zone classifications that they were based on could articulate with institutional mandates, the Holdridge-Tosi system gained currency among the policy making class. In 1975, when ONERN adopted Tosi’s ecological map, the system was given the force of law,314 although more than a decade earlier it was already being applied by SCIPA and its partners in Peru, as well as Brown & Root, TAMS and other international developers to underwrite the kind of commercial land use advocated under road colonization. Because of the easy transmutation between the Life Zone System’s penchant for ordering the land based on conditions in which apex species flourished and the economic cataloguing of marketable species, the ecologically

312 Joseph A. Tosi Jr. and Robert F. Voertman, “Some Environmental Factors in the Economic Development of the Tropics,” Economic Geography 40, no. 3 (July 1964): 199; David Snyder echoed these concerns with specific respect to La Marginal in his critique of the Preliminary Study: Snyder, “The ‘Carretera Marginal de La Selva,’” 97.


sensitive work of Holdridge and Tosi lent itself to ecologically destructive pursuits.\textsuperscript{315}

The Life Zone System relied on a presumption of equality between fresh and colonized landscapes that was inaccurate in most mid-century tropical land use schemes because it externalized the sheer capacity of humankind to devastate, disappear and reconstruct new landscapes. But this was no oversight—Holdridge was all too aware of modern mankind’s transformative thrust and the emergence of new, anthropomorphic, industrial landscapes. Indeed, in a 1967 update and explication of the Life Zone System, he railed against Green Revolution hubris with a neo-Malthusian timbre.\textsuperscript{316} Yet as the product of a concerned ecologist who presciently foretold the coming stresses imposed on the tropical land base as fears of overpopulation and food scarcity brought on a wave of colonization schemes, his system sat ambivalently within a modern imperial program because it was picked up, stripped of all its warnings and foreboding, and used to justify a wholesale submission of ecology to the economy.\textsuperscript{317}

### 3.3: Aerial Survey and Road Colonization Grow up Together

Around the same time Tosi and Holdridge were teaching the Life Zone System at La Molina, two members of the Peruvian Air Force (FAP) in Tarapoto were suiting up for a routine sortie. Hoping to get a jump on the vultures, Captain Camino and his photographer, Technician Second-Class Villegas, were surely planning an early take off. By late morning, a sizable volt of vultures would have recolonized the end of the

\textsuperscript{315} Much of this ambiguity was owed to the precarious position of scientific knowledge in the context of hemispheric cooperation. See my analysis of the ill-fated International Institute of the Hylean Amazon in Chapter Five for further discussion.

\textsuperscript{316} Holdridge, \textit{Life Zone Ecology}, 108–9.

runway, as per their daily penchant, and flights would be restricted to only the most urgent departures. Also, if they could start shooting before noon, they’d get the sunlight right: high enough not the exaggerate shadows, but not straight over head so as to avoid projecting the shadow of their own aircraft over their subject matter.

The two men climbed into their new English Electric Canberra, outfitted with a Wild-Heerberg RC-5A vertical camera and prepared to take off. Once airborne, Camino took them northwest until they passed Moyobamba and then described a broad, tilting about-face across the sky, setting a trajectory back toward Tarapoto. He levelled off at 23,000 feet, set his airspeed, checked his gauges, and gave Villegas the all clear. With the RC-5A set at one frame per second, Villegas unceremoniously flipped its shutter release and set in motion an unmistakably mechanical sonic barrage akin to that of a ghostly flying printing press. The two men sat still and waited. The Canberra’s jet engines shot them past the Soritor River, over Moyobamba, and straight down the valley carved over millennia by the Mayo River’s deluge. Some two hundred frames later, the men and their machines were back over Tarapoto. With just as little pomp, Villegas then shut off the RC-5A’s auto advance, marked the exposures in his log, and Captain Camino carved another about-face and brought them down onto the single tarmac of Tarapoto’s overcrowded airport. The vultures were hardly impressed.318

318 All information on flights dates, locations, technologies and personnel come from the flight logs, or libros, of the Servicio Aeroafotográfico Nacional’s (SAN) Central Archive in Chorrillos, Lima. First names were never used in the logs and they give no indication of flight times or the airbase of origin. This vignette is a composite used for effect and based on the knowledge that in 1960, Tarapoto’s was the heaviest used airport—and probably the only one capable of accommodating SAN aircraft—in the region.
That was in the dry season—June 8, 1960, to be exact—and over the course of the next month and then again the following dry season, Camino and Villegas would repeat this routine, each time charting a route just as exact, and just as regimented, but always slightly to one side of their prior path. With sortie after sortie, they covered the area in a grid pattern of successive flights, and built up a compendium of imagery, strip by flight-path-determined strip that eventually comprised 1,825 flat, squared, black-and-white prints. Once the images were sent back to the headquarters of the National Aerial-Photographic Service (SAN) in the Lima suburb of Chorrillos, they were sorted and assembled into a mosaic that recast the Mayo Valley in stark and depthless tones, something only the men and their machines could render. And surely unbeknownst to them, as Captain Camino and Técnico Villegas methodically made their way over the Mayo Valley and sent their photography back to Lima for interpretation, they were also making La Marginal before there was a Marginal to be made.

The pair had been dispatched at the behest of the Ministry of Development and Public Works to survey one of the few low Andean passes granting access to the Huallaga Valley. For years, planners had dreamt of uniting the dirt outpost of Olmos (on the Pan-American Highway) with the Huallaga port of Yurimaguas, and the Mayo Valley seemed to present the best hope for doing so. When the American firm, Michael Baker Jr. Inc., gave a report on the road’s feasibility in 1958, the reigning road doctrine was still the penetration philosophy that placed primacy on connecting import-export nodes. Yurimaguas—the highest port up river boasting

319 At least one of their flights (I’m not sure which) didn’t follow this path, instead covering the terrain northeast of Tarapoto to Yurimaguas.
year-round navigability—promised commercial linkage to Iquitos, the Amazon and all of the Atlantic ports that it brought with it, while Olmos was a critical node on the Pan American offering ties to all major coastal cities, as well as the successively larger ports of Salaverry, Chimbote and Callao, and all the Pacific ports they brought with them.\footnote{Sin autor, “Carreteras de penetración a la selva,” Boletín de la Dirección de Caminos 7, no. 61 (July 1957): 7–8; Dirección de Caminos and Michael Baker Jr. Inc., “Estudio e informe de la carretera Olmos-Bagua-Yurimaguas: departamentos de Lambayeque, Cajamarca, Amazonas, San Martín y Loreto, Perú: preparado para el Ministerio de Fomento y Obras Públicas, Dirección de Caminos, Perú, 1958” (Ministerio de Fomento y Obras Públicas, Lima, 1958), BNP, Sala de Investigaciones.}

Driven by the urge to connect nodes, The Army’s engineering battalions inched eastward from Olmos through most of the 1950s, surmounting the famed Cerro Pistolero and surpassing the now infamous Curva del Diablo by decade’s end.\footnote{Sin autor, “Fue inaugurada por el señor Presidente de la República la carretera a Chachapoyas,” Boletín de la Dirección de Caminos 9, no. 97–99 (July 1960): 20–24.} When Camino and Villegas took off that June day, they were laying the groundwork for some of the remaining 250 kilometers, though their mission now sat ambivalently between two complementary objectives.

The combination of Holdridge’s ecological thought (and the way that reframed the Huallaga Valley) with Belaúnde’s “new road philosophy” now compounded the importance of the Mayo Valley. The Mayo route signified a coup of the type achieved with the Lima-Pucallpa Highway twenty years earlier: if built it could connect the expansive agro-industrial potential of the Huallaga Valley with coastal markets. Indeed, the Mayo had been considered almost since an expedition led by entomologist Cándido Bolívar brought the Huallaga to national prominence in
As early as 1950, pioneering explorer-cartographer, Arturo Solís Tovar, first surveyed the area by plane and came back convinced that the valley was the most feasible conduit to the next Pucallpa. Connectivity through Yurimaguas was paramount, but untold agricultural and forestry riches promised in the Huallaga also fed the fervour. Indeed, as the Michael Baker Jr. Inc. report concluded, “‘El Dorado’ is located in the jungle but industrial workers, not adventurers, will find it and it will be developed on the hard surface of an active highway”.

Alongside the growing significance of the Mayo was a concomitant strengthening of faith in and reliance on aerial photography as a means to plan roads. Thus the Mayo Valley, and later La Marginal’s broader zone of impact, became a sort of proving ground for Peruvian aerial survey and the development of a national institution of photogrammetry. This also correlated with an increase in importance attributed to the SAN and its abilities. The burgeoning science of photogrammetry practiced there gave planners a new vision of Amazonia that bracketed out the complexities of road building in unfamiliar terrain.

As focus on the Mayo and Huallaga valleys morphed into the continental designs embodied in La Marginal, the philosophy of penetration and connectivity ceded to Belaúnde’s anxious compulsion to take full advantage of arable land and forest resources. But in order to build La Marginal, that land first had to be made legible to the agents of high modernity that would bring it into being. While Belaúnde and his

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322 For more on the Bolívar expedition and its role in bringing attention to the Huallaga, see Chapter Five.


324 “‘El Dirado’ [sic] está situado en la selva pero lo encontrarán los trabajadores industriales y no los aventureros y se desarrollará sobre la dura superficie de una activa carretera”, quoted in: Sin autor, “Carreteras de penetración a la selva,” 17–18.
like portrayed this as a new conquest to tame wild nature, specialists working for or with the SAN were inventing a new vernacular through which new landscapes were forged from the raw stock of silver-bromide emulsion and the surveyor’s obsession to catalogue the land in all its vast, unknowable complexity. Through aerial survey and cartography, and by institutional fiat of the SAN, Amazonian nature was transmogrified into complex new representational landscapes ordered by the confines of individual SAN survey projects. These virtual landscapes in photo form were more amenable to the incursions of ill-prepared Roads Department emissaries.

At the same time, the SAN itself as an institution was undergoing profound transformations with the advent of ever more sophisticated survey technologies and the depersonalization of surveillance that accompanied its shift from craft to science.

Today the SAN is an indispensible resource for planners, developers, security experts and researchers. In it, more than 90 percent of Peru’s national territory is bundled, catalogued and tucked away on shelves in the cool, conditioned, hypo-laden air of the institution’s National Aerial-Photographic Archive. Relaxing on the weathered leather couches of their reception room, overlooking the western runway of Las Palmas Air Base, engineers, FAP personnel, speculators, builders, and the occasional wayward grad student rub shoulders over fat index books, searching for fragments of the land that the SAN squeezed onto its shelves over the last
seventy years. Its photos dot history books, and they’ve also become a crucial tool for tracking deforestation in the Amazon. But it wasn’t always this way.

The SAN grew up with what would become La Marginal. Its foray into road construction was adolescent when the early penetration roads forming part of La Marginal’s network were planned, and by the time La Marginal was an asphalt reality, the SAN was a national center for survey. Much of this transformation was enacted through surveys done for La Marginal and its zone of impact.

Indeed, compare the automated nonchalance that drove Captain Camino and his photographer, Villegas, on their flights with the first aerial survey conducted over the Mayo River ten years earlier and some key changes are clear. Sometime in mid-1950, an engineer with the Civil Aviation Service approached Arturo Solís Tovar with a proposal. As the Roads Service’s Regional Engineer, Solís Tovar was no stranger to the difficulties of connecting San Martín with the coast; he’d spent years trekking the Cordillera Central in search of the ideal route and amongst his colleagues he gained fame as a tenacious and dedicated explorer because of it. When the Civil Aviation engineer, Juan Pardo de Miguel, insisted he’d found a passable depression near Pomacochas, and suggested the two men go see it in his plane, Solís Tovar must have been intrigued. So with the backing of the Roads Service director,

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326 The Ministry of Development and Public Works’ Roads Service was the precursor to the Roads Department.
they charted a course from the airfield at Patapo (on the coast near Chiclayo) to Yurimaguas. Their flight plan covered three potential road routes. The first tracked the original colonial trade route through Cajamarca and over the Cordillera Central near Chachapoyas. This and the second route—also through Chachapoyas—had long since been studied on foot by Solís Tovar, and both presented serious obstacles to road construction, climbing various mountain passes and requiring excessive road fills. The third course deviated from the Chachapoyas road and veered north toward Lake Pomacochas. From there, it took the men over Pardo de Miguel’s discovery, into the Mayo Valley, and onward to Yurimaguas. On September 16, 1950, accompanied by an anonymous SAN technician and a mechanic, the men boarded Pardo de Miguel’s personal plane and set out. The following, from Solís Tovar’s report to the Roads Service director, sets out their method:

I had travelled so many times from Chachapoyas to Moyobamba studying the highway route that I was almost certain that in that part of the Cordillera Central there were no passes lower than 3,500 meters, but they exist! As often as needed to calculate land elevations, Pardo de Miguel would descend in a spiral until just 500 or 600 feet off the ground. I admit this wasn’t the most pleasant way to measure elevation, because if it failed, there’d be no one left to tell it, but it is very practical for the speed at which you can work. By merely flying, and with an expert pilot who knows the region, we were able to do all we did in two days of study.327

327 “Había viajado tantas veces de Chachapoyas a Moyobamba estudiando la ruta para la carretera que tenía casi la certidumbre de que en esa parte de la Cordillera Central no existirían
On their return from Yurimaguas the next day they concentrated on the treacherous Cordillera Oriental that separated Moyobamba from Tarapoto:

We still had to study in greater detail the Moyobamba-Yurimaguas section and the Cordillera Oriental, last barrier of the Andes. What a range! It’s not tall, it’s barely 1,000 to 1,800 meters high, but what topography! We flew following the line of summits starting south of Tarapoto up until well north of Moyobamba. From every side it’s difficult to tackle, but not impossible ...\(^{328}\)

Solís Tovar and Pardo de Miguel’s two-day excursion became the stuff of legend, not just for the low mountain pass they discovered, but for the innovative use of an airplane to conduct complicated reconnaissance and measurement. Indeed, seven years later, as their dream of breaching the pass that now bears Pardo de Miguel’s name was becoming a reality, Solís Tovar’s report was published in the Roads Department's monthly bulletin as a milestone, a landmark in Peruvian road history.

Beyond discovery and innovation, however, this initial survey stood out for how it differed from what became the standard of aerial survey in Peru. For one, the written report still smacked of the kind of heroics that characterized pre-aviation

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\(^{328}\) “Nos quedaba por estudiar con más detenimiento la sección Moyobamba-Yurimaguas y la cordillera [sic] Oriental, última barrera de los Andes. ¿Qué cordillera! [sic] No es alta, apenas si tiene entre 1,000 y 1,800 metros de altura, pero qué topografía! Volamos siguiendo la línea de cumbres desde más al sur de Tarapoto hasta bien al norte de Moyobamba. De todos lados es difícil de abordar; pero no imposible ...”. Ibid.
survey. Solís Tovar’s description of the hair-raising aerial acrobatics needed to get a sense of elevations, casts him and his expert pilot as the central protagonists in a survey drama that echoed the gendered conquest envisioned by earlier road planners like Joaquín Capelo. His numerous expeditions over the Cordillera Central played into the machista vision of taming nature, and his foray into aerial survey continued to be framed as something resulting from the courage and bravado of men. Moreover, his various interjections fed such a narrative by personalizing him and his report. Exclamations expressed his excitement and communicated the marvel of the Mayo, but they also gave depth to his own role as a character in this reconnaissance. Early aerial survey was another chapter in the story of land’s conquest and the daring men who flew them were new protagonists.

Throughout the 1950s that changed as the SAN became more of a central player and its piecemeal adaptation of cutting-edge resources and techniques masked the individualized interventions of pilots, surveyors, photographers and cartographers. When Pardo de Miguel and Solís Tovar flew the Mayo Valley in 1950, they had reached out to a SAN specialist to accompany them in a mission conducted by the Roads Service. That man’s presence in the archive—his role as protagonist in the historical transformation of Amazonia—remains little more than a nameless footnote in Pardo de Miguel’s great discovery. As the SAN grew and aerial survey was increasingly standardized, such anonymity became the norm. By the time of

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329 This is a change Stephen Bocking also observes in his study of how aerial survey transformed the University of McGill’s Department of Geography around the same time. Stephen Bocking, “A Disciplined Geography: Aviation, Science, and the Cold War in Northern Canada, 1945–1960,” Technology and Culture 50, no. 2 (April 2009): 285–86.

330 On Joaquín Capelo, see Chapter Five.
Camino and Villegas’ mission in 1960, it was the SAN conducting the survey at the Roads Department’s request and the vestiges left by it in the archive are completely depersonalized. While photography itself proffered dehumanized views of the land below, it was also true that the institutions charged with making the images were dehumanized, too. No more heroics, what one finds in the National Aerial-Photographic Archive are vacant, nameless re-presentations of the land.\footnote{In his monumental study, Orientalism, Edward Said touches upon the intricacies of authority’s two-sided nature, teasing out what could eventually be labeled authorial hegemony, or the dominance of authorship. Centering on discourses engendered by the British and French colonial projects of the nineteenth century, as well as twentieth-century American neocolonialism, he navigates the manner in which the entire geographic region of “the Orient”—and the subjects that populate it—become subjugated to the “expert’s” authorial whim with disastrous real-world—that is, extra-textual—effects. The key factor in this process is the “representation”, of the subject at hand. Photography, and particularly landscape photography, has been looked at in much the same way. Though I am not inclined to condemn all photography as a tool of appropriation like some, in the case of SAN imagery I think the Said-inspired critiques of photography offer a useful baseline. Edward W Said, Orientalism (New York: Vintage Books, 1979), 21; Perhaps the strongest advocate of such a Saidian critique of Photography: Sontag, On Photography; However, much of my thinking on photography—especially the depiction of environment—comes from: Andrews, “On Robert Adams’s New West Landscapes”; John Roberts, “Photography, Landscape and the Social Production of Space,” Philosophy of Photography 1, no. 2 (2010): 135–156; Andermann, The Optic of the State; Poole, “Landscape and the Imperial Subject”; Poole, Vision, Race, and Modernity; and Barthes, Camera Lucida; Talking specifically about the dehumanizing view from the air, see Thomas J Campanella, Cities from the Sky: An Aerial Portrait of America (New York: Princeton Architectural Press, 2001), 126.} Pilots and photographers appear in the archive with as much depth and detail as the machines they manipulated: plainly listed in the flight logs under the specifics for each SAN project. Such depersonalization was an effect of what Stephen Bocking relates to the increasing professionalization of scientists. Speaking about aerial survey in another hinterland, the Canadian North, Bocking remarks:

“With standards of credibility no longer tied to a capacity to overcome the unique conditions of the north, they instead became more consistent with those that scientists applied elsewhere. This change was linked to the shifting
identities of scientists in the north. Increasingly, they considered themselves not primarily as northern scientists, but as geographers, botanists, or wildlife biologists—that is as members of disciplinary communities pursuing questions and applying methods like those of their colleagues elsewhere.\textsuperscript{332}

Solís Tovar’s career underwent a similar change as his résumé shifted from the broad category of “engineer”, requiring skills as varied as soil analysis, exploration and photography, to that of cartographer, the discipline he adopted for much of his long tenure at the Roads Department. And, as Bocking also asserts, this change and its connection to the global view offered from the air, altered the way that institutions saw the landscape.\textsuperscript{333} But while new constructions of credibility and professionalization introduced hitherto unknown ways of seeing landscapes, they also engendered problematic depictions of the land, not merely because of what went unseen through the globalizing camera lens at 20,000 feet but because of the complexities and imperfections that attended the introduction of new survey technologies.

3.4: Assembling Landscape Visions

As it took on more importance and grew into a national center for land survey, the SAN became a key site of disembodied knowledge production where Amazonian nature was assimilated into the Peruvian state’s synoptic gaze. By fixing the landscape in the photographic form, a veritable army of pilots, photographers,


\textsuperscript{333} Bocking, “A Disciplined Geography,” 287.
cartographers and engineers turned an area of vast biodiversity and immense geological and climatic complexity into a manageable space that, once known, could be transformed by the road builder. Aerial photographs also allowed boosters to characterize the natural landscape using a development vernacular fed in large part by Holdridge’s life zone ecology and Tosi’s partition of the national territory into discrete zones. Together, ecology and photogrammetry helped planners understand land as an isolated, individualized commodity. By reducing the landscape to a Cartesian logic of spatial relationships, articulated on $x$, $y$ (distance) and $z$ (topography) axes, aerial photography helped make the distant valleys of the Cordillera Oriental knowable in these terms, thus permitting modernizers to reshape them according to their own visions.

Aerial photography made possible three crucial precursors to road construction. First, through the use of stereoscopic plotting machines and relatively simple photogrammetric equations, photographs could be converted into maps used to depict and calculate distances on a workable, two-dimensional plane. By augmenting these maps with soil and climate data, engineers were able to visualize complicated cost-benefit analyses in a manner that could be quickly and easily comprehended by non-engineers such as politicians, funding agencies and the general public. To much lower tolerances, and with much more complicated analytics involved, aerial photography was also converted into topographical maps, which were essential to determining the value of a given road segment. Finally, and

\[334\] That future efforts to title land were largely informed by such an understanding is discussed in: Grillo Arbulu and Sharon, “Peru’s Amazonian Imaginary: Marginality, Territory and National Integration”; Chirif and García, Marcando territorio, 31, 36–39.
with very limited accuracy in the tropics, planners used aerial photographs to identify forest resources that could be easily commodified, thereby adding another dimension to the perceived profitability of road construction. But concomitant to its rationalized applications there is a cultural aspect of aerial photography that draws my attention. For in a way reminiscent of Jorge Luis Borges’ mapmakers, mid-twentieth-century aerial photography betrayed a fiendish and quixotic obsession. Aerial photographs—like much photography—evince a compulsion to accurately reproduce reality through the modern machine god. This meant that legitimacy was constituted based on the degree to which human intervention was supplanted by that of the machine so that ever increasing amounts of technology were brought to bear on the photogrammetric process. In this context the cameras were kings and the more monstrous the plotting machine, the more advanced the navigational equipment, or the faster a computer could run triangulation formulae, the more accurate a photograph or its myriad permutations was thought to be. In the world of photogrammetrics, the late 1950s and early 1960s were a watershed moment when aerial photography was making this transition from a craft dependent on the skill of a discerning photographer to a science that relied on precision instruments. And Peru’s National Aerial-Photographic Service was an interesting vantage point from which to observe the shifting of emphasis from man to machine.

Launching operations in 1943 as a division of Peru’s armed forces, the SAN initially faced limitations in its reliance on portable five-by five-inch reconnaissance cameras that posed serious problems of camera shake and poor resolution. This is likely the kind of equipment brought along on Solís Tovar and Pardo de Miguel’s 1950 survey. It wasn’t until 1956 that SAN photographers began working with a proper survey camera, a used, World War II-era Wild-Heerbrugg RC-5A (Figure 3.7). Yet by the time planning for La Marginal was a concern, in 1964, the SAN was flying English Electric Canberras with state-of-the-art navigation systems. This combination of new and old posed unique problems of production and interpretation for SAN photographers and cartographers. Despite the continual march toward accuracy, they could only simulate reality with their representations of Amazonian landscapes and with every new machine added to their toolset they could only manufacture simulacra of simulacra ad infinitum. Indeed, the incommensurability of SAN photogrammetry and the realities of the jungle helped make road building a herculean task.

One area where this conundrum was showcased was at the mapmaker’s desk. Outfitted with a Wild Autograph A7 stereoscopic plotting machine (Figure 3.8), SAN cartographers drew point-to-point reproductions of meticulously shot aerial photography. To represent distances, the cartographer simply traced movements along a photograph and the plotter would transcribe his movements onto a

\footnote{Though feasibility studies often drew from SAN projects dating as far back as 1948, the first time the SAN was directly involved in putting together a survey explicitly for the purpose of planning La Marginal was 1964.}

\footnote{Given the male dominance in the armed forces of 1960s Peru, the gendered pronoun is warranted.}
parallel plane. To then calculate the distance all he had to do was measure the plotted line and factor in the scale (s) of the photograph, multiplying by $1/s$. This simple formula, with the aid of the Wild A7, allowed the mapmaker to represent landscapes on $x$ and $y$ axes (that is, in strictly two-dimensional terms) with a good degree of fidelity to the distances encountered “on the ground”, provided the area photographed was flat. Depicting topographic features (the $z$ axis), on the other hand, was done with a much larger margin of error due simply to the sheer number of discrete factors that could be miscalculated or misrepresented.

To begin with, problems could be introduced even before the first photographs had been taken. SAN projects regularly consisted of upwards of 3,000 individual photographs and had to be pieced together from multiple sorties. For instance, Project 149-66 (Figure 3.9), flown over the Lower Mayo and Central Huallaga valleys and a key project used in planning La Marginal and its concomitant colonization schemes, comprised 17 sorties flown between August 14 and October 12, 1966. Project 149-66 also involved three pilots and two photographers. With accuracy dependent on the pilot’s ability to maintain a straight and level plane, at a stable altitude and constant speed, the fact that any given project may have included any number of pilots flying different sorties only complicated the probability of achieving optimum shooting conditions. Time was another factor. Indeed, the time lapsed between sorties could mean that the very landscape being photographed was different between one run of images and the next. Camino and Villegas’ Project 68-

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spanned two dry seasons. Another project flown over the Huallaga River, Project 304-79, took well over a year to complete, meaning the same area was depicted both before and after a rainy season that stood out in in the Ministry of Transport and Communications Archive for the amount of landslides and debris flows brought on by intense rains.339

Next, especially before the regular use of radar, navigation could be a significant obstacle to accurate portrayal of the landscape. Finding the proper starting point and direction of a planned run required skill. One method used to track the route of a survey project was to fly and shoot guide runs over an area, either in widely spaced strips or in a grid pattern, and then use the photographs from those runs as guidelines to orient subsequent runs. However, this method was susceptible to unruly weather in that it called for absolute precision when flying between the routes of previously photographed runs.340

At a meeting of United Kingdom’s The Remote Sensing and Photogrammetry Society in 1954, Group Capt. J. Bussey, from the Directorate of Colonial Surveys, remarked on a second method of plotting a survey flight and stressed how much successful results relied on the competence of the survey crew:

Another method which gives first-class results seems to me to depend on

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339 Monthly reports and work logs from the Ministry of Transport demonstrate that roadbuilding was plagued by slides every wet season as work on La Marginal inched its way through the Pichis and Palcazu Valleys of the Selva Central. The two rainy seasons between November, 1978 and February, 1980, however, were marked by a flurry of radio messages coming from the road terminus and the labour camps that spoke of continuous stoppages due to heavy rain and mudslides counted in the many thousands of cubic meters. In one more memorable event from December, 1979, the road chief on site, one Colonel Villanueva, radioed word of four days’ non-stop rain triggering a slide that took one of their bulldozers with it down the hillside. Dirección de Caminos, “Libro de Proyecto: Carretera PTE. Paucartambo - Villa Rica - Pto. Bermúdez 6/75-11/85,” n.d., 40–68, MTC.

a peculiar skill which only a few individuals are likely to possess. The procedure is that, as a strip is being flown, one of the crew makes a series of sketches of points over which the next strip must pass. That next strip is then flown by navigating over the points that were previously sketched. It seems to me little short of miraculous that, in some types of country, the points that have been sketched can be subsequently recognised. I wonder to what extent the ability to do this is a gift rather than a matter of training.\footnote{Ibid., 51.}

In his remarks, Bussey touched on a crucial turning point happening in aerial survey worldwide, one in which the skill of well-trained survey crews was giving way to greater reliance on automation. This was a point of contention that drew opinions from across the field, \footnote{For contemporary opinions about the shift from craft to science, see J. E. Odle, “Aspects of Airborne Camera Development from 1945 to 1966,” \textit{The Photogrammetric Record} 5, no. 29 (1967): 351–365; J. A. Eden, “The Art of Taking Air Photographs,” \textit{The Photogrammetric Record} 4, no. 23 (1964): 367–378; Brigadier H. A. L. Shewell, “Photogrammetry—a Worm’s Eye View,” \textit{The Photogrammetric Record} 4, no. 21 (1963): 210–217; G. C. Brock, “Problems and Progress in Air Photography,” \textit{The Photogrammetric Record} 2, no. 9 (1957): 169–184; and “Symposium.”} but it signified a clear end to the kind of complicated—and dangerous—flying that allowed Solís Tovar to get his critical measurements. It also highlighted the fact that before automation, the quality of surveys was contingent on the experience and skill of individual crewmembers. Thus, until the modernization of the Peruvian Air Force (FAP) that took place between 1956 and 1966, it can be assumed that SAN projects that comprised large numbers of sorties and were therefore dependent on a greater diversity of crewmembers were more prone to omissions or miscalculations than those that took advantage of new forms of automation.
The aerial photographs themselves also distorted the vision of Amazonian nature used to plan La Marginal. Aerial photos can be lumped into two general categories based on the perspective from which they were shot: vertical photos, shot from directly above the subject, like the nine-by-nine-inch negatives made with the Wild RC-5A camera, and oblique photos, which were shot at angles. Vertical photos rendered quotidian forms like buildings and highways as strange, flat abstractions, but were most useful in survey projects because a true vertical photo—shot from straight above—produced fewer perspective-related distortions, thus allowing for a truer rendering of hills, mountains and valleys and ensuring more accurate account of topographical variance. An oblique photo, on the other hand, was shot from an angle and endowed a subject with a sense of profile and dimension more common to a human way of seeing. The technological changes taking place between Pardo de Miguel’s famous outing and the series of sorties flown by Captain Camino a decade later thus purged the human perspectives inscribed in the views themselves. Through new acquisitions and the expansion of its camera quiver—the Wild RC-5A in 1956, an RC-9 in 1960, and an RC-8 in 1970—the SAN’s oblique, human view was supplanted by an increasing reliance on vertical photography.

The factors that contributed to whether a photo was oblique or vertical were myriad: of course the photographer’s intention was paramount, but other considerations such as camera angle, the angle of view (AOV) of the lens, the position of the plane and its orientation vis-à-vis the subject all had to be considered lest they introduce distortions of topographical features. Finally, even vertical
photos shot under ideal conditions with a proper survey camera produced some distortion at the image’s margins because of the natural curvature of the lens.

In some ways, what the individual aerial photograph did to the Huallaga Valley resembles the efforts to produce reliable cadastral maps that followed the agrarian reform projects of 1969 and 1974: both took vastly complex ecological, topographical, geological and hydrological amalgams and severed them into discrete geometric abstractions. The abstracting view of the individual photograph, coupled with all of the omissions, distortions and resulting miscalculations introduced throughout the photographic process, served to fracture and fragment the landscape, as though SAN photographers, their cameras like scalpels, were carving forests and river valleys, bogs and craggy cliffs into convenient, manageable nine-by-nine squares, (See Figure 3.10) only to splice them back together later in a less intimidating representative patchwork. This was one way in which aerial survey brought road planning out of the elements and into the surveyor’s office. If landscape photography was a form of appropriating natural features imbued with imperial designs, as anthropologist Deborah Poole has argued, then the function of cartographers at the SAN and the Roads Department—such as Solís Tovar—was to refashion those fragments of wild, chaotic nature into a new, sterile, efficient and useful representation: a manufactured, two-dimensional landscape. The feats that made men like Solís Tovar heroes could now be rendered in comfort at the drafting table, where the cartographer’s tools, not the explorer’s bravado, forged new, virtual landscapes represented variably as project indices, contour maps, or, the pinnacle of

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343 Poole, “Landscape and the Imperial Subject.”
technology based abstraction, the longitudinal profile, which reduced regional topography to one single line. (Figures 3.9 and 3.11) Whereas aspects like soil analysis still required planning on the ground—though when not put off until the build, even that usually involved helicopter aviation—La Marginal’s planning represented a significant shift to the sky. The preliminary survey and segment-specific studies made by Tippetts Abbett McCarthy Stratton (TAMS) relied almost exclusively on aerial survey projects for route selection, as did the segment studies made by Brown & Root for the Mayo Valley and the southern region of the Central Huallaga.344

The first step in forging such new, virtual landscapes was to compile project indices by aligning and overlapping prints of every negative. Resembling spider-webbed mosaics run through by rivers, these indices became, and still are, the only vestiges of the Peruvian landscape to be found in the SAN archive. Indeed, they represent a veritable dossier, legible in an archival vernacular that facilitated all kinds of planning efforts. In planning roads, these indices allowed engineering firms tasked with assessing La Marginal’s feasibility to conduct studies without ever

leaving Lima. TAMS relied almost exclusively on aerial photos for route selection, as did the segment studies made by Brown & Root for the Mayo Valley and the southern region of the Central Huallaga.\textsuperscript{345} If planners did set foot in the cedar and mahogany forests that their planning would transform, it was merely supplemental to the use of aerial surveys, or as part of construction, after the plans had already been accepted.\textsuperscript{346}

To be sure, indices were not the only instances of cartographic refashioning that streamlined the planning process. SAN photos served as the first link in a long chain of new permutations, all purporting to mimic the land that was surveyed. Without doubt the most interesting case of this is the project commissioned to represent La Marginal’s zone of influence. Made at the behest of President Belaúnde himself, Project 192-64 is unique because it wasn’t dated and the SAN flight logs have no information on the sorties flown for it. The project consists of an index and several enlarged mosaic sections, each depicting one of the major river valleys bisected by La Marginal, but there are no corresponding film canisters or negative numbers. And the index books leafed through in the SAN’s reception area show no record of Project 192-64. It sits in a vacuum, resting on the archive’s shelves, severed from


\textsuperscript{346} For but a few examples, the construction of the Tarapoto-Río Nieva Road discussed in Chapter Four relied on aerial surveys for planning and design, while on-the-ground planning like soil studies and centerline placement only happened during the build. Similarly, the major study that formed the basis of the Tingo Maria-Tocache-Campanilla Colonization—conducted by the Inter-American Service for Cooperation in Development—began with map making based on SAN surveys. In that study, once experts set out to conduct soil and botanical studies, there were largely interested in confirming the accuracy of the photo-based maps.

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any archival lifelines that would keep it in circulation. This is because Project 192-64 was a compilation of fragments carved from pre-existing projects: projects like Camino and Villegas’ 68-60, and Project 99-63 (Figure 3.12), flown in 1963 by Captain Hesse and Técnico Lévano, the practically anonymous photographer who shot more of La Marginal’s zone of influence than any other.

Project 192-64, the cornerstone project that Belaúnde personally requested and that planners used to make their studies for La Marginal, was perhaps the foremost example of the SAN’s increasing standardization and depersonalization. It exemplified a disembodied knowledge through which the same structuralist logic that permeated Holdridge and Tosi’s work bisected and partitioned nature. The project was a simulacrum comprising shards excised from other simulacra based on photographs shot by multiple photographers at different scales using different equipment through out the second half of the 1950s and first years of the 1960s, on sorties flown by multiple pilots using at least two types of aircraft. And because of the growing prominence of the SAN as a center of survey and reconnaissance, projects like 192-64 increasingly took the place of ground-level surveys of the kind that made Joaquín Capelo and Arturo Solís Tovar famous.

When, in 1965, TAMS published its preliminary survey on the feasibility of building La Marginal, Project 192-64 and most of the earlier projects used to compose it figured prominently in the calculations. Based on the SAN projects, TAMS generated a series of contour maps that gave a sense of the topography

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347 Tippetts-Abbett-McCarthy-Stratton, Estudio preliminar; For a summary of TAMS’ study see Charles Stokes, “The Economic Impact of the Carretera Marginal de La Selva,” Traffic Quarterly 20, no. 4 (1966): 203–26; For a biting contemporary critique, see: Snyder, “The ‘Carretera Marginal de La Selva.’”
throughout the road’s projected zone of influence. Given how topography affected cost, these contour maps served as critical tools for devising cost projections. Furthermore, over the next two years, the firm put together detailed, segment-specific feasibility studies for each of the proposed stages of the road’s construction in Peru and, in addition to the calculations represented in the preliminary survey’s contour maps, they used aerial photos from the SAN to chart watersheds and plot longitudinal profiles that showed elevations for every kilometer of the proposed road.

In one final variation of the images compiled in Project 192-64, Arturo Solís Tovar, now serving as Ministry of Public Works General Coordinator for La Marginal, produced a series of maps juxtaposed against longitudinal profiles. Made for the Roads Department but published in a book written in 1967 by President Belaúnde,348 these graphics put the two main aspects of SAN photogrammetry on display side-by-side. In one example (Figure 3.11), the Central Huallaga Valley was represented in schematized, two-dimensional fashion, while below, expressed in one sleek line, was the z axis, the topographical variance of an area purged of its complexity and presented in the simplest of terms. But these graphics did something else, as well. While the information gleaned from the x, y and z axes could be traced back to the land and Amazonian nature itself, albeit through a convoluted chain of custody ending in the original SAN photographs, another element betrayed the deceptively fictive nature of these and other photogrammetric productions. La Marginal itself, portrayed in white, clear and broken blocks, could not have been

348 Belaúnde Terry, La Carretera Marginal de la Selva.
captured by SAN photographers because it had yet to exist. Instead, as the one element entirely and honestly introduced by human hands, inscribed into the simulated landscape of Solís Tovar’s maps and presented to a popular audience in Belaúnde’s book, La Marginal invited readers to partake in a story of the future, of what was to come.

In some ways the career of Solís Tovar himself reflects the changes that aerial photography and the growth of the SAN meant for road planning in Peru. As a young Roads Service engineer, Solís Tovar earned fame by launching bold expeditions on foot, searching out low, crossable mountain passes; he first made his mark by discovering the Porcuya Pass, the lowest point of the Andes range in Peru, where the road from Olmos to Yurimaguas now runs.\(^{349}\) He then set a milestone for his collaboration with José Pardo de Miguel and the discovery of the Pardo de Miguel Pass made from the air. But as planes replaced expedition caravans and Solís Tovar moved out of the wilderness and into the workplace, his legacy was marked less by discovery and innovation and more by the ubiquity of his signature, to be found on most contemporary maps and graphs relating to La Marginal. As aerial survey supplemented human heroics and the men of road building myth became mere names in a flight log, nature itself was also being displaced. By mimicking copies of copies of copies, (longitudinal profiles, based on contour maps, based on photographs) errors, miscalculations or omissions were amplified through the entire photogrammetric process, further distancing the representations from their respective reality. But I don’t make this point in some attempt to show how wrong

cartography could be. Indeed, if anything, the shift from craft to profession that characterized photogrammetry in the 1950s and early 1960s saw specialists working in a frenzy to correct inaccuracies as best as possible. Instead, what photogrammetry’s fissures revealed was the invented nature that was used to imagine the project of La Marginal. The Amazon that was put on display for engineers, financial institutions, politicians and the general public was not a space of complexity, chaos and species diversity—it was reduced and schematized until it could provide a setting for the story of progress that, it was hoped, would come with La Marginal.

In this chapter I have taken two seemingly disparate stories of science and engineering and attempted to elucidate a few key points of commonality by asking how each one engendered new facets of the modernist land ethic perpetuated through programs like Cooperación Popular and the effort to colonize Peruvian Amazonia. In my discussion of Leslie Holdridge’s climate-oriented ecology and the production of aerial surveys, the particulars of the science itself and the role institutions played in making that science predominate, I have endeavoured not only to tell the story of how schematic sciences gained purchase, but also the particulars of how they conditioned new relations to the land.

To be sure, the post-war international cooperation regime embodied by institutions like Point Four, the OAS's Project 39, the IICA, and SCIPA (and assimilated later into domestic programs like Cooperación Popular) was the primary mechanism by which Holdridge's ecological vision spread through the region. This fact betrays the transnational nature of road colonization's environmental imaginaries. But the birth and growth of the National Aerial-Photographic Service during the same period helped consecrate an entirely new vision of specific landscapes. Throughout this chapter, I have used road planning as the common thread that ties these two visual regimes together. But the commonalities between the Life Zone System, aerial survey and road building don't end at their interwoven histories.

Each was another expression of a modern epistemology that reduced land to discrete constituent parts and then refashioned it into more convivial assemblages. Unlike other contemporary ecological classification systems—namely that of Javier Pulgar Vidal with its veiled nationalism—Holdridge's Life Zone system was predicated on the isolation of biotemperature, precipitation and evapotranspiration. Based on these three variables, he drew a picture of the world, one staunchly structuralist in worldview and utilitarian in function. Likewise, the imagery that was coming out of the National Aerial-Photographic Service at the time effected its own disambiguation of landscapes. The work of aerial photography took a landscape enmeshed in a matrix of hydrological flows, geological complexity and biological patchworks, and severed it into individuated land fragments through the production of decontextualized photographs. Then, in the making of photographic mosaics,
contour maps and longitudinal profiles, SAN surveyors reconstituted the landscape in a more archive-friendly vernacular.

There is no question that these efforts aided the planning process. But emphasis on disarticulation/reassembly, on the one hand, and visuality, on the other hand, had serious consequences when it came to the concrete, asphalt and gravel realities of actual construction. Conselva workers effected their own refashioning of the land in the form of blasting and digging, and filling and compaction. Their actions in the landscape redirected and disrupted natural flows in order to facilitate traffic and commodity flows. Despite the nascent nature of the sciences used to plan and conduct roadwork, these interventions in the land were legitimized based on the presumed accuracy of the modern sciences. But in Chapter Four I argue that, when things fell apart, so too did the faith invested in the sciences. It was at that point that political expediency again prioritized the visual and the schematic.

In each of these instances, it was the particulars of place—be it an institutional place like the Inter American Institute for Agricultural Sciences and the SAN, or a physical place like the Tangarana Pass—that conditioned these facets of the modern land ethic. Were it not for Holdridge’s professional growth in the IICA, his system might never have beaten the Thornthwaite system for dominance in the tropics. And because the SAN morphed into Peru’s premiere center of land survey, road planning moved away from the harrowed adventurer’s campsite to the mapmaker’s desk.

In Chapter Four, I place stress on building procedures. Engineered by Brown & Root and built by Morrison’s Knudsen’s in-country venture, Conselva, the Tarapoto-Río Nieva section of La Marginal involved some of the trickiest terrain of all and
faced problems almost from the outset. In my telling of the story, I stress the particulars of building and where both companies veered from best practice. I also zero in on the resulting controversy and argue that one visual inspection conducted on the fly overtook all other forms of knowledge brought to bear in trying to determine the cause of landslides. However, this is more than an exercise in shaming; by emphasizing the how-to of road building, I demonstrate the unifying thread that ran through the seemingly disparate fields of ecology, photogrammetry and heavy construction. In their discrete fashions, ecologists, foresters, cartographers, pilots, blasters, diggers and pavers took the land apart and pieced it back together in a way that served modern objectives.
Chapter Four: Blindspots in the Roadbuilder’s Bible

The tools offered by aerial survey and climate science helped above all to inspire a kind of confidence. While hubris may have set the tone for booster songs, and it was certainly woven into the reputations of firms like Morrison Knudsen (MK) and Brown & Root, the very local knowledge manufactured in the contact zone where mid-level engineers met directly with the challenges of a difficult and inhospitable terrain was of a different stripe. In the Cordillera Oriental scientific knowledge came back down to earth. If the cartographic and climatological production of the Mayo River Valley depended on increasing distance (both in the move to the air and the move to the laboratory), then their utility eventually relied on a return to the ground. In the processes of road building men and machines shared the modern technoscientist’s penchant for disambiguation, simplification and reassembly, but they enacted them in a context fraught with the politics of labour and the particulars of a unique mountain environment. Builders also engendered their vision of nature in the Huallaga, but theirs was the site where knowledge began to reconfigure living landscapes. Ecological knowledge production is not just an effect of labour, as recent scholarship has proven, but it is the politics of labour as it interfaces with nature. Indeed, when it came to the Tarapoto-Río Nieva, politics trumped accuracy as the efforts of Tosi and the SAN to depict the river valleys of San Martín in as precise a fashion as possible gave way to a building frenzy.

To be sure, the SAN’s Project 192-64 and the reliance on Holdridge’s Life Zone System sustained a degree of separation from the mud and mosquitos on the ground, but they also helped a legion of builders believe they could hack it. Because of the legitimacy attributed to the kind of knowledge they represented, such modern ways of knowing nature inspired confidence that this president’s dream was realistic and right. Still it’s not hard to imagine such confidence shaken by the sight of 20,000 cubic metres of road fill bursting at its base and wrenching a freshly laid roadbed into a puckering black hole. Nor is it unthinkable that a crumbling 10-metre roadcut or the spectacle of a D7 dozer careening and tumbling 150 metres downhill into a rocky deluge didn’t raise a few eyebrows. Surely there was an element of fear that accompanied roadwork in the highway’s sketchier topographies. From early on, building La Marginal was a risky enterprise fraught with problems and injuries, and workers faced real dangers posed not only by the jungle’s less than human-friendly elements, and mostly by their own work. Chief among such risks were the constant slides that plagued work on the Tangarana Pass outside Tarapoto and the steep grades of the Pichis and Palcazu valleys in the Selva Central. In the wake of massive slides, however, it was the risk to balance sheets that sparked the greatest controversy. For the great earth-moving feats anticipated in feasibility studies were regularly hampered by maintenance and construction overruns tied to slide removal. And with figures running into the millions of dollars, everyone scrambled to assign blame.

Between January 1967 and late 1970, a series of complications slowed construction over the Cordillera Oriental as early road fills became saturated and
the area suffered torrential rains. The low, jagged mountain range that Solís Tovar marveled at from the window of Pardo de Miguel’s plane seventeen years earlier was now a construction site. Of course, Solís Tovar’s solution to building in such rugged terrain—that of tunnelling through it instead of trying to go over it—was never given serious consideration, and the problems he presaged in 1950 were now a reality. Walter Miranda’s photos serve to book-end the troubles, showing buckled asphalt folding over eroded, crumbling sub-grade on the east side of the Tangarana; debris from failed roadcuts approaching the pass being cleared from the right-of-way; and massive flooding effecting a total erasure of the roadbed where it met the Gera River on the western slope (see Figures 4.1, 4.1a, 4.2, 4.2a, and 4.3). Problems such as these could prove minor, so as to stall work for just a few days, or reveal serious structural problems that still haunt the road today, but they were all signs of the shortcomings built into the project’s planning and implementation. After MK moved on from its initial work over the Tangarana, eight particularly serious slides left parts of the road impassable and sparked a process of reflection, one in which the early bravado with which the project had been undertaken was now put on trial. The failings spurred a litany of accusations that would eventually take on a global scope and be implicated in the radical shift in Peruvian politics marked by the military coup of October 1968.

The question of fault surrounding slides proved convoluted and multifaceted. To begin with, the contractor, MK-sponsored Conselva, engaged in a series of practices that jeopardized structural integrity and betrayed a lack of expertise unbecoming of MK’s reputation as a global leader in heavy construction. From early on, the
company’s personnel and equipment were dangerously inadequate. The American supervisors sent to Peru to oversee daily operations had no experience in road building, though the company argued that their extensive experience building missile silos and massive reclamation projects was sufficient.\footnote{Elmer Staats Comptroller General of the United States, “Allegations of Mismanagement of a Peruvian Highway Project Financed with U.S. Assistance Funds” (General Accounting Office, 1971), 37, 68, accessed 14 May 2014, http://www.gao.gov/assets/210/201374.pdf.} Nor did the Peruvian employees have more than minimal experience, given that a highway undertaking of Tarapoto-Río Nieva’s ilk had never been attempted in Peru. Part of the problem was an early contract provision that limited hiring to Peruvian nationals but, by the beginning of 1967, MK had convinced Public Works to allow the hiring of foreign nationals and it brought in skilled engineers from Mexico, Colombia and Panama (some of whom were eventually paraded in front of Walter Miranda’s camera).\footnote{See the discussion of Miranda’s photos in Chapter Two.} MK was also training new hires as the work progressed with the intention of leaving a specialized coterie of road builders in the area after the project was complete. Due to this early lack of experienced supervisors and skilled workers on site, however, three especially negligent practices—that could have been factors in triggering or exacerbating slides—became commonplace.

First and foremost was the over-blasting of rock outcroppings. Achieving optimum blast was a tricky endeavour, one in which the obvious goal of removing obstructions was balanced against the disruptive thrust of exploding dynamite. (It wasn’t until almost a decade later that the Roads Department began using more efficient ANFO explosives under the technical guidance of an AID-contracted
Every explosion destabilized the surrounding geology and thus anything beyond the minimum necessary blast was doing damage, loosening sub-base and cutbanks and facilitating potential slides. Yet the Brown & Root representative charged with quality control, Charles Pettis, claimed that Conselva workers made a habit of overusing explosives. One report commissioned to look into the causes of slides summarized the blasting conundrum as follows:

The massive blasting with deep drillings located on the theoretical [sic] line of cut and charged exclusively with powerful explosives speed [sic] and facilitates the work, allowing the machinery to eliminate rapidly the material which by this intensive explosives [sic], results much more fragmented.

The negative result of this method is that the vibrations of the explosions is [sic] felt on the contiguous zones to the cuts perturbing the solidity of the terrain and opening small cracks on the ground through which water can filtrate thus increasing the landslides and causing failures.

Even though it is impossible, for obvious reasons, to eliminate completely the [contrary] effects caused by the explosions on the stability of the cut slopes on the type of rocks which are present in this project, it is possible to reduce it, using some restrictions in the use of explosives for blasting.355


Another negligent practice involved centerline placement. La Marginal’s design called for an eight-metre-wide right-of-way comprising a six-meter roadbed with a one-metre shoulder on either side. Just as the name implies, the centerline runs through the roadbed’s midpoint and is used as a benchmark in determining the highway’s alignment. It also marks the apex of the roadbed’s gently sloped lanes, which swiftly conduct runoff to the shoulders and into gutters and culverts. Pettis observed that in the early stages of the Tarapoto-Río Nieva’s construction, centerline placement and grading through narrow roadcuts was regularly off mark. This meant that—by his estimate—ninety-five percent of the cuts didn’t fit the right-of-way. To compensate, Conselva excavated the toes of cutbanks to make room for shoulders and gutters, and destabilized the embankments in the process.\(^\text{356}\)

Finally, the location of access roads, those rudimentary paths used to get heavy machinery to the jobsite, was questionable. On the Tangarana Pass, many of the access roads were situated immediately above tricky cutbanks and roadway fills. Engineers consulted on the issue of slides speculated that this could have been an important determinant as the constant rumbling of Mack trucks and other heavy equipment frequently fractured the local geology. Such ruptures caused embankments to fail and cleave entire sections of hillside off from above the right-of-way.\(^\text{357}\) In one photograph taken during a U.S. General Accounting Office (GAO) field inspection in May 1971 showed one of the largest slide areas along the Tangarana Pass covered in a massive slide that broke off from an access road sited

\(^{356}\) Ibid., 17.

directly above the main road (Figure 4.4). As diplomatically as possible, the GAO auditors added a caption that read in part "particular note should be made of the access road located directly above the main road. Major slides occurred in the area in late 1968".358

In addition to all of these shortcomings, MK suffered a crippling lack of adequate equipment through 1966 and 1967. Despite the pomp and circumstance awaiting its flotilla of heavy machinery and support vehicles at Yurimaguas,359 MK was dramatically under-gunned. The discourse surrounding their jungle exploits touted the company's monumental earth-moving exploits backed by an on-site surfeit of diggers, front-end loaders, dozers and dumping lorries, but when it came to the business of building, the crucial equipment needed for compaction and stabilization was in short supply.

To be sure, road building requires a certain disarticulation of the landscape, achieved through blasting, digging and transporting massive quantities of earth, but it also implies a re-articulation of the land, a reconfiguration in the form of road fills and sub-grade compaction and stabilization. Road fills became a key tool of the builder when working in steep, uneven terrain because they allowed earth removed through blasting and such to fill those spots where the centerline crosses problematic draws and ravines. To maintain proper grade, excess dirt was used to fill in depressions and raise the roadbed to the desired height. In some cases, especially when combined with retaining walls, fills were also used to extend the

359 See Chapter Two for discussion of the spectacle surrounding the arrival of equipment in Yurimaguas.
width of the right-of-way where it traverses steep hillsides. Despite these beneficial uses, however, fills also presented new structural weaknesses if not properly compacted. In places where compaction was insufficient the roadbed cracked and separated when the loose fill earth settled underneath it.

Compaction and stabilization are sister processes geared toward preparing the sub-grade to receive the roadbed and fortifying the soils that are used in both; if they are not done properly a road is more prone to erosion, cracking and eventual sliding. Very much mechanical in nature, compaction entailed packing dirt and aggregate to the level of firmness and strength required by design specifications, while stabilization was often a chemical process used to alter the dirt’s make-up and fortify its bonding capacity. In Peru through the 1950s and 1960s the Roads Department promoted the addition of lime after compaction, because it stabilized soils and cost much less than bitumen-based alternatives such as asphalt. Lime also tended to occur in natural deposits near La Marginal’s alignment through the Huallaga Valley. The combination of low cost and local availability meant lime was an obvious choice for stabilization along La Marginal. Compaction, on the other hand, was a more contentious decision. An AID Highway Advisor’s inspection report suggested using a fifty-tonne pneumatic roller, or something smaller but carrying a load of 4,000 pounds per linear foot, to achieve enough compaction on the

360 Since the Prado administration (1956-1962) initiated a renewal of the country’s ailing road network, planning emphasis shifted from individual projects to the place of each project in the overall network. This shift foregrounded the concern for quantity over quality and inexpensive surface treatments became a cost-saving measure debated by Roads Department engineers. For examples see: Sin autor, “Uso de la cal como estabilizante de carreteras,” Boletín de la Dirección de Caminos 9, no. 91–93 (March 1960); and B.E. Gray, “Tratamientos bituminosos superficiales,” Boletín de la Dirección de Caminos 9, no. 91–93 (March 1960): 9.
Tarapoto-Río Nieva highway. But MK argued that the equipment used didn’t matter and instead used a Euclid scraper—designed for cutting, clearing and grading—for compaction. Having learned its lesson, the Roads Department laid out clear specifications for the types of compaction equipment required when—in 1983—it solicited bids to fix damage related to poor compaction.

The consultants hired to design La Marginal warned machinery would be a problem from the very beginning. TAMS reiterated how the Belaúnde-boosted building boom translated into a serious shortage of much-needed machinery in the country and counselled that a public-private partnership be formed to run a national equipment pool. However, while Cooperación Popular served this function for small-scale community builds, an equivalent for mega-projects could not supply all the efforts underway. Indeed, in 1966 the entire country outside Lima counted on only 41 rollers and just 14 vibrating compactors. In all of the Department of San Martín there was but one available roller. In the case of the Tarapoto-Río Nieva, this meant that Morrison Knudsen took responsibility for

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acquisition and transport of the necessary equipment. Upon signing the initial Tarapoto-Río Nieva contract in August 1965, Brown & Root was already advising the Belaúnde administration to prepare for compaction-equipment shortages. Knowing Peru couldn’t possibly supply the necessary equipment, and facing the high cost of equipment transport up the Amazon River, MK planned to forego recommendations and hoped they could manage with fewer compactors. As a result, they failed to make proper compaction over more than fifty kilometers of work.\footnote{Comptroller General of the United States, “Allegations of Mismanagement,” 39–40.} Though the problem subsided as Conselva brought in more equipment between March and November 1967 the GAO concluded that:

> ... during the early stages of the project, the contractor used employees inexperienced in road construction and did not have the proper equipment to compact the road. The reasons why these problems occurred and the detrimental effect they had on the overall progress and quality of road construction is not clear from the records we reviewed.\footnote{Ibid.}

Though the GAO could not reach a conclusion on the implications of inept personnel and equipment shortcomings, the experts they consulted regarding culverts and other drainage facilities were unambiguous in their assessment. When GAO auditors toured the project site with the AID Highway Advisor in May 1971 engineers from the Roads Department led them to each of the eight major slides that had taken place where fills had failed. The Peruvian guides identified two main causes for the failures. On the one hand, they saw inadequate and often improperly...
placed sub-drainage facilities and, on the other, they noted that the fill areas were not properly prepped before filling. Though these problems immediately implicated Conselva as the project builder, they pointed to deeper failings that extended to the project’s design. Where the epistemological particulars underwriting the road builder’s bible may have prepped planners and engineers for incursions into Amazonia, the oversights built into the road’s design pointed to some of the pitfalls of their reliance on the gospel of the distanced, scopic knowledge coming from aerial survey and ecological classification.

If a road build disarticulates and rearticulates topographical features through blasting, earth moving, filling and compaction, it can also be said to disrupt, redirect and establish flows. The language of road building was one of communication and connectivity, traffic and capital flows. Indeed, in a testament to the role of roads in communications, Public Works was reordered and renamed the Ministry of Transport and Communications after the military coup that ousted Belaúnde. Yet building also disrupted and severed flows, causing bottlenecks of pent-up energy. The planner’s job was therefore twofold in that he had to design a road to spec that would gain access to the maximum possible quantity of arable land, while also mitigating the level of disruption, for disruption translated into increased cost. Wherever the right-of-way threatened to cut hydrological flows or significantly alter the area’s geology, the project’s bottom line was in jeopardy so that elements such as drainage facilities, cutbanks and fill slopes became the Achilles heel of the developmentalist conquest of Amazonian nature.
Over the Tangarana, where half of the project’s total excavation took place\textsuperscript{368} and the centerline traversed steep ravines that became turbulent watersheds under the region’s frequent rainfall, Brown & Root’s design faced its biggest challenge. Given the steep inclines, the ravines could rarely be crossed by bridge. Instead builders filled all but the largest ones with errant earth torn from the huge roadcuts excavated nearby. The process effectively dammed the torrents sent tearing through with each rain unless water flows were successfully conducted through culverts and drainpipes. Moreover, to avoid backups, each ravine should have been thoroughly cleared of all debris—boulders, tree stumps, branches, etc.—before filling. However, as the GAO’s observations confirmed, Brown & Root’s design failed the test.

Inspections revealed that Conselva did not clear ravines before filling but, perhaps more perplexingly, they also misplaced the main culverts; instead of situating them at a ravine’s low point, they were located well off the mark (Figure 4.5). Though doing the fills and locating culverts was ultimately in Conselva’s job, the Highway Advisor placed responsibility for these and other inadequacies squarely at Brown & Root’s door:

Without a time consuming study involving a lengthy trip to the project site, it will not be possible to go into the reasons for each individual failure, and even then the conclusions may be suspect since it depends upon the memory of persons involved. My own inspections of the project, however, permit me to make observations pinpointing three causes which, to my knowledge, occurred singly or in combination in all of the eight failures.

\textsuperscript{368} No author, “Highway 146 Miles Through Peru Jungle,” 5.
These are, in order of importance, the following:

1. Failure to install sufficient amounts of sub-drainage facilities under the fills, or incorrect location of such drainage facilities.

2. Failure to strip out unsuitable materials and prepare an adequate foundation under the fills, most of which are on steeply sloping side hills.

3. Improper location, both horizontally and vertically, of the main drainage facility (culvert) in the fills.

All three of the above factors are the direct responsibility of the Engineer [consultant] since he orders the amount and placement of the sub-drainage, the amount of stripping and foundation preparation to be performed, and the length, spatial placement and entrance exit treatment of the main culvert.369

This assessment concurred with the Peruvian Roads Department engineers that accompanied GAO auditors. The GAO, however, in investigating Charles Pettis’ allegations, outlined two other major question marks in the build’s design. First and foremost was the slope of the cuts. Often conforming to more lax Peruvian standards, construction along most of La Marginal could get away with back slope ratios as steep as 10:1 (a rise of ten units for every 1 unit run) when blasted through hard rock, or 4:1 elsewhere. Because of cost restrictions, Brown & Root advised stage construction, which put Conselva in charge of building a Peruvian Class 2

highway that would be updated as traffic needs dictated (and budgets allowed). This left a lot of leeway in regard to standard widths, required base and surface materials and the slope of cut and fill banks. Adherence to these more relaxed standards reduced the huge amounts of excavation that the project entailed, as steeper slopes required less excavation, but the trade-off was ultimately dangerous and expensive, and even with the downgrade in standards, cut slopes through the Tangarana Pass still didn’t meet specifications. With cuts over the pass reaching as much as twelve meters in depth, the amount of earth destabilized by construction was enough to completely sever communication along the highway when it slid and the slides themselves were responsible for at least one confirmed death. These steeper than usual slopes, combined with an inferior familiarity with the underlying geology, led AID’s chief of engineering to conclude that fill failures were inevitable based on Brown & Root’s design. But that conclusion was hardly a vindication of the builders themselves. Indeed, when the MTC’s Building Department hired HOB Ingenieros Asesores SCR Ltda. to make an assessment of the slide damage and prepare bidding specs for repairs in 1983, HOB concluded that:

These slides are owed to construction defects, given that whomever built it [i.e. Conselva] failed to pay even minimal attention to slope, and all of the work was done using digging equipment, which only cuts and cuts, without concern for keeping fill material at a proper angle, which as we have noted is by nature already quite unstable.370

370 "... estos derrumbes se deben a defectos constructivos, puesto que quien lo hizo no tuvo el menor cuidado de dar al talud la inclinación conveniente y todo el trabajo lo hizo a base de
Perhaps the precariousness of such steep slopes might have altered Conselva’s practices had Brown & Root compiled a more comprehensive profile of the route’s geology. It was common practice to conduct geologic surveys and core borings of the subsoil along the proposed route of any road before determining its final alignment, but because of budget restrictions and equipment shortages, Conselva began construction without sufficient knowledge of the ground they were building on. Where core borings would have told of the underlying instability that would later feed slides, none were conducted, and in places where proposed cuts could reach as much as twelve meters in depth, the only geologic surveys conducted consisted of digging holes between two and three meters deep. One of the explanations for such seemingly egregious omissions pointed to another, more ad hoc, style of road design and construction that the Army’s engineering battalions and the Roads Department used along other segments of La Marginal.

To keep costs at a minimum Brown & Root’s design anticipated a flexible build schedule that could be altered on the fly. According to this plan soil surveys and core borings—and, therefore, determination of the final alignment—were made as construction progressed, with Brown & Root’s engineers making studies just ahead

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371 The deepest roadcuts found over the Tangarana Pass reached twelve-meters deep, but there were much deeper cuts on other sections of the Tarapoto-Rio Nieva. Indeed along the final 15 kilometers left entirely untouched when MK and B&R pulled out, the rough terrain climbing out of the Mayo Valley and up into the higher Yunga regions of the Nieva River called for rock cuts near 40 meters deep. For information on cut depths see: Comptroller General of the United States, “Allegations of Mismanagement,” 29–34; USAID/Peru, “Annual Review,” 11; U.S. Embassy, Lima, Peru, “U.S. Department of State Airgram, Subject: Loan N. 527-L-028 Tarapoto-Rio-Nieva Road,” 13; Cessa - Hob Asociados, “Expediente técnico. Tarapoto - Rioja,” 63.
of the machines. To be sure this was the method adopted for most other segments of La Marginal because, despite the inherent risk of beginning a build without full knowledge of the build site, it afforded builders a way of mitigating design shortcomings \textit{in situ}. This was also common where the Roads Department had to search out localized quarries from which to source their materials. But although Brown & Root had expected the Tarapoto-Río Nieva to progress in this fashion, the Project Manager, J.P. Michalski, elected to militantly adhere to the original design, refusing to consider deviations in the proposed alignment and choosing to forego new studies of the area’s geology.\footnote{372}

So while Morrison Knudsen’s shoddy work exacerbated the slide problem, it was a hazard that was baked into the project plans from the outset. Indeed, in a serendipitous accident of formatting, the GAO’s use of all caps for a section title doubly reinforced their findings on B&R’s negligent road design:

Mr. Pettis raised several issues concerning the design prepared by the consultant. Details on these issues and the evidence found by us are as follows.

\begin{quote}
SLIDES COULD BE EXPECTED DUE TO PROJECT DESIGN\footnote{373}
\end{quote}

Another factor given much less weight in the GAO’s report, however, was the role of the Peruvian government in soliciting, approving and condoning poor workmanship on the dangerously designed road. In fact, the rather haphazard oversight of Peruvian institutions points to how thinly stretched they were in the

\footnotetext{372}{Comptroller General of the United States, “Allegations of Mismanagement,” 30.}
\footnotetext{373}{Ibid., 29.}
face of the administration’s quixotic scramble to build the country into modernity. La Marginal, for all of the perceived progress it was to impart, was simply beyond the reach of a country enmeshed in a building boom, with all of the concomitant shortages in capital, both physical and financial, that entailed. Through Cooperación Popular, Belaúnde’s administration waged a valiant—if supremely paternalistic—effort to overcome labour shortages, though skilled labour was still in short supply. Likewise, Public Works mitigated the crippling impact of equipment shortages by passing the responsibility of supplying heavy machinery on to contractors (at least on the Tarapoto-Río Nieva and Tulumayo-Aucayacu segments), but these measures did little to contend with the fact that Peru couldn’t afford such costly construction, even with the Janis-faced support of the international financial institutions.374

Though it represented its most celebrated component, the Tarapoto-Río Nieva road predated La Marginal in design and implementation. Indeed, along with segments connecting La Morada with the Lima-Pucallpa Highway and a colonization road near Teresita in the Apurímac Valley, the Tarapoto-Río Nieva road was a vestige of the Prado era seized upon and folded into La Marginal. It was first studied in 1957 as the Olmos-Yurimaguas penetration road. That was the route surveyed by FAP Captain Camino and Técnico Villegas in 1960.375 In 1961 the Prado government hired Brown & Root to compile preliminary studies for all three roads, and by early

374 The way that aid was structured leaves gaping questions about who the ultimate beneficiaries were. In the case of the Tarapoto-Río Nieva road, the funding coming from USAID and EXIMBANK resembled the standard paradigm in which a national government took on debt obligations with the caveat that the money received be used primarily to hire a U.S.-based contractor. Thus, despite Belaúnde’s regionalist framing of La Marginal, construction of its most prominent segment was under the charge of Idaho’s Morrison Knudsen. The impact of such self-interested aid was best described by Dobyns and Doughty: “Deciding how well U.S. aid programs succeeded depends on one’s nationality and viewpoint ...” Dobyns and Doughty, Peru, 246.
1963 they came back with an eight-year, $41.3 million plan for the build. But when Belaúnde’s Ministry of Public Works finally opened the bidding process in March, 1964, B&R’s original plan proved overly optimistic, for the bids received ranged from $58 to $71 million. Taking into account the apprehensions of contractors about Peru’s precarious economy and the risk of committing equipment to an eight-year build, Brown & Root revised its estimate to $55.7 million, which now included $4 million for the company’s engineering supervision over the life of the build. Still, Public Works rejected the bids and in a March, 1965, meeting that included representatives from Public Works, AID’s Peru Mission Director, Robert Culbertson, and Belaúnde himself, a compromise emerged. They agreed to have the Army’s engineering battalions take over construction of the fifty-kilometer stretch from Pomacochas to Río Nieva and downgraded the roadbed by removing a planned base course and replacing the asphalt surface with gravel.\footnote{Comptroller General of the United States, “Allegations of Mismanagement,” 6–9; U.S. Embassy, Lima, Peru, “U.S. Department of State Airgram, Subject: Loan N. 527-L-028 Tarapoto-Río Nieva Road,” 3,9.} Yet despite these cost-saving measures the road still stretched Public Works’ budget. By early 1968, owing partly to a shift in the balance of trade, slowing exports and a 44-percent devaluation of the sole in the recession of 1967,\footnote{On the recession of 1967, see: Robert Norman Schwartz, \textit{Peru: Country in Search of a Nation} (Los Angeles: Inter-American Pub. Co., 1970), 127; Klarén, \textit{Peru}, 334–35; and Contreras and Cueto, \textit{Historia del Perú contemporáneo}, 322 Horna argued that one cause of the recession was Belaúnde’s commitment to building La Marginal. Horna, “South America’s Marginal Highway,” 416.} the government was having problems meeting its monthly payments. And because the structuring of the contract stipulated that AID would only pay out after Public Works had met its
obligations, AID began withholding payments. That, in turn, sparked threats from Morrison Knudsen to pull personnel from the project.378

4.1: Morrison Knudsen and Brown & Root Visually Conspire

Around mid-1968 a troubling convergence of multiple factors was pushing things to a head. The much-proclaimed greatest road project in the country's history was mired in serious problems. From early on, the contractor, Morrison Knudsen, wasn’t meeting its obligations, causing delays in the arrival of much-needed equipment, failing to allocate skilled personnel and adequate resources, and floundering in its responsibility to build according to established standards. By January 1967, following El Niño conditions in the Pacific, major landslides were wreaking havoc around the Tangarana Pass, threatening the lives of workers and racking up more than $2 million in slide removal costs. This triggered a flurry of studies as all interested parties sought to assign blame. Indeed, between May 1967 and August 1969, Brown & Root, Public Works and AID together commissioned 13 different reports, many pointing to both skimpy design and shoddy construction as the main culprits. But one inspection in particular highlighted how politics permeated arbitrations over which knowledge sets would be lasting and which would subside. For while most of the reports commissioned drew from the kind of specialized scientific knowledge that was embodied in the aerial surveys and climate and soil studies that gave the road its context and justified its existence, the one inspection that would provide findings with a lasting and conclusive impact was rooted in political expediency.

As a Public Works’ hired consultant and a partner with MK in various joint ventures associated with the war in Vietnam, Brown & Root was a company in a clear conflict of interest. Their compromise on design standards and re-working of estimates during the early bidding period served to accommodate Public Works’ anaemic budget, but slimmed MK’s margins. And for most of 1967 and 1968 their position backed Public Works by maintaining that MK should bear the $2.2 million cost of landslides. But in the first week of September 1968, they bent to pressure from MK’s Vice President, Bert Perkins, and reversed their stand on compensation.379

The contract that Public Works signed with Morrison Knudsen allowed for some minimal slide removal, but the problems along the Tangarana Pass quickly burnt through that modest allowance and the issue became one of responsibility. If the slides could be pegged to poor workmanship, MK would have had to bear the cost. Conversely, if the cause were linked to poor design, which Public Works had commissioned and signed off on, or if it was determined that the region’s geology was simply prone to slide and no design could entirely rule out that possibility, then slide removal would come out of Peruvian coffers. In the day-to-day, month-to-month operations, the arbiter of such a weighted question was Brown & Root’s resident engineer, for he was the one reviewing and approving MK’s monthly invoices before passing them on to Public Works for payment. In the early days of the build, that position belonged to Bert Donelson, an unscrupulous opportunist

who was eventually fired in 1971 after defrauding Public Works, but in 1967, at the same time the slide issue was emerging, Donelson was promoted to regional engineer and his assistant, Charles Pettis, stepped in as resident engineer. In his new role, Pettis regularly denied MK’s attempts to fold slide removal into their invoices, but in early September 1968 high-level representatives of MK and Brown & Root met in Tarapoto—without Pettis and without anyone from Public Works—and Brown & Root reversed Pettis’ decision. The meeting included a trip up the Tangarana accompanied by a B&R geologist to conduct a visual inspection of the slides. Pettis’ assistant—who kept a record of the trip—called it a “traveling circus” that was completely unnecessary. The so-called inspection mostly happened from a moving vehicle and no one took samples of any sort.380 Yet that inspection, and the meeting it was part of, served as the basis of Brown & Root’s decision to include charges for slide removal in the September estimate. Of all the investigations made into the problem of landslides on this build, this inspection is the most significant not just because it solidified B&R’s change of position, but because it also marked a general shift in the tone of subsequent studies away from questioning construction practices toward a kind of resignation to the region’s difficult geologic and geographical circumstances.381 Indeed, most of the studies that attributed slides to design flaws, or chalked them up as unavoidable, were made after September 1968, and these are the causes that have resonated in the region’s collective memory up until today. With millions of dollars on the line, it proved easier to blame nature than the foreign firms who only a few years earlier were touted as bringing

381 For a summary of the reports investigating slides, see: Ibid., 18–20.
progress, development, and machines to a backward part of the world. And today the notion that geology was the main culprit—not overzealous builders—still persists. For instance, Walter Miranda, the equipment and inventory specialist come photographer introduced in Chapter Two, described the section of roadbed near La Huarpia that buckled in March, 1969, as a problem area with no solution; it was not the unfortunate result of poor construction, but simply an adverse consequence of the underlying geology, (Figures 4.1, 4.1a and 4.2b). What gave this theory weight, then, could not have been the soundness of the science behind it—as was the case in justifying the build at the outset—for the linchpin inspection was less than scientific to be sure. The possibility of failure had been “bracketed out”—to use another of James Scott’s phrases—to such a degree that even when the prevailing science wasn’t practiced, when surveys were scant, when core borings were never taken, when compaction was not measured, those moderns whose presence was predicated on the specialized science only they could conduct were vindicated through political means. Because the tendency to blame nature could exonerate the builders, the designers, the financiers and—to a lesser extent—the government that brought them all to the region, it was the most expedient explanation for the slides, even when empiricism challenged it; as a kind of knowledge, the visual inspection made from the window of a moving vehicle was legitimated by its place in politics.

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382 Recall that when Morrison Knudsen’s fleet of heavy machinery finished the 2,500-mile trek up the Amazon and arrived at the port of Yurimaguas in March, 1966, they were met with great fanfare and hyperbole. Indeed the event became a massive spectacle in which the machines were viewed with amazement. The Minister of Development and Public Works framed the machines within a larger process of regional transformation, claiming “Éstas son las armas para la revolución que se está operando en la Selva (these are the weapons for the revolution being carried out in the jungle).” Sin autor, “Armas para la liberación de la selva”; Also see: No author, “Highway 146 Miles Through Peru Jungle”; Belaúnde Terry, La Carretera Marginal de la Selva. Also See Chapter Two.
not for its empirical rigour. As an inspection that acquitted MK under the guise of blaming geology it gave cover for B&R to backpedal on Pettis' firm support of Public Works, a starkly political manoeuvre evinced in the multiple estimates B&R prepared for Public Works in September.

A consular report prepared by the U.S. Mission in Peru for the GAO told the sordid story of estimate jockeying that ultimately postponed the Tarapoto-Río Nieva's completion by almost a decade. Trying to find the contractual means to stick Public Works with the slide removal costs, Brown & Root produced three separate and conflicting September estimates. MK and Brown & Root agreed to include 1.3 million cubic tonnes of earth removal—or nearly $2.2 million of work—in MK's September bill to Public Works after the convivial bargain they struck in Tarapoto. Pettis, however, was convinced MK should pay for the slides, and refused to put the earth removal in his estimate. Instead, he took his invoice—sans slide removal costs—straight to Public Works' coordinator in Tarapoto. The process was surreal in fact; Public Works was looking at an invoice that made them happy, while MK had another invoice—$2.2 million steeper—that reflected their view of the situation. Yet both sides had to sign off on each other's version. The Roads Coordinator couldn't object to the invoice Pettis prepared, but MK refused to sign anything that wouldn't include remunerations for their unanticipated work. From Brown & Root's perspective, facing pressure from their partner in a number of lucrative Vietnam War contracts, the easiest way to break the logjam was to remove Pettis, which they did in December. Bert Donelson, as B&R's regional engineer on the project, then drafted a new, MK-friendly estimate that included the overruns for slide removal.
and sparked the ire of the Roads Coordinator, who now refused to sign off. According to the U.S. Mission's report, MK and Brown & Root then devised a plan to circumvent the Roads Coordinator altogether and dispatched a team directly to the ministry in Lima; somewhere along the way and questioning the legality of their new estimate, they composed a third estimate, this time classifying the earth removal as “additional excavation”, and moving into a contractual grey area in the process.383

To deepen the ambiguity surrounding slide removal, Donelson confirmed in a letter to his Lima manager that the quantities stated in his final estimate came straight from MK and had not been corroborated by B&R's technical staff, or by anyone from the Roads Department.384 This fact, when combined with the on-the-fly inspection used to justify B&R’s reversal, and the confirmed consultation and suspected collusion between MK and B&R as of the early September meeting, did not bode well for the foreign contractors on the Tarapoto-Río Nieva build. But more than the half-hearted AID investigations into these matters, events in Lima and Washington were conspiring to reduce this project to yet another jungle quagmire and a black mark on MK's corporate record.

As Donelson et al dithered in search of a legal means to get MK paid, they couldn’t have known how events would come to complicate their relationship with Public Works and the rest of the government. By the time Donelson came up with a

384 Ibid., 26–27; The letter, which accompanied Donelson's final estimate was personal correspondence allegedly acquired by a Peruvian employee of B&R in Lima. GAO received a copy of it from Senator William Proxmire’s office, who in turn got it from Pettis. For details see the chapter about Pettis in Nader, Petkas, and Blackwell, Whistle Blowing.
third estimate the Peruvian political landscape was radically altered by the October 3 coup that ousted Belaúnde. Belaúnde's own weak congressional coalition had crumbled and a public scandal surrounding the infamously disappeared eleventh page of a settlement with the International Petroleum Company (IPC) over disputed tax payments on their fields of the North Coast sent his already waning support plummeting.  

The debt-fuelled development model of the Belaúnde years had also taken its toll, boosting the trade imbalance from eight to eighteen percent of GNP during his administration and shaking confidence after the U.S. withheld or delayed payments in retaliation for his zealous enforcement of a 200-mile maritime boundary and lack of movement on the IPC negotiations. When the self-anointed Revolutionary Government of the Armed Forces (GRFA) took power, it represented the country's first full embrace of the Import Substitution Investment (ISI) economic policies advocated by the fiercely regionalist Economic Commission on Latin America; its chosen president, Juan Velasco Alvarado, took a hard line on what many saw as exploitation from the lender-industrial complex eventually known as the Washington Consensus. To demonstrate that his government was no hostage to North American companies backed by the economic clout of lending agencies and the political clout of the State Department, the Velasco regime swiftly expropriated the IPC oil fields of La Brea and Pariñas and took the allegations of poor workmanship, fraud and collusion on the Tarapoto-Río Nieva seriously. In May,

386 Klarén, Peru, 334; Horna, “South America’s Marginal Highway,” 417.
387 Contreras and Cueto, Historia del Perú contemporáneo, 324.
1969, Public Works—now renamed the Ministry of Transport and Communication (MTC)—formed a Special Ministerial Commission to investigate the ballooning collection of claims and counter claims revolving around the slide issue. Around the same time, loan payments halted as part of the general freeze in EXIMBANK financing that followed the IPC expropriation, drastically scaling back construction progress on the build. By August, the commission had come out with two reports that targeted both MK and Brown & Root and the GRFA filed charges against both firms in the Peruvian Superior Court.

Morrison Knudsen continued on a limited forced account through most of 1969, but finally withdrew from the Tarapoto-Río Nieva build in February 1970, when the MTC absorbed the firm’s assets and employees and continued work on the project using a drastically cut budget. Meanwhile, Charles Pettis was seeking recourse for what he saw as false claims and breech of contract.

Were it not in large part for the personal story of Charles Pettis, the story of the Tarapoto-Río Nieva build would look a lot more like boosters hoped it would. As I addressed in Chapters One and Two, and will return to in the next chapter, press reports and booster lit framed this, the most substantial part of La Marginal, in the context of jungle conquest and modernization; it was a story full of heroic machines and the men with the vision to lead them into a hostile, virgin territory. As I argued in Chapter Three, this modernization fable is complicated by feasibility studies that relied on life zone ecology and aerial survey, but only by what they omit; they made a region legible by externalizing hindering complexities. Because of shifts in the U.S. political landscape and because of the way Pettis’s experience in Peru figured in
them, however, another narrative layer to the story of road colonization emerges. In Washington, D.C., Ralph Nader and Senator William Proxmire were spearheading a movement to vindicate corporate whistle blowers just as Pettis’s confrontation with MK and B&R reached its zenith. Proxmire was especially fixated on revealing corporate misdeeds in Vietnam, so he had a natural interest in anything involving U.S. contractors there. Nader, for his part, was instrumental in putting together the Feb., 1971, Conference on Professional Responsibility, which afforded whistle blowers a national forum and foregrounded the nascent concept of corporate responsibility. Though Pettis didn’t attend, the conference is where his story became interlaced with a broader anti-corporate crusade. Through Nader and the conference organizers, Pettis’s lawyer was connected to Senator Proxmire’s office, where the allegations of shoddy work, bad design, collusion (as well as charges against Donelson of comingling funds and fraud) were elevated to matters of state. Proxmire then enlisted his friend, Comptroller General of the U.S., Elmer Staats, to have the General Accounting Office investigate the slide issue in Peru, eventually coming up with a report that exposed the problematic underside of La Marginal boosterism. Meanwhile, details of Pettis’s story were summarized and released along with the published proceedings of the Conference on Professional Responsibility.

The proceedings, colloquially called the Nader Report, presented Pettis as though he had had misgivings about the Tarapoto-Río Nieva project design from the

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388 For Proxmire’s account of how he came to represent Pettis’s interests, see: William Proxmire, *Uncle Sam—The Last of the Bigtime Spenders* (New York, Simon and Schuster, 1972), 90–91.
beginning and that, despite his concerns about carving huge cuts into notoriously unstable terrain without proper geological surveys to rely on, construction had gone ahead anyway. This portrayal of course allowed for some factual slippage. For one, when Pettis arrived in February 1966 he was assistant resident engineer and only became resident engineer sometime in 1967. His opinions about the road’s design would therefore have had little purchase on halting the build. Also, the deepest cuts on the road were not 300-feet-deep, like the report’s profile of Pettis claimed, but closer to 120-feet-deep. The meeting between MK and B&R took place in September—not February—1968, though it was instrumental in B&R changing their position on repayment of slide removal. Bert Donelson did not replace Pettis as resident engineer. He was the first resident engineer on the build and, moving to regional engineer in 1967, was Pettis’s superior. But to write off this profile based on allegiance to the factual would overlook its underlying value, that of giving a human face to the accusations the GAO was investigating by weaving a classic narrative that pitted the little man against a seemingly untouchable corporate giant.

Pettis’s allegations hit both Morrison Knudsen and his own employer, Brown & Root. And the story crafted from his allegations fused both companies into a Goliath-like adversary. Though his early refusals to rubber stamp MK’s invoices were backed by B&R, Pettis alleged that everything changed in the infamous September meeting, when MK’s new president, Bert Perkins, leveraged the business relationship between the two firms to get paid for slide removal: “[he] said he bid
the job low because of prior association with Brown & Root all over the world-and because they expected to get a break”.

Full of business guile, Bert Perkins was the ideal spokesperson for corporate greed. He managed to maneuver his way into MK’s corporate ranks through what *Fortune Magazine* called his “lusty aggressiveness” leading their projects in Vietnam. A former Marine Corps pilot with 21 years at the company, and a relation by marriage of the company’s aging president, Jack Bonny, Perkins was a rising star when Bonny was facing pressure to move into the largely emeritus position of company chairman. In 1969 the switch was made, though Perkins swiftly dismissed Bonny and absorbed the chairmanship into his own new role as president. In part because of the troubles in Peru, Perkins’s first year as president saw MK’s earnings fall by half and in 1970 he presided over the company’s first out-of-pocket loss since 1937, two milestones that reinforced the gravity of their dealings with B&R and Public Works in Tarapoto.

In opposition to this conniving corporate gladiator, who fired his own relative after already winning the presidency, only to lose company money like never before, the Nader Report painted Pettis as a lone pillar of morality, standing firm in his assertion that Public Works should not have to pay for mistakes that were the responsibility of Morrison-Knudsen:

Frantic, Brown and Root offered Pettis his pick of jobs anywhere in Latin America if he would cooperate. At the same time, other subtle pressures were applied. The American consul in Lima gave him a temporary passport

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and tried to pass it off as a bureaucratic error. Contractors’ children threw eggs at his children and refused to associate with them. More and more isolated, without any support but his own convictions, Pettis stuck to his position. In December 1968, he was fired.391

Journalist Taylor Branch first sketched this image in a profile of whistle blowers for the May 1971 issue of *Washington Monthly*. Both Branch and the Nader Report were sympathetic to Pettis’s belief that his duty was to Public Works first and foremost, though Pettis’s lawyer acknowledged that Brown & Root believed his first “duty was to the Brown and Root ‘team’ rather than to the Peruvian government ... ”.392 And both sources contextualized Pettis’s story by situating his profile within a mosaic of corporate whistle-blower profiles that communicated the sense of a growing movement, a message championed by the Conference on Professional Responsibility and steeped in Nader’s anti-corporate political agenda.

That Pettis’s perspective on a remote jungle road project was appropriated and folded into a broader political agenda is clear, and it demonstrates the fluidity of truth and the expediency of science in modernity’s epistemological bases. But without doubt the most troubling aspect of the political tack taken with Pettis’s story is its relationship to death. In Branch’s effort to lionize Pettis, he framed the

391 Nader, Petkas, and Blackwell, *Whistle Blowing*, 137; According to the GAO’s investigation, the U.S. Mission in Peru had withheld Pettis’s passport application and issued a restricted passport, because of confusion about whether Pettis had taken an oath pledging allegiance to the Government of Peru. Consular officials mistakenly presumed he had done so because his employer, Brown & Root was under contract with the GOP. State Department records indicated that by September, 1969, (after Pettis was fired and had left Peru) the mistake was fixed and he was issued an unrestricted passport. See: Comptroller General of the United States, “Allegations of Mismanagement,” 52–53.

392 From correspondence between Pettis and his lawyer quoted in Nader, Petkas, and Blackwell, *Whistle Blowing*, 137.
slide issue by tying it to the deaths of thirty-one men, a claim that was then picked up and echoed through every subsequent portrayal of Pettis the crusader. Yet in these portrayals, the faces of the men who died remained unknown. How they died warranted not a single line. It is not even clear that they did die, for Branch gave no evidence and no subsequent sources bothered to fact-check his claim. In fact, evidence suggests that the accident rate on the build was abnormally high. And when AID representatives did a site inspection in early 1967, Donelson mentioned one of his laboratory technicians was killed while conducting a compaction study. But the other thirty deaths remain unaccounted for. For Branch, they were a parenthesis used to bolster outrage. For those investigating Pettis’s claims—or defending against them—they warranted no attention whatsoever, instead the GAO report limited the scope of inquiry to interpreting contracts and synthesizing studies. Their relation to death therefore reads as even more callous. Yet much like the ambivalent resignation to the area’s geology that came from B&R’s “traveling circus” inspection, and despite the anonymity of the deceased, mortality on the road build seeped into the area’s collective imaginary. Traveling around San Martín and introducing myself as someone interested in the history of La Marginal, those were


the two most common themes I encountered as I spoke to construction workers, journalists, local entrepreneurs, bureaucrats and politicians; mere mention of Conselva often received a requisite nod to landslides and loss of life, though the rumours still etched in collective memory today are as depersonalized as those marshalled to make Pettis a martyr. To echo Richard White’s chilling vignette of the Grand Coulee Dam, the deaths were just more grist for the Tarapoto-Río Nieva’s statistical mill: 18 million cubic yards of earth moved, 14,000 tonnes of equipment, 940 steel culverts, 22 bridges, and 31 dead.\(^{395}\) Though leveraged in political fights abroad, these tragedies proved little more than another testament to the anonymity of life and death in megadevelopment.

As a matter of fact, even Charles Pettis would have languished in anonymity were it not for happenstance. His personal contact with this megaproject was only made relevant as it figured into larger political stand-offs; his allegations gave clout to a Peruvian government trying to substantiate its anti-imperialist credentials and his plight put a human face on the generalized anti-corporate sketches perpetuated by crusaders like Ralph Nader. But rather than a story of triumph over corporate overreach, Pettis’s story—and the story of the Tarapoto-Río Nieva in general—is one that ambiguously fizzles out, with no side emerging as a clear victor and everyone loosing something. Pettis, for his part, sought redress in the U.S. courts only to lose at trial and have his appeal dismissed on a technicality. After the brief

\(^{395}\) Talking about another megaproject in which Morrison Knudsen had a hand, the Grand Coulee Dam, White said: “The deaths were just more grist for the Grand Coulee’s statistical mill: 22 million yards of earth excavated, 127 miles of steel piling in the west cofferdam alone, 10.5 million board feet of heavy timbers for the cofferdam cribs, and 77 dead.” White, *The Organic Machine*, 63; The statistics come from: No author, “Highway 146 Miles Through Peru Jungle.”
and limited notoriety he could garner thanks to the Nader Report and the GAO’s investigation, his plight was reduced to a few scant paragraphs repeated time and again in business-ethics textbooks; the evidence he exposed was all but forgotten after a few years, though the Donelson letter he leaked to Senator Proxmire (which revealed Brown & Root’s manipulation of estimates) aggravated already tense relations, and his airing of Donelson’s misdeeds bolstered Public Works’ civil proceedings against the two firms. In Tarapoto before the build began, Donelson struck a deal with MK’s Project Manager, H. D. Gard, in which Gard paid Donelson—using contract funds—for the daily meals of B&R employees. In exchange, Donelson relieved MK of feeding his people and for all intents and purposes made himself a food subcontractor. By doing this, Donelson received close to $212,000 according to the GAO’s estimate. MK was then billing Public Works for Donelson’s supposed food expenses. Taking the six dollars per day per man allotted in the AID contract and giving out one dollar per day to his employees, Donelson would have netted a substantial sum, though the exact amount is uncertain because most of the food expenditures, both legitimate and not, were never recorded. What was recorded were the $1,250 in wedding costs that Donelson paid with the profits he reaped from the food fund, as well as stereo equipment, furniture and tools used in the construction of what the GAO called “the only luxurious residence in Tarapoto”,396 his personal lodgings sited in Morrison Knudsen’s Fordlandia-like, American-style town carved from the jungle on the western edge of Tarapoto.

396 Comptroller General of the United States, “Allegations of Mismanagement,” 47. For complete discussion of the food scandal and house construction see pages 41-50.
It’s hard to imagine that the figure of Bert Donelson didn’t significantly polarize the growing conflict between Peru and its foreign contractors. Directly implicated in the September estimate fiasco, and siphoning funds into his own personal projects, he was a lightning rod for the ire of anyone opposing the modernization model required by international lenders. And there is poetic justice in that his house—along with the rest of MK’s jungle cantonment, including its thirty two- and three-bedroom houses, five barracks, school, hospital, shops and office complex—became the home of everyday MTC employees after MK’s assets were seized in 1970. To be sure, his unscrupulousness only further tarnished Brown & Root’s image in the eyes of Peruvians, the GAO and the American public. But although men like him and Bert Perkins made for easy enemies and bolstered antagonism, that their companies had to pull out of the Tarapoto-Río Nieva build was hardly a victory for the newly empowered Velasco regime. By 1971, the time originally envisioned for its completion, the foreign contractors had barely built 104 of the planned 238-kilometer road. And though MTC expropriated their aging equipment and the housing and auxiliary infrastructure they installed outside Tarapoto and Moyobamba, as well as hiring the skilled workers they trained, the ministry was left dramatically underfunded after AID and EXIMBANK stopped disbursements in early 1969. The lack of funds slowed construction to a snail’s pace through the tricky bogs around Moyobamba and the near 1,500-metre climb farther west over the most challenging part: the Pardo de Miguel Pass.

Nor did nature let up. Swelling under heavy rains in March, 1969, the freshly laid base course near La Huarpia buckled in three places and the road’s shoulders
shrugged into ravines on either side (Figures 4.1, 4.1a and 4.1b). During the next rainy season, in January 1970, the Gera River about fifteen kilometers outside Moyobamba jumped its banks and not only washed out the road, but severely flooded the small neighbouring hamlet. (Figures 4.2 and 4.2a)

Facing harsh rains and stifled budgets, the freshly minted Ministry of Transport and Communications was floundering in the tradition of their foreign predecessors and for much the same reason: they were taking on too much work and had too little money and information with which to do it. Meanwhile, pundits from across the political spectrum chalked up the failure to connect Tarapoto to the coast as another chapter in a long history of the state’s neglect of San Martín.397 Nearly $10 million in loan disbursements were in limbo and MTC needed to get a hold of it before the Tarapoto-Río Nieva could be finished. So in February 1974, Peru and its lenders made a first pass at reconciliation, agreeing to halt all court proceedings between the government, Brown & Root and Morrison Knudsen.398 Based on that and another condition that MTC replace its sitting director of Roads, USAID released the funds in early 1975. The Roads Department could finally commit to carving a pioneer trail west from Moyobamba to the Nieva River, though it would only be fit for heavy equipment not regular traffic—a far cry from the two-lane asphalt highway that Brown & Root first put to bid in 1964. In May 1978 twenty-eight years after Arturo Solís Tovar and Juan Pardo de Miguel spied from the window of Pardo

de Miguel’s plane the critical mountain pass that would make it all possible, MTC reached the western terminus of the Tarapoto-Río Nieva, for once connecting San Martín with the Pomacochas road, Bagua and the coastal Pan-American highway beyond. Now, the terminus, situated where the departments of San Martín and Amazonas met, just over the Pardo de Miguel Pass and on the banks of the Río Nieva, was renamed Venceremos: we will conquer.

4.2: Conclusion

Such a detailed unraveling of the controversy surrounding the Tarapoto-Río Nieva build demonstrates some failures that resulted when the myopic visions of schematic science were incorporated into the political economy of mid-century road building. But here I have also endeavoured to uncover some of the ways that the scientific invention of the Huallaga discussed in Chapter Three conditioned new relations to the land that dovetailed in problematic ways with the building effort waged on the ground.

Like aerial survey and the Life Zone System, road construction relied on its own disambiguation and reconfiguration of the land. Indeed, in the emphasis placed on cuts and fills rested another expression of a modern epistemology that reduced land to discrete constituent parts and then refashioned it into more convivial assemblages, though this time in the form of asphalt, gravel and lime-infused soils.

Conselva workers effected their own refashioning of the land in the form of blasting and digging, and filling and compaction. And in doing so they disrupted natural flows in order to establish new flows of traffic and commodities. Their intervention was afforded legitimacy based on the presumed accuracy of the modern sciences
used to plan the road, a legitimacy rooted in the procedures of circulating reference that constituted the scientific invention of the Huallaga Valley and its surroundings. But when things fell apart so too did the faith invested in science, and political expediency again prioritized the visual and the schematic, as when management from Morrison Knudsen and Brown & Root determined the cause of landslides based on a quick visual inspection in September 1968.

Again, much like the forms of development-era technoscience discussed in Chapter Three, place was also a serious conditioning factor in the particulars of road building. Because of the special challenges posed by the Cordillera Oriental, builders, planners and bureaucrats alike were forced to question the underlying assumptions that fuelled the greatest highway bidding—and building—in the country's history.
Part Three: Environmental Narratives of Road Colonialism

Chapter Five: Development’s Scripting of Internal Conquest

Imagine you are in a movie theater. On the screen is a close-up shot of trees that seem to dance in the wind. Visually, they are entirely decontextualized, but their undulations are synched to Bach’s *Sleepers Wake*. As they sway to the music the frame slowly widens and stark geometric shapes begin to enclose the dancing trees. Nature is now circumscribed within a constructed cityscape and a musical score. The camera moves farther back and the trappings of an apartment interior creep into the outer frame. The music is coming from a record player just under a windowsill. You’ve been watching the trees through the window of Mario and Delba’s affluent Lima apartment and it appears that they’re packing. Delba lights a cigarette, shuts off the record player, and puts the Bach record away.

“Do we sell the turntable, too”? Delba asks Mario.

“We’ll have to”.

“We’ll have no music”? Delba protests.

“There’s no electricity in the jungle, but we’ll see ...”.

The camera stalks as they deconstruct their urban domesticity room by room. Will they keep Mario’s yearbook? A sharp cut to a rapid series of photos from Mario’s adolescence, each punctuated by the ringing of a bell.

“No. Throw it away”.

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The tracking camera shifts perspective and you see a shot-counter-shot of Mario and Delba, extreme close-ups of Delba anxiously running her hand through her hair. She’s worried. Of course, she’s worried about raising their son, Rómulo, in the jungle. But she also questions whether they’re throwing away their past—tossing it like Mario’s yearbook—as though “none of it had any value”.

Another rapid montage—this time of the couple’s wedding photos—marks the transition into a flashback of their wedding night. In the flashback Delba nervously flicks the light switch as she stands before a mirror in her wedding dress. She’s been drinking and though she feels miserable, she wants to drink more. Mario, confident, playfully pokes fun at her and calls for a striptease. Delba, admittedly afraid to surrender her virginity, bashfully starts to undress in front of him. Her reluctance is palpable. She constantly fidgets: with the light, with her hands, her belly, her head. She’s afraid and his reassurances border on arrogance. She asks him to be patient—something Mario will hear time and again in his persistent struggle to secure land for the family in the jungle town of Tingo María. A series of extreme close-ups follow Mario’s hands as they trace Delba’s figure. Delba, yet again, brings up her shame, this time with her hands covering her eyes as though she refused to accept her own nudity: “I’m sorry, but all my life I’ve been a virgin and I don’t know how to do this”.

“It’s time you began to learn”, Mario says, taking control.

“Does it hurt a lot”?

“A little”.

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The close-ups stop and the frame cuts to the two newlyweds in full embrace. They state their love for one another and the frame freezes. Then, adding to the crescendo of temporal pastiche, a cut takes you straight from Mario and Delba’s bedroom to their burgeoning jungle plantation in the Huallaga Valley, where a long shot tracks Mario as he surveys his mature stand of banana trees. The binding of consummation and colonization is hard to miss.

This sequence, one of the more notable moments in Peruvian cinematic history, encompassed many of the aspirations, desires and tensions at work in mid-twentieth-century Peru and put them on display for Lima audiences using many of the tropes of modernist understandings of nature and culture. The film itself, Armando Robles Godoy’s La muralla verde (The Green Wall, Lima, 1969), put Peru on the cinematic map, receiving the Golden Hugo Award at the Chicago International Film Festival in 1970, but while its auteur style turned heads in the world of cinema, the values it codified reflected what was, by then, the reigning discourse on development and progress. Put simply, the sequence tied sexual conquest and the making of a family to forest domestication and resettlement in the Huallaga. Robles Godoy’s take on the project of jungle conquest was, however, tinged with biting critique.

La muralla verde is best known for its carnivalesque depiction of bureaucracy and when, as the plot reaches its zenith, son Rómulo dies because the doctors with access to his antidote have left to go see the president’s speech, we see Robles...
Godoy’s rebuke of the Peruvian state in clear, sombre, Technicolor melodrama. Probably because, after years spent toiling in the jungle himself, Robles Godoy had no love for the state’s methods, his film channelled, amplified and discredited the narrative components harnessed to promote Peru’s project of jungle colonization. When in the late 1940s the young Robles Godoy left an affluent life in Lima for a small homestead near Tingo María, he chose a trajectory that bucked most migratory trends. Yet in the decade he would spend there, and in the cinematic homage paid to that time in La muralla verde, Robles Godoy’s experience of the jungle would become a tragic synecdoche for the idyll of relocation to the rural eastern foothills that reached its pinnacle as part Belaúnde development.

That idyll fit into a broader narrative of national progress that operated based on the marshalling of gendered binaries to frame the widely varied space of the Amazon as a space to be penetrated, domesticated, and ultimately conquered in the name of capitalist monoculture and extraction. But though his film posed a strong rebuke of colonization policy, Robles Godoy could never have anticipated just how prescient his critique would be.

At the moment of Rómulo’s cinematic death, and when his casket is surrendered to the Huallaga River and his young parents return to their homestead and dismantle the modern comforts of their jungle domesticity, the tragic disjuncture between Mario and Delba’s modern, urban idea of a jungle utopia structured around the family and the reality of the colonial project in which they became enmeshed is on full display. Already at the time of the film’s release in 1969 the project of road

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colonization in the Huallaga was fraying at the edges in many ways. In this closing sequence of nearly twenty minutes—all devoid of dialogue—it is easy to miss the fact that the film’s final words come not from any of the protagonists, but from the figure who most embodied the façade and folly of the state’s effort to colonize the Amazon. Passing through to give a speech and leave, and while Rómulo, the symbolic encapsulation of Peru’s future progress, is on his death bed, the president proclaims: “They say that the jungle is the future of Peru. I don’t want to end my term as President without saying in all truth and justice, that the jungle is the present of Peru”.

Robles Godoy’s Mario character was an idealistic young Peruvian who bought into the idea that his country’s future was in the Amazon, and from the moment he bought in, he was repeatedly pitted against the state institutions that articulated and perpetuated that idea. Though fictional, his story was a poignant tale of what happened when development’s environmental imaginaries were inscribed into the landscape of the Huallaga.

In this chapter I look at the way that the Amazon was written into being through the project of road colonization. As I discussed in Chapter Three, building La Marginal depended on a virtual process by which science disambiguated Amazonian nature and fashioned new socio-ecological assemblages from its component parts. But while science offered up the tools for achieving such a herculean task in the form of Holdridge’s Life Zone System and the SAN’s photogrammetry, it did so in the service of a specific worldview, one unique to the Age of Development and the space

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of Cold-War Latin America. This was a worldview that comingled vestiges of Roman law with a Christian ecological ethos and capitalism, all in the defence of regional sovereignty claims. The story of La Marginal is a story about the materialization—quite literally—of this worldview, and colonization was its other face.

For the remaining chapters I will focus my energies on one specific area where road colonization enjoyed its broadest implementation: the Huallaga Valley, where planners hoped to access nearly 300,000 hectares of La Marginal’s total continental zone of influence of more than seven million hectares. Despite La Marginal’s continental designs—the Huallaga was the place where construction and colonization efforts were concentrated through the 1960s, before the Revolutionary Government of the Armed Forces replaced Belaúnde and his predilection for training Peruvians’ gaze on the Amazon. But the Huallaga was also a critical experimental space, one where development’s global designs and the Peruvian state’s domestic agendas were played out on the ground. One hundred and twenty-four years after the Liberator led his military campaign across the Pampa de Junín, another notable Bolívar—Spanish entomologist Cándido Bolívar—crossed the same plains destined for the Huallaga. His expedition in the dry season of 1948 focused global attention on the Huallaga and inadvertently entwined the valley’s future with the shifting international profile of post-war science. The Bolívar expedition was motivated by a Progressive-era urge to study and protect nature, but the body of knowledge that came out of it was better suited to a land ethic with roots in the American New Deal. At the dawn of the Age of Development, they set out with the goal of putting this little known valley under the microscope and came back with a
roadmap for how to colonize it. And in doing so Bolívar and his associates uncovered the peculiarly ambiguous modernity that characterized the pre-Marginal Huallaga and called for a coherent discourse to spur road construction and resettlement. The scientific invention of the Huallaga Valley was a critical component, but still only part of the broader scripting of this internal conquest.

In these remaining chapters I suggest that while land markets can be seen as the central structural order of the Huallaga’s conversion into a developmentalist emporium, the impetus for creating those markets rested in the articulation of a modern land ethic that was rooted in ecological, economic, gender and racial difference. By “articulation”, I refer not only to the material implementation of road colonization—the building of roads, clearing of land, planting of crops, etc.—all of which I recognize as the immediate and tangible causes of the Huallaga’s remaking. But I also suggest looking beyond the ecological ramifications of road construction, colonization, and capitalist agriculture to question the way the Huallaga was constructed as a discourse. Inscription, then, refers to a dual process of articulation, one in which internal colonization was given textual life as well as material and discursive lives. That is to say that road colonization was both written into existence and inscribed onto geological, social and political landscapes. As I argued in Part One, people involved in every aspect of the effort to colonize the mid-twentieth-century Huallaga enacted a drama that brought into being new, modern subjectivities and prioritized transformed, namely built, environments. In the following chapters I will show how those subjects and spaces fit into a narrative whereby the nuclear family was meant to bend an empty nature to its will for the
purposes of extracting fertility in the form of cash crops. This narrative left an indelible mark on the valley’s future social ecology.

5.1: “... that appealing and little known valley”

On a cold winter morning in Lima two trucks full of scientists left before dawn. It was July 9, 1948, and the expedition leader, Dr. Cándido Bolívar, insisted on a 6:00 a.m. departure. Their destination was the Huallaga River town of Tingo María and they had a lot of ground to cover. “The morning was cold and cloudy, but we passed into bright sunshine on arrival at Chosica”, remarked the expedition’s botanist, Ramón Ferreyra. Traveling with him were a diverse contingent of scholars brought together by the United Nations Education, Scientific and Cultural Organization (UNESCO) and the newly formed International Institute for the Hylean Amazon (IIHA): Bolívar, a leading Spanish Entimologist; Ferreyra, Director of Peru’s Museum of Natural History and a former student of the great Peruvian botanist, Augusto Weberbauer; Pedro Weiss, from Lima’s National University of San Marcos’ Faculty of Medicine; Edwin Doran, a U.C. Berkeley geographer working under the leading human geographer, Carl Sauer; and Ecuadorian anthropologist, Aníbal Buitrón. Loaded with equipment and having rendezvoused with the rest of their team at La Oroya, the Bolívar expedition crossed the vast high prairies of the Pampa de Junín to a small stream outside of Cerro de Pasco. There, at the source of the Huallaga River, the expedition went to work. In the next two and a half months, various teams set

out to compile a compendium of social, geographic and biological knowledge that would lay the foundation for the area’s colonization.

By Bolívar’s account, the expedition was beleaguered by logistical snafus from the outset. He arrived in January only to find that essential equipment hadn’t been secured and the Peruvian adherents to the mission had only just been appointed. Though facing instructions from UNESCO to depart for the Huallaga at the earliest opportunity, he remained in Lima for nearly six months, amassing all the equipment he could muster. By the beginning of July, with the team adequately equipped though still missing crucial implements like plankton nets and traps for worms and moles, Doran and Buitrón joined Bolívar, Ferreyra and Weiss in Lima. When the International Institute of the Hylean Amazon had been formed in Iquitos a year earlier its mission was to bring modern sciences to bear on the vast unknown territories of the Amazon and to identify the region’s potential. As its first priority, members agreed the Huallaga Valley represented a prime locale for exploration. And finally, after six months of hand holding in Lima, Cándido Bolívar could make that expedition happen.404

In 1948, transportation through the Huallaga merged the modern with the rudimentary and the expedition team utilized both to meet their needs. After an initial period of collaboration in Tingo María, during which balsa rafts were fashioned to take the men down river, the team separated into compact working

groups that covered strategic areas of the valley. Construction of the rafts drew the attention of botanist and anthropologist alike, though Ferreyra, the botanist, gave the most telling description:

In its construction only Ochroma boliviana Rowles [balsa] is used, a quick-growing tree common in the area, with jungle vines to lash the trunks. Neither hammer nor nails are required and the only tool necessary is a good machete.405

The raft used by Ferreyra and Bolívar consisted of some twenty-five eight-inch-diameter trunks between five and six meters in length, upon which rested a platform—called the “barbacoa”—that served to store and protect any cargo. Above the barbacoa was the tambo, a term generally reserved for any type of hut or other thatch-roofed structure, which sheltered passengers and cargo from sun and rain. Ferreyra identified every species used in fashioning their raft: caña brava and a tough liana called “tamschi” (Gynerium sagittatum and Carludovica sp., respectively) formed the barbacoa while the tambo consisted of shapaja (Scheelea cephalotes) fronds. Not even the oar wood was overlooked: “Ituchicaspi” (Roupala dielsii Macbride) for the shaft and “renaco” (Ficus sp.) for the paddle.406

While Ferreyra’s account “grounded” the expedition by revealing just how reliant they were on the valley’s resources for transport, Buitrón depicted raft travel in the most vivid colour. He and Doran, accompanied by a troupe of Peruvian

405 Ferreyra, “Expedition to the River Huallaga,” 7.
assistants, Jorge Chiriboga, Javier Arias, Abner Montalvo and Alfonso Trujillo, were on the first raft to leave Tingo María on July 19. For the first leg of their trip, the men drifted down river to Juanjúí, periodically stopping to visit the hamlets of Aucayacu, Puerto Huicte / Uchiza and Tocache. The float lasted a total of 17 days. Once in Juanjúí, the team set up a secondary base of operations and made a cursory trip to Saposoa by air. On August 14, they then resumed their balsa float of the Central Huallaga, drifting for 15 more days, to eventually reach Yurimaguas on August 29. It was along this second leg of their float, past the confluence of the Huallaga and Mayo rivers, where they encountered the worst of the river’s “nasty passages”: the rough series of rapids that has forever plagued Huallaga navigation. For two straight days, running one nasty passage after another, the team rehearsed the same redundant litany: prep, brace and recompose; prep, brace and recompose. On approach, the oarsmen dismantled the tambo roof and secured it with the cargo under tarpaulins fixed to the log platform by ropes. Then, oarsman and passenger alike tied himself to a sturdy cable anchored in the platform’s strongest member. “When they [had] finished these preparations, and had the usual drink of brandy, the oarsmen [were] ready to pass, or in their own words, to ‘mount’,” the rapids. They would position the raft along the path of least resistance, bring in the oars, and surrender to the river’s mercy.407

The passengers do the same as the oarsmen. The powerful current seizes the raft and drags it along violently. It tilts forward and plunges into the

water. It reappears on the top of a wave and again sinks and disappears. The high angry waves attack it on all sides. The raft passes between two tremendous rocks very close to each other. If the oarsmen have the misfortune to miscalculate the part of the current in which they wish to place it, and it is dragged against one of these rocks, the impact is inevitable, and it may be partially or totally destroyed.\textsuperscript{408}

The journey was harrowing, but exhilarating, too. The river offered excitement that bordered on fear when coupled with the oarsmen’s drinking, which they justified “under the pretext of ‘giving themselves courage’ and of ‘strengthening their vision’”.\textsuperscript{409} It also made transport unpredictable. Indeed, the Buitrón-Doran contingent lost hours at one point when their raft was drawn into a whirlpool, listlessly describing the same concentric circles over the water’s surface as the men scrambled fruitlessly to jostle it free. And their experiences, though particular, gave a sense of the commonalities of travel through the region.

In Buitrón’s dramatic account of running rapids, he conflated personal experience with the general condition of Huallaga transport. His use of the present tense (the current “seizes”, the raft “plunges” and “passes”) took his trip—which could have been more accurately depicted in the past tense—and represented it as a general occurrence, something quotidian, regardless of the presence and circumstance of a scientific expedition. But this masking of the anthropologist’s gaze only partially covered the reality of transport in the area.

\textsuperscript{408} Ibid., 3.
\textsuperscript{409} Ibid.
After descending these final nasty passages, where the Huallaga threads a narrow course between two final mountain ranges, things got dreary. As the river squeezes between the northwestern extreme of the Cordillera Azul and the easternmost reaches of the Cordillera Escalera, it seeps out into the flat Amazonian lowlands, properly marking the start of the Lower Huallaga. Contrary to his nuanced description of river heroics through the Central Huallaga, Buitrón limited his comments on travel through the Lower Huallaga to three lines: “The river runs slowly. The heat increases. Navigation becomes tedious and depressing”.410

After forty days on the river, Buitrón, Doran, their assistants and oarsmen reached Yurimaguas, where they established another base of operations. It was here that they experienced the full impact of aviation’s recent introduction into the valley. Part of Doran’s work included preparations for a future aerial survey of the central valley and while in Uchiza he made a series of flights to the chosen points for star sights.411 And once the team hit shore in Yurimaguas, air transport became their primary means of travel to Lamas and Tarapoto and back. For Doran “[t]he development of aviation in the Huallaga Valley [was] amazing”.412 In less than a decade’s time air travel had become second nature to many of the area’s inhabitants and both Doran and Buitrón marvelled at the nonchalance on boarding a plane exhibited by people who had never seen a train or a car.

410 Ibid., 4.
The central valley was dotted with fifteen airstrips of varied size and quality, often carved from the forest by the locals with zero government support. The larger population centers of Tingo María, Tarapoto and Yurimaguas boasted rather frequent connection with the coast on the Fawcett company’s DC3s, while two other operators—TAPSA and CAMSA—operated smaller planes with sporadic service to the rest of the valley. Though Doran was impressed with the ease of air travel, Buitrón remarked on the unpredictability of service, noting how one might see four or five planes in a day and then none for days thereafter. The economic viability of aviation also puzzled both observers. Doran commented on the inefficient—though necessary—use of air travel for cargo export, writing that such things as cement and anvils (impossible to ship by air where roads and railways existed) were common items on cargo planes. Buitrón, on the other hand, stressed how planes would “land anywhere to pick up a single passenger or a little freight. If the pilot [was] invited to a good lunch, the plane just [stayed] there until after the meal”.413

What made such extravagances possible was the lack of good ground transportation. All of the expedition’s members highlighted the treacherous nature of pioneer trails that crisscrossed the valley floor, which in heavy rains were hardly suitable even for pack animals. With the exception of the Lima-Pulcallpa highway that ran through Tingo María and crossed the very southern fringe of the Central Huallaga, roads were non-existent. Indeed, after leaving Tingo María, the expedition team only encountered two vehicles: both Jeeps, one used by the doctor in

413 Ibid., 20–22; Buitrón, “Ethnological Survey of the Valley of the Rio Huallaga, Peru,” 10; TAMS noted a similar incongruence when they conducted the preliminary study for La Marginal fifteen years later. Tippetts-Abbett-McCarthy-Stratton, Estudio preliminar, 190.
Yurimaguas to get to the hospital and the other run by an engineer in Tarapoto. In another example of the machine cult discussed earlier, Buitrón subjectified them both, talking about how the expedition members “met” each Jeep in their travels, as though encountering an admired old acquaintance.\footnote{Buitrón, “Ethnological Survey of the Valley of the Rio Huallaga, Peru,” 9.} For the men of science bringing modernity to the Huallaga, machines offered a comforting encounter that tethered them to the metropolises from whence they came. “It is indisputable that the aeroplane has made these woodland localities a part of civilization”, Buitrón proclaimed. But they also exposed an underlying competition over the type of modernity the Huallaga would see, a competition that underwrote the ambivalent positionality of many of the ecologists, biologists, social scientists and geographers that would help make the Huallaga a site of modern development.

The situation encountered by the Bolívar expedition in 1948 confounded the binary logic that pitted tradition against modernity. For one, the introduction of aviation to the region, the most modern of all transport, slowed the push for other modes of modern transport like road building by quenching people’s relatively small need for freight service and regional travel. Moreover, the travel options on offer meant that the same person could walk off a rudimentary craft, cobbled together from elements of forest with little more technological aid than that of a machete, and walk onto a modern aircraft, as Edwin Doran often did. These technologies existed in a state of awkward symbiosis. In his detailed and loving description of the balsa raft, Ramón Ferreyra stressed that amongst the cargo sent down river by raft, one of the more common commodities was fuel for the valley’s
small aircraft. Conversely, though by a similar kind of interdependence, Buitrón and Doran noticed how boatmen—unable to float upstream—“return to their homes by plane”.415 At the same time, though the traditional and the modern existed in symbiosis at this early date in Huallaga development, the introduction of air travel also effected a class-based segregation of transport. While the trip down river called for strength, courage and occasionally drunkenness, the trip by air was available to anyone with the economic stature to compete against anvils and cement for precious space on a plane. While manliness could get you downriver, only money could get you on a DC3.

Such ambiguity not only characterized the way the men moved through the valley, but their reason for being there, too. Though mostly descriptive, the expedition reports gushed about the Huallaga’s untouched land base and speculated on the great potential for future colonization. They used virginity as a framework for depicting the forests they encountered and but for Ferreyra, they all concluded that, with the proper planning and infrastructure, the valley could easily support new agricultural settlements. For his part, Ferreyra wouldn’t even go that far, instead advocating that the upper reaches of the valley, outside Chinchao, be designated a national park, lest the lush and beautiful vegetation be “doomed to destruction at the hands of the agriculturalists”.416 The general conclusions of the other members, however, betrayed the expedition’s deeper purpose.


[T]he large unoccupied areas of the valley offer a very good opportunity for future colonization of the valley. The single major obstacle is lack of road transportation. There is no great difficulty in imagining that after this problem is solved, the valley may become one of the future great productive areas of Peru.417

Were the area to be colonized, the need for roads was apparent, and once met, agriculture would flourish. Bolívar himself guessed that the valley could accommodate from one million to one and a half million new inhabitants if a proper road system—following the river’s course north to south—were built.418 Yet after just three brief paragraphs about the potential for colonization, he dedicated two pages to the myriad threats already facing the valley’s flora and fauna and proposed measures for their protection. Of particular urgency was the deforestation of “virgin” forests encountered throughout their journey. Bolívar reported that the banks of the Huallaga and its major tributaries were already secondary and sometimes tertiary forests and—most alarming—once in the air, the god’s-eye view from above revealed large and frequent incursions into the primeval forests below. Much of what he saw he attributed to timber extraction conducted under the guise of opening land for agricultural use; agriculture itself was hardly the culprit. Indeed, he never tied population pressure to deforestation, instead urging that colonization be managed so as to avoid its being coopted by timber interests. Of the four UNESCO-designated expedition members, Doran was the most enthusiastic about

the area’s suitability for colonization, specifically connecting his work to the Malthusian thesis, while Ferreyra was the only one to explicitly warn against the ecological impacts of increasing the number of agricultural settlements.419

When the Bolívar expedition set out, its sponsoring agency, the IIHA, was already a stillborn casualty of the postwar reconfiguration of global science. UNESCO was experiencing internal convulsions over the direction science ought to go while at the same time embroiled in international disputes over its uses. On the one hand, there was a push to “internationalize” science by disseminating U.S. and European scientific know-how around the globe through increased cooperation, but this inevitably politicized outcomes within the burgeoning geo-strategic matrix of the Cold War. On the other hand, the increasing visibility of science’s political implications forced a wedge between the idea of doing “science for science’s sake” and the spectre of more outcome-oriented, “applied” sciences geared toward improving the human condition. Even before its inception, the IIHA was torn by these competing agendas.420

The Institute itself was the work of Brazil’s UNESCO representative, Paulo Estevão de Berredo Carneiro, to universalize science under a global governing body. As with other forms of international cooperation, UNESCO’s scientific vision placed primacy on economic development, favouring the so-called “applied” sciences for

420 For a detailed discussion of the postwar transition and its impact on science, see Escobar, Encountering Development; Michael Adas, Dominance by Design: Technological Imperatives and America’s Civilizing Mission (Cambridge, Mass: Belknap Press of Harvard University Press, 2006); Cullather, The Hungry World America’s Cold War Battle against Poverty in Asia; McVety, Enlightened Aid; For discussion of the competing science agenda’s that bared down on the IIHA, see Petitjean and Domingues, “International Science, Brazil and Diplomacy in Unesco (1946-1950).”
their emphasis on practical outcomes aimed at making policy. While this dovetailed with the general approach adopted by development agencies across the board, the concept of “universal” development that undergirded Carneiro’s—and his counterpart at UNESCO, British biochemist and head of the organization’s Natural Science’s Division, Joseph Needham’s—move to build a network of multi-disciplinary, Amazon-oriented scientists from across the region, caused friction in the quickly emerging cold-war context. While the Soviet Union had rejected UNESCO’s formation as an extension of U.S. imperialism, the United States challenged its development efforts by directing much of their own hemispheric aid through the Pan American Union’s nascent cooperation regime, which had its own scientific wing in the Inter-American Institute of Agricultural Sciences at Turrialba, Costa Rica. At the same time, Brazilian domestic politics threatened the IIHA’s multilateral underpinnings as nationalists railed against a perceived UNESCO imperialism.

Facing pushback from both global superpowers as well as blowhards in its home-country’s government, the IIHA had to serve some political ends if it were to survive as a regional scientific centre. This is perhaps the best explanation for the rather ambivalent embrace of colonization in the Bolívar expedition reports. None of the team members went as far as to advise against using the valley to resettle agricultural migrants—that would have to wait for Joseph Tosi’s sage premonitions

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421 Petitjean and Domingues, “International Science, Brazil and Diplomacy in Unesco (1946-1950),” 31, 39 For more on the IICA, see Chapter Three.
twelve years later. The reports depicted the valley as rich and waiting, with abundant fertile ground, a climate amenable to plants and people, a wealth of resources and a simple, backward population ready for modernization. But only Doran gave anything resembling more than a simple endorsement of the idea. As though to meet a contractual obligation, the men acquiesced to the prospect of making this place a future agricultural centre, but then went on to caution against doing so. Indeed, Bolívar, in the expedition’s lead report, advocated that colonization be accompanied by the formation of natural reserves to which human access would be restricted, a practice that would eventually be referred to as fortress conservation:

Though the introduction of roads is much to be desired for the economic progress of the valley, a source of extreme danger would then be the greed of certain people who utilize such facilities to destroy in a few years the work done by nature in thousands.

From this point of view the Huallaga is still fortunate in having few roads, but if in the interests of civilization it becomes necessary to open up new means of communication at an early date—and it is absolutely essential—the more valuable timber land will be in increasing danger and it will be essential to take resolute measure for its protection. In the view of the writer a large area of the Huallaga territory should be set aside now to be preserved untouched, as a Peruvian national park, or at least as a Huallaga biological reserve. Such a step would assist in introducing people to the notion that

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423 Tosi, Zonas de vida natural en el Perú, 210.
nature must be actively protected by man and preserved in its full beauty for this and future generations.

In due course such reserves would be available as untouched zones wherein the biologists of Peru or other nations ... could carry out research or experiment.424

If the coexistence of balsa rafts with Douglas DC3 prop planes hinted at an ambiguous modernity that characterized the Huallaga in 1948, then Cándido Bolívar's tacit embrace of colonization pointed to two discrete ideas of how to further modernize the valley. Both visions for the valley's future saw the control of nature as something under man's purview; neither challenged the Judeo-Christian ethos that made the Huallaga's riches part of a masculinized human dominion.425 Bolívar's recommendation that much of the valley be set aside as a national park, however, confounded the objectives of postwar science. His insistence that it “be actively protected by man” evoked the preservationist values of the Progressive-era United States by framing wilderness as a sublime space of leisurely retreat and transcendental repose, while at the same time anticipating the era of conservation biology in which wilderness became the exclusive domain of the modern

Yet these lofty concerns hardly resonated with the increasingly streamlined objectives of an ever more development-oriented scientific community. Lacking precise “deliverables” that would—in this case—fortify widespread colonization of the Peruvian Amazon, the Bolívar expedition became the IIHA’s first and last comprehensive, cross-disciplinary study of an Amazonian ecoregion. Too late for the era of preservation and too soon for the era of conservation biology, the International Institute of the Hylean Amazon fizzled out. In the coming decade, the Huallaga would be the object of a more programmatic brand of science with prescriptions rooted in another period from U.S. history: the New Deal.

The Bolívar expedition included some of the earliest surveys meant to assess the viability of future colonization in the Huallaga, but those would hardly be the last. During the 1950s and early 1960s a legion of ecologists, ethnographers, agronomists and surveyors studied the area, dispatched mainly under the auspices of the IICA and its in-country partner, the Inter-American Service for Agricultural

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Cooperation (SCIPA). As I discussed in Chapter Three, the IICA grew out of the early Cold War reconfiguration of geostrategic space by which U.S. technoscience was disseminated *mutatis mutandis* throughout the capitalist world. The agro-industrial responses to the Great Depression, coupled with the expansion of state support for higher education that characterized the U.S. ramp up to World War II, prepared a generation of specialists to spread American-style development across the globe. With them they carried a modernist land ethic that submitted nature to institutionalized science under the lofty auspices of improving the human condition, though in practice this scientific diaspora operated according to a Rostovian logic of Cold War foreign policy.\(^{427}\) Though hardly applied in monolithic fashion, and while certainly appropriated, altered and contested to varying degrees by individuals of all stripes, the institutional thrust of the development age’s diasporic technoscience did represent a uniform project to reshape tropical environs in the service of Man’s will, and this objective was disseminated through the rubric of hemispheric cooperation. With the example of the International Institute of the Hylean Amazon’s failure fresh in the minds of all who thought about the Huallaga, it was clear that any future study of the area would have to obey the outcome-oriented mandate of Pan American cooperation and justify its efforts with practical results. This meant science was redirected toward applied objectives with colonization in mind.

In the agricultural sciences this manifest as an obsession with increasing output through capital-intensive monoculture and improving distribution through infrastructure development, the two objectives that were meant to dovetail in road

\(^{427}\) See Adas, *Dominance by Design*, 2006.
Since 1950, the IICA and SCIPA had worked in conjunction with the Experimental Station in Tingo María to develop and promote commercially viable methods for growing cacao, African oil palm and other cash crops, in addition to concentrating on agro-friendly forestry. One prominent figure in these exchanges was Joseph Tosi, the IICA forester trained by Leslie Holdridge, who initiated much of the outreach that brought these institutions together. As a researcher, Tosi developed a nuanced understanding of the Huallaga’s varied ecology and—like his predecessors in the Bolívar expedition—lamented the progressive march of swidden agriculturalists into the wet montane forests of the Upper Huallaga near Chinchao. Evoking the area’s virginity, he suggested preserving the lands as a national park, though his expert counsel gleaned scant attention. In his analysis of the lowlands downriver where plans for what would eventually be La Marginal were being sketched, he again ran up against stifling intransigence. This time talking of the very wet subtropical forests that covered the hillsides flanking the river from near Tingo María north through Aucayacu, Tocache and Campanilla, he quipped:

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428 Summed up by Donald Worster as "simply good business-like farming, the New Deal revolution in agricultural sciences included a host of new or rediscovered methods and technologies such as contour plowing, hybridization, or innovations in heavy machinery. Though sometimes ecologically specific, and by no means immune to institutional power dynamics, the New Deal in the United States signified a synthesis of modern technology and “action in the fields”. I take this understanding from Donald Worster, Dust Bowl: The Southern Plains in the 1930s (New York: Oxford University Press, 1979) Especially Chapter Fourteen: “Make Two Blades of Grass Grow”; For an Amero-centric reading of New Deal agronomy’s transfer to the rest of the world, see Cullather, The Hungry World America’s Cold War Battle against Poverty in Asia Especially Chapter Two: “Mexico’s Way Out”.

429 By “agro-friendly” I include both timber extraction that dovetailed with later agriculture as well as concomitant forestry such as development of suitable species for windbreaks and other practices where forestry was used to serve agricultural expansion. Inter-American Institute of Agricultural Sciences, Annual Report of the Inter-American Institute of Agricultural Sciences for the Year 1950, 62; Inter-American Institute of Agricultural Sciences, Annual Report of the Inter-American Institute of Agricultural Sciences for the Year 1952, 140; Inter-American Institute of Agricultural Sciences, Informe Anual Del Instituto Interamericano de Ciencias Agrícolas de la O.E.A., 157, 174–76; Jorge Namuche Adrianzén, Historia de Tingo María (Lima, Perú: Alameda Perú, 1995), 79–81.
Unfortunately, a general tendency exists amongst all of those people, public employees, agricultural and other kinds of technicians charged with the development and colonization of the jungle region, to ignore or underestimate the obvious climatic, edaphic, topographic and biological deficiencies combined in this [natural] formation.\footnote{"Lamentablemente, existe una tendencia general entre todas aquellas personas, empleados públicos, técnicos agrícolas y particulares encargados del fomento y colonización de la región selvática, de ignorar o de despreciar las obvias deficiencias climáticas, edáficas, topográficas y biológicas reunidas en esta formación." Tosi, \textit{Zonas de vida natural en el Perú}, 195.}

Tosi counselled against bothering to bring these areas into production, yet he got nowhere as an expert ecologist and forester. In his institutional role at the IICA, however, the outreach he provided forged ties that would serve a less-informed, export-oriented agenda to convert the Huallaga into a patchwork of capital-intensive monocultures. In their analysis of Peru’s mid-century agrarian reforms, José Matos Mar and José Manuel Mejía tied jungle colonization to the failure of initial attempts to solve the country’s tricky agrarian problem. In Lima the political impetus was to avoid radical reform of the likes undertaken in Bolivia and Cuba during the 1950s by instead expanding the agricultural frontier. Specialists, planners, pundits and indeed Belaúnde himself all framed the land question according to a simple Malthusian equation by which the sparse availability of land expressed as a “man-land ratio” (around .21 hectares per person, according to most estimates) combined with a projected doubling of the population to produce “total hunger” by 1980.\footnote{Belaúnde Terry, \textit{La Carretera Marginal de la Selva}, 26, 40–41, 87; Peñaherrera del Águila, “Planes de colonización en la selva peruana en conexión con la carretera marginal,” 263. Most feasibility studies also featured this argument prominently in their introductions.} While alternatives to land acquisition existed (such as so-called
“Green Revolution” solutions for increasing agricultural productivity, improvements in distribution networks, or land redistribution), a 1960 Commission on Agrarian and Housing Reform (Comisión para la Reforma Agraria y la Vivienda, CRAV) chaired by conservative Prime Minister and long-time leader of coastal agricultural interests, Pedro Beltrán, advocated for large coastal reclamation projects, modernization of the agricultural sector, and coordinated colonization. At the same time that Tosi was promoting his freshly published ecological map of Peru in September 1960, the CRAV released its final report to scathing critiques of bourgeois complacency and the “capitalist liquidation” of communal tenure, but despite political impasse, Beltrán and then President Prado went ahead and implemented initial plans to colonize the Amazon. At least for the short term, Peruvian policy solutions to the “Malthusian moment” were focused on gaining access to more land, and ecologists, agronomists, planners and politicians all agreed to set their sights on the Huallaga River Valley. Right away plans went ahead on the La Morada colony located between Tocache and Uchiza, where the classist apprehensions of a Beltránian coastal agro-elite operated just under the surface of this project to relocate 85 families from the barriadas of Lima. At the same time, SCIPA was conducting a detailed assessment of the economic potential of the entire department of San Martín, which asked the specific question of how to induce larger-scale colonization in the valley. Now due in part to Tosi’s cataloguing of the


Huallaga’s ecological partitions and a more focused concentration on planned colonization, the writing of the Huallaga as a colonial space took on more nuance.

Tosi’s ecological Balkinization of the valley was swiftly morphing into a plan to draw socio-economic partitions between—and within—the Central and Upper Huallaga regions. Because of its relatively gentle topography and highly sought-after evapotranspiration rate, most of the Central Huallaga (the area roughly between Tarapoto and Campanilla comprised primarily of subtropical dry forests seen as highly amenable to agriculture) was in a category of its own, reserved for what would become a vast complex of large rice and cotton monocultures and Peru’s largest cattle ranching zone. Here forest products were extracted via river toward Iquitos or by air until completion of the Tarapoto-Río Nieva road opened coastal access. With proper road access, planners hoped to reach nearly 150,000 hectares of agriculturally apt land and identified another 3.4 million hectares of timberlands with exploitable potential. As top priority, this was the area where, as soon as Belaúnde took office, Cooperación Popular volunteers went immediately to work clearing pioneer trails and Public Works hastily arranged the bidding process that Conselva would eventually win.

Envisioning development along the Upper Huallaga (especially at its northern extreme, around Tocache) was more complicated, for it was spatialized along two distinct causeways: the Huallaga proper and the picturesque Biabo River Valley, a small tributary to the east. In their 1965 preliminary survey of La Marginal, Tippetts-Abbett-McCarthy-Stratton conducted a brief assessment of each possible

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434 Peñaherrera del Águila, “Planes de colonización en la selva peruana en conexión con la carretera marginal,” 268–69.
route and advised building through the Biabo, based on lower cost and the fact that the best soils in the area were concentrated in small pockets at each end of this route. Despite most of the route consisting of heavily forested, thin soils on bedrock, they projected that La Marginal’s incursion through this portion of the Huallaga could accommodate some 60,000 colonists.\footnote{Tippetts-Abbet-McCarthy-Stratton, \textit{Estudio preliminar}, 202–4.} Despite the cheaper option of building through the Biabo, however, the more difficult route along the Huallaga drew more attention.

Following the model set by SCIPA, its partner organization, the Inter-American Service for Cooperation in Development (\textit{Servicio Cooperativo Inter-Americano de Fomento}, SCIF) had already laid groundwork for the planned colonization of the Upper Huallaga in 1962. The SCIF’s study looked at nearly 290,000 hectares of wet tropical and very wet subtropical forests along the river between Tingo María and Tocache, and proposed bringing 97,097 of them into production through the importation of 11,260 families over twenty years. Spurring migration with the promise of generous credit and favourable interest rates, SCIF projected new colonists could exploit three general revenue streams. The study suggested almost two billion board feet of commercial lumber would be extracted while clearing acreage over the twenty-year course of the program. After timber extraction, SCIF advised dedicating cleared lands to a combination of commercial agriculture and cattle ranching, with just over thirty percent of lands given to the latter. The major cash crops recommended included rubber, industrial fibres, fruit trees, maize, rice and legumes. (Figures 5.1 and 5.2) At 10,000 hectares, the greatest single cash crop
recommended was banana, known for some time in the region and tied to the failure of earlier settlement when sigatoka and Panama disease tore through the area in the early 1950s. Notably, SCIF skewered another crop long tied to the region’s economic and political clout, coca, for the “harmful effects caused to those who consume it”.

Under Belaúnde, the National Office of Agrarian Reform (Oficina Nacional de Reforma Agraria, ONRA—pronounced “honra’, or honour) would undertake implementation of many SCIF recommendations and expand the reach north to Campanilla.

It is important to consider how planned colonization contemplated the Huallaga as a microcosm of Rostovian take off, positing its amenable ecology as the precondition for socio-economic advance. The development guru, Walt Rostow, had published his The Stages of Economic Growth: A Non-Communist Manifesto, not two years earlier. The text, which is generally touted as defining the canon of development-age literature, glossed global economic history in five main chapters, or stages, of progression in which human societies pass from traditional societies, through development to reach the ultimate stage, coined by Rostow as the age of high mass-consumption. Along this trajectory, societies were said to reach a point of so-called “take-off” characterized by “the achievement of rapid growth in a limited

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436 SCIF suggested segregating cleared lands as follows: rice: 5,000 ha; beans: 5,000 ha; peanut: 1,000 ha; maize: 6,000 ha; tabacco: 1,000 ha; banana: 10,000 ha; other fruits: 6,000 ha; industrial fibres: 5,000 ha; rubber: 7,000 ha; cacao: 4,000 ha; coffee: 2,500 ha Servicio Cooperativo Interamericano de Fomento, Evaluación e integración del potencial económico y social de la zona “Tingo Maria-Tocache,” Rio Huallaga. (Lima: Ministerio de Fomento y Obras Públicas, 1962), VII, 100-105; On the banana blights of the late 1940s and early 1950s, see Magdaleno C. Chira, Monografía de la Provincia de Leoncio Prado. (Lima: Compañía de Impresiones y Publicidad, 1959), 191, cited in Michael Nelson, The Development of Tropical Lands: Policy Issues in Latin America (New York: Routledge, 2013), 102; On the coca industry in the Department of Huánuco, see Paul Gootenberg, Andean Cocaine: The Making of a Global Drug (Chapel Hill: University of North Carolina Press, 2008).
group of sectors, where modern industrial techniques are applied”. For Rostow, the preconditions for take-off were rooted in the example of Europe since the Middle Ages, where the emergence of modern science converged with colonialism and market expansion to introduce complexity and accelerate economies. This structuralist—and Eurocentric—rewriting of global history proffered a simple story of progress that SCIPA, SCIF and the ONRA adapted to a place now generally conceived as being without history, thanks in large part to the enticing rhetoric of Belaúnde and his band of jungle boosters. To read the SCIF study’s conclusion—in which cash-crop-producing families were the impetus for expanding related sectors and triggering what was to be a more than ten-fold increase in the zone’s economic productivity over the course of the program—the Huallaga was a veritable blank slate for scripting economic take-off.437 The star sights laid by Edwin Doran for aerial survey proved an important first step in this erasure, as much of SCIF’s work began with the production of detailed contour maps based on SAN surveys, and in a strange justificatory dialectic, the field work done to test soils also served to “corroborate the effectiveness or precision of the maps elaborated with stereoscopic methods”.438 (Figures 5.3 and 5.4) Of course, the planned colonization spurred by the SCIF’s study started by rendering the land a blank slate in more than just a cartographic way: through tenurial shifts and active forestry the colonization was predicated on emptiness.

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438 “Esta fase, además de corroborar la efectividad o precisión de los mapas elaborados bajo métodos estereoscópicos, sirvió principalmente para recoger las distintas muestras tipos”. Servicio Cooperativo Interamericano de Fomento, Evaluación e integración del potencial económico y social de la zona “Tingo María-Tocache,” Río Huallaga., 3–4.
On May 2, 1964, two weeks before the Congress passed his agrarian reform law, Belaúnde issued a supreme decree halting all title applications and land transfers in the area of the eventual Tingo María-Tocache-Campanilla Colonization. This move set the stage for a wave of expropriations that affected much of the roughly 10,000 hectares already settled. Through 1964 and 1965, the ONRA seized properties considered under-exploited and combined them with 120,000 hectares of forestlands to form the project area. By 1966, the ONRA, with a fifteen-million-dollar International Development Bank loan in its pocket, began parcelling new plots and relocating some 4,250 families to the area.\(^{439}\) (Figure 5.5) Because the reigning anxiety of this Malthusian moment rested on the land’s perceived productivity, shifting property rights to benefit those seen as properly embodying the modern land ethic was considered acceptable. Misunderstanding the most common reasons for land disputes in the area as related to titling and not land use, SCIF presented planned colonization as one solution to the problem of so-called “invasions”, or squatting.\(^{440}\) Indeed, the primary objective of the Tingo María-Tocache-Campanilla Colonization was to incorporate land into regional markets both by legalizing title—thus presumably eliminating the confused conditions that encouraged squatters—and by making forests economically productive. Here, an important rhetorical shift changed the agents of colonization from individuals to families. While Cándido


\(^{440}\) SCIF perceived the problem of land invasions as one of economic speculation, though as I discuss in the next chapter, it was more tied to ideas about “proper” land use that they and their partner entities advocated. Servicio Cooperativo Interamericano de Fomento, *Evaluación e integración del potencial económico y social de la zona “Tingo María-Tocache,”* Río Huallaga, V.
Bolívar estimated the whole of the Huallaga could support a “population of between a million and a million and a half” and TAMS projected 60,000 “persons” could successfully settle the Biabo, plans for the Tingo María-Tocache-Campanilla Colonization counted colonists as “families”. The message embodied by such a colonial project, which expropriated “inadequately exploited” lands and gave them to properly constituted families, was clear: Peru’s future depended on instituting a patriarchal system of resident capitalist producers in the jungle. The ecological meaning of this “domestication” was also straightforward: untapped fertility necessitated clearing forests to impose agricultural and livestock monocultures.

The long decade beginning with the Bolívar expedition marked the scientific invention of the Huallaga with an underlying current that stressed its untapped potential. Alternately referred to as “unoccupied”, “empty”, “virgin” or “untouched”, the Huallaga was made by science into a place in waiting. In the first years following World War II, when the global scientific community was still unsure of how to reconfigure itself in the face of great convulsion, the Huallaga was imagined as a space of unending exploration and discovery, an apt domain for introducing civilization, but ultimately too grand merely to colonize. As the concentrated objectives tied to the Cold War hegemony of U.S. technoscience took hold through

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441 Both SCIPA and SCIF conceived of the familial unit as consisting of five people. SCIPA best articulated the planner’s predilection for families when identifying the Lamas Indians as well suited as colonists because of their “elevated concept of the familial nucleus”. Programa de Conservación de Suelos y Desarrollo de Tierras del SCIPA, “Evaluación de recursos de la selva,” 37–38, 42; Servicio Cooperativo Interamericano de Fomento, Evaluación e integración del potencial económico y social de la zona “Tingo María-Tocache,” Rio Huallaga., IV; Using fieldwork from the Tingo-Maria-Campanilla Colonization, Carlos Aramburú demonstrated that, in contrast to urban migration that tended to begin with individuals seeking job opportunities, colonial migrations tended to involve entire families. Sixty-six percent of colonists surveyed in 1973 said they migrated with their whole family because this helped them meet the labour requirements of establishing a homestead. Carlos Aramburú, “Las migraciones a las zonas de colonización en la selva peruana: perspectivas y avances,” Debates en Sociología, no. 4 (1979): 86.
the 1950’s, however, the ultimate ecological destiny reserved for the Huallaga was “domestication”: the wild jungle reordered in the service of a family unit forging its future by extracting soil nutrients in the form of cash crops. As the goals of science changed so too did the general colonial discourse on the Amazon. And though the Huallaga was partitioned by recourse to the nuances of the time’s reigning social and ecological methodologies, its discursive production as a colonial periphery rested on broad tropes of emptiness, sexual conquest and extraction that characterized development’s envisioning of the Amazon writ large. In the next two chapters I look at how these ideas were appropriated, assimilated and contested by different populations, but for the remainder of this chapter, I want to discuss how they were articulated by road colonization’s biggest advocate: Fernando Belaúnde Terry.

5.2: Colonization at the Margins: Belaúnde and the Jungle as Res Nullius

On the back cover of the 1959 edition of Peru’s Own Conquest, Belaúnde provided a concise indication of just what La Marginal meant in his plan for the modernization of Peru (Figure 5.6). It consisted of a red silhouette of the Peruvian national territory set against a green background. The only other elements depicted aside from national boundaries were rivers—the Manu and Madre de Dios to the south; the Ucayali toward the center; and the Huallaga, Ucayali and Amazon, in the north—and the planned route of La Marginal, represented by a thick, white line running vertically down the center of the national territory. The graphic codified La Marginal as the lifeblood of the nation for the highway resembled arteries that sustained a pulsing, red, heart-like Peru. Another interpretation repeated in
Belaúnde’s writings held La Marginal as the backbone sustaining an “invertebrate” high jungle.\footnote{Belaúnde Terry, Pueblo por pueblo, 20, 68.} By either reading, La Marginal was cast as the solution to the problems that haunted most observers of 1950s Peru: a growing crisis of food scarcity, concentrated land ownership, and economic balkanization. For, by 1960, Peru had one of the worst (hu)man-land ratios on the planet, at about .21 hectares of arable land per person. At the same time, most of that land was highly concentrated into the hands of a few ruling families. Indeed, in 1961 Peru’s Gini Index of land distribution was one of the most concentrated of fifty-four countries studied and nineteen percent of the national income was shared by one percent of the populace.\footnote{Deborah J Yashar, Contesting Citizenship in Latin America the Rise of Indigenous Movements and the Postliberal Challenge (Cambridge: Cambridge University Press, 2005), 230; Klarén, Peru, 323–24; A contemporary source, Peñaherrera, put the number at .25 hectares per person. Peñaherrera del Águila, “Planes de colonización en la selva peruana en conexión con la carretera marginal,” 263.} But there is another answer to these problems codified into the simple graphic. For La Marginal alone, although the country’s backbone, would not be possible without one other fundamental criterion being met: Peru would first have to bring Belaúnde’s Popular Action (Acción Popular, AP) party to power. Hence the national territory and La Marginal together made the AP party colors: red and white. But the back cover to Peru’s Own Conquest signified more than the changes to come with an AP Peru. With tie-ins to the region’s fluvial network, La Marginal and Popular Action promised regional economic integration under the rubric of capitalist extraction. Moreover, in response to apprehensions held by as widely and varied a population as to include L.R. Holdridge, the Ford Foundation, Limeño newspaper columnists and soon the Northern environmental movement, Belaúnde’s
promised road colonization was going to balance the (hu)man-land relationship, according to Belaúnde, by introducing more land into the national equation. “It’s not a simple question of redistributing what abounds but of amplifying what lacks”, he was said to have once proclaimed. As the statement made clear, the Belaúnde camp of Acción Popular saw the solution to Peru’s land question in more colonization and less reform at a time when various sectors of society were stirring for reform. This perhaps because, over much of the 1950s, efforts were made to open new agricultural lands through vast, over-engineered coastal reclamation projects that—while a boon for the entrenched agro-industrial elites like Pedro Beltrán—did little to improve the lot of the average Peruvian. The high cost of redirecting rivers and bolstering artificial reservoirs with fat concrete dams and miles of canals also posed a significant cost in the face of the relatively—at least anticipated—cost of jungle highway construction. Yet there was also an element of recovering the esteem of running an empire, albeit an internal one. As with the rhetorical underpinnings of popular cooperation, the Inca Empire loomed large in Belaúnde’s road discourse, first, because he acknowledged that most industrial success stories rested on colonial empires, but also, second, because of the laudable legacy of Inca engineering.

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444 “No se trata ... de una simple cuestión de redistribución de lo que abunda, sino de ampliación de lo que escasea”. Quoted in Peña Herrera del Águila, “Planes de colonización en la selva peruana en conexión con la carretera marginal,” 264; Beláunde brought international attention to La Marginal when he framed it in a similar way to the Washington Post, CBS and Reader’s Digest. In a comment to the Washington Post in April, 1966, he noted “Si nuestras reformas agrarias se limitan a repartir con un criterio de mayor justicia lo que ya de por sí es escaso e insuficiente, si ellas no abordan la gran tarea, no sólo de dar tierra a quién la trabaja, que es una idea universal, sino de dar tierra a quien la crea que es la idea rectora de la vieja civilización andina”. Sin autor, “La Carretera Marginal de la Selva por la magnitud de la obra adquiera respaldo y notoriedad mundial,” El Peruano, April 27, 1966, 1.

445 Many of these massive earth-moving feats were undertaken by none other than Morrison Knudsen. See Chapter Two.
Amazonian colonization was going to represent a revolution in infrastructure planning. Belaúnde called it a “a new road philosophy,” though it was really a resuscitation of the Incan road philosophy, as he himself was keen to overstate. Since the first road plans to reach the Amazon, highways had been conceived as “penetration” routes, for they broke through the intransigent Andean chain to enter the Amazon. The first highway to reach the Selva Central in the 1890s set the penetration trend that would mark the next sixty years with construction of the Lima-Pucallpa Highway in 1941 and the Olmos-Marañon through the late 1950s. Indeed, despite Belaúnde’s rhetoric to the contrary, in many respects as it was implemented, La Marginal was a penetration road in that it sought to access Huallaga riches for the coast’s pleasure. And because of its east-west orientation, La Marginal’s most touted segment—the Tarapoto-Río Nieva, which extended the Olmos-Marañon—was by definition a penetration road. In Reinventing Eden, Carolyn Merchant describes how Medieval Christian doctrine drew parallels between the Virgin Mary’s womb and the Garden of Eden, an idea that was given spatial expression in the cloistered gardens of monasteries and churches. Such symbolically imbued spaces thus proffered access to Eden together with its insights on everlasting life while entering the garden was equated with penetrating the virgin’s womb. Given the way that penetration was coupled with Amazonian fertility at a time of terrifying food scarcity, the booster narrative of colonization as salvation struck a chord that was religious as much as it was economic. (Figure 5.7) But while

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446 See the essay “Colonización vial” in Belaúnde Terry, La conquista del Perú por los peruanos, 1959, 94.
447 Merchant, Reinventing Eden, 52–54.
La Marginal siphoned off a Christianised penetration myth, Belaúnde also successfully exploited Incan ingenuity to sell it.

Whereas the objective of earlier road schemes was to connect cities by way of the shortest distance possible, Belaúnde’s road colonization took a view of Andean road building that was at once ancient and new. Unlike prior penetration roads, La Marginal was oriented along a North-South axis, designed to reflect the revered network of highways that connected the Incan empire of Tawantinsuyo. Belaúnde’s appropriation of this historical legacy coincided with Victor Van Hagan’s recent rediscovery and exploration of the Inca Highway network. (Figure 5.8) Roads, in this view, were not so much for connecting population centres as they were meant to be the central conduit through which land was tamed and resources extracted. There was perhaps no more suitable a symbol for this objective than the ubiquitous arrowhead that was regularly featured on maps of La Marginal and its zone of influence. One map, in particular, illustrated this newest iteration of the Amazon as emporium exquisitely. (Figure 5.9) Possibly elaborated by Belaúnde himself, it depicted the South American continent with recourse to only two of its major geographic features—mountains and rivers—but in a clear and candid indication of the extractive vision behind it, La Marginal appears as a bold line swept along the Andes and capped at both ends with arrowheads. These, in turn, pointed to another set of arrowheads positioned at the Orinoco delta and the mouth of the River Plate. A final arrowhead rested at the mouth of the Amazon. The arrow’s obvious role in this context was to indicate flow, but flow of what? Everything quite literally pointed to things *leaving* the area so sought by the Belaúndean planning apparatus. Surely
this was not a map that contemplated people’s movements; instead of representing the planned migration of families to the high jungle or the retreat of indigenous communities affected by colonisation, the central role of La Marginal according to this map was resource extraction from the region and from the continent. That this map enjoyed a wide distribution among technocrats and in the press, and later served as the model for a more stylized depiction that graced the cover of Belaúnde’s 1967 book on La Marginal, only testifies to the correlation made between road colonization and extraction. (Figures 5.9a and 5.9b) In practice this meant that the route, length, and, therefore, cost of roads were all determined by where the most land could be cultivated. In easy topography, Belaúnde set an ambitious objective that for every kilometer of road built, some 1,000 square hectares should be made available to agricultural pursuits. For mid-range topography the optimum exploitablle land surface would be 800 square hectares: for difficult topography, that number reduced to 400 square hectares.448

The emphasis on commodities and resources stressed in La Marginal’s graphic presence, of course, begged the question of what types of characters would populate his narrative of Peruvian Progress. From his many travels throughout the countryside, Belaúnde gained more knowledge of how people there lived than any typical coastal aristocrat. In the years leading up to his 1963 electoral win, he traversed the eastern lowlands on two major boat trips—in 1956 and 1960—and met with ribereños along the way. He also hiked to the Huallaga, then unreachable by land except on foot, from the highlands of Ancash. On another trip, this time to

448 Belaúnde Terry, La conquista del Perú por los peruanos, 1959, 94.
the Marañon River, he observed one of the more dramatic sights of road construction over the Porcuya Pass, where the Olmos-Marañon Highway was moving ahead full tilt. His arrival at the road camp coincided with major blasting to open a fresh roadcut and the Army captain in charge invited him to watch the spectacle first thing in the morning. “The officials, all dressed in fatigues, communicating by whistle, gave the order. And the hillside collapsed to make way for a new route to progress”. The event’s magnitude so impressed Belaúnde that the episode would remain forever etched in his memory.\footnote{Los oficiales, en traje de campaña, comunicándose por silbatos, dieron la orden de fuego. Y el cerro se desmoronó para abrir paso a una nueva ruta del progreso”. Belaúnde Terry, Pueblo por pueblo, 65.} The sight of a mountainside giving way to make room for a road excited him for it signified connectivity, consolidation of the national polity and independence for cut-off communities.

From the road’s end Belaúnde and his cohorts transferred to fluvial transport and entered territory of the Aguaruna near Nazareth. Belaúnde had his interest piqued at the sight of a few Aguaruna men plying the river in their “agile canoes” and hoped to meet them, though in the end the only direct appearance the Aguaruna would make in his storytelling was as elders fleeing his presence in fear or as children mesmerized with “uncontrolled and innocent curiosity”.\footnote{Ibid.} In passing, he noted how the children took no interest in the coins he offered them, and he guessed the adults had run from him and his companions as a result of the exploitation they historically suffered at the hands of outsiders. When juxtaposed against the Army officers making decisive and earth-altering decisions in the name of progress, the Aguaruna represented difference, otherness and isolation for Belaúnde, and in their
absence he took to describing them as he best knew how: through their architecture. Making a special appeal to the aesthetically minded, he marvelled over the controlled luminosity effected by the top plates of Aguaruna houses. He also complimented the way they achieved feats of functionality and artistry with no more than the materials nature left there for them. But the message encased in this vignette did not bode well for the Aguaruna, or for most indigenous peoples of the Amazon, for that matter. While the ability to craft an eloquent and efficient house from natural materials was laudable, it was nothing compared to the awesome spectacle that progress was bringing. Indeed, it was a sign of civic isolation. The Aguaruna fleeing in fear, then, functioned as a metaphor for the cultural erasure that sat as a cornerstone—not a mere consequence—of road colonization, something reinforced in discourse by the fact that this episode constituted one of the only encounters with indigenous Amazonians that appeared in Belaúnde’s otherwise verbose recounting of Amazonian travels and the meaning they had for his ideas of national consolidation.

Though he left the Amazon empty in the articulation of his plan for national consolidation, Belaúnde expressed a keenly racialised concept of the subjects he expected to populate it. To demonstrate Peru’s unique cultural milieu, he resorted to a simplistic form of environmental determinism that neglected 60 percent of the national territory and the indigenous peoples who inhabited it.

To explain how topography conditioned a Peruvian subjectivity, he posited that, during the Conquest, conqueror-conquered contact across Spanish America was a

\[451\text{ Ibid., 66.}\]
product of altitude. For instance, in the case of Mexico he echoed *indigenista* laudations of *mestizaje* by asserting a heightened process of cultural homogenization had characterized the nation’s history. For him this was a consequence of Mexico’s one “fundamental habitat”: the *meseta*. In Bolivia, the influence of the *Altiplano* reversed the Mexican situation; high altitudes strengthened cultural stratification and "the precolombian race ha[d] maintained its pristine purity under a superficial European bark."\(^{452}\) In Peru, however, Belaúnde suggested two “fundamental habitats,” the coast and the sierra, resulted in a tripartite cultural heterogeneity. Given the varying heights of Peruvian topography, three ethnic categories emerged: one of a “spaniloide” cultural-linguistic nature; one that was “basically indigenous”—meaning Quechua- or Aymara-speaking—\(^{453}\) and one, existing in the constantly expanding liminal space where subjects from both other camps met in contentious cultural encounter. He called this area of the national character the “mestizo—or *cholo*—stratum.”\(^{454}\)

While this third so-called *cholo* stratum alluded to a very basic notion of cultural hybridity that was manifest in the institutional structure of Belaúnde-era initiatives such as *Cooperación Popular*,\(^{455}\) this formula left out significant aspects of Peruvian ecology that had been identified and differentiated by leading ecologists like Javier

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\(^{452}\) “Bolivia también es país de un solo hábitat fundamental, el Altiplano, en el que a su considerable elevación la raza precolombina ha mantenido su pristina pureza, bajo una superficial corteza europea”. Fernando Belaúnde Terry and Francisco Belaúnde Terry, “Idearium Peruano,” *Journal of Inter-American Studies* 4, no. 3 (July 1962): 422 Although the editors leave the authorship of this portion ambiguous, it echoes similar sentiments expressed by Fernando Belaúnde in “El Perú como doctrina”. Fernando Belaúnde Terry, “El Perú como doctrina,” *Journal of Inter-American Studies* 2, no. 2 (1960): 159.

\(^{453}\) *Ibid*

\(^{454}\) *Ibid*, 423.

\(^{455}\) See Chapter One.
Pulgar Vidal and Joseph Tosi. It also fuelled the Malthusian spatialization of hunger by juxtaposing the Amazon (empty and fertile) against those spaces where there was a Man-land ratio. For land was only contemplated within this ratio once domesticated. It, therefore, could only count as progress once it lost its feminized qualities—expressed as virginity and fertility—and was made Man's counterpart through domestication. By the rubrics used to mark progress—mestizaje and an improved Man-land ratio—the Amazon and Amazonians were left out.

By resorting to the tired old tropes of Peru's division into coast, highlands and jungle, Belaúnde effected a further erasure of Amazonians' role in the national culture. Indeed, despite a few superficial accolades, when talking about the Amazon Belaúnde preferred not to focus attention on the indigenous populations that had long inhabited the region—and regularly offered resistance to colonial advances.456 Instead he reserved his laudatory rhetoric for the mestizo pioneers already colonizing the area.457

This was yet another expression of the discursive strategy that undergirded Cooperación Popular though now mestizaje was a normative, naturalized condition.458 When he described the joint task of strengthening Peru's road network and using it to feed the growth of colonies he masked it in nature metaphors that purged the socio-political inconveniences of concentrated land ownership, agrarian reform, an intransigent Congress, and international pressure. There were, of course,

456 For just some examples, see: Stefano Varese, Witness to Sovereignty: Essays on the Indian Movement in Latin America (Copenhagen: Iwgia, 2006); Brown and Fernández, War of Shadows the Struggle for Utopia in the Peruvian Amazon; and Varese, La sal de los cerros: notas etnográficas e históricas sobre los campa de la selva del Perú.
457 “La conquista del Perú por los peruanos”, 129.
458 See Chapter One for discussion of how mestizaje figured into COOPOP’s institutional structure and booster discourse.
the parallels he drew between La Marginal and the body, painting it alternately as the arteries or backbone of the national character. Then employing a tree metaphor, he portrayed colonization as a natural part of the growth—both biological (food) and economic (extraction, mainly of timber)—that he thought could heal the national character. The central government, backed by foreign financial capital, built the “trunks” of major highways, while the communities employed collective labour to extend branch roads that would maximize the road network's reach. From the end of branch roads, then, came the fruits: namely timber, rubber, industrial fibres, coffee, cacao, maize, rice and legumes.

According to Belaúndean development, the natural solution—in racial and ecological terms—to Peru's problems was road colonization. Though much like his urban housing schemes, planned colonies faced the problem of how to democratize credit. This was a critical factor in the failure of earlier planned colonies like the Prado-era La Morada colony and it would plague Belaúnde-era programs like the coastal colony at San Lorenzo and the Tingo María-Tocache-Campanilla Colonization. Making capital available to small farmers (colonists) and middle-class soon-to-be homeowners would not only help the middle class, but in a permutation of Rostovian “take-off” filtered through the AP doctrine of “economic miscegenation”, it was also supposed to develop crucial infrastructure, thereby facilitating other economic activities. As Belaúnde saw it, he had to remedy the circular flow of capital only amongst the upper echelon of Peruvian society; to do so, he proposed putting up social insurance funds as collateral for all.
The parallels Belaúnde drew between pseudo-biological descriptions of race and the land lent his platform a sense of legitimacy by drawing from the supposed infallibility of science. But the road colonization component of his political plans also rendered the Amazon as a cultural and economic void. Although not the first time the Amazon represented a space of vast wealth awaiting extraction, it was first woven into the fabric of a national project as part of Belaúnde’s *mestizo* Peru. Even here, however, it was as an auxiliary space, there to be used in the service of the Nation, not as a space prioritized under the rubric of a man-land ratio. Belaúnde’s *mestizo* nation was constructed through his ideas of economic miscegenation, with its appropriation and mythification of Peru’s Incan legacy; credit democratization that encouraged capital accumulation outside the oligarchy; and, the cornerstone of the Popular Action project, road colonization, which sought to mitigate the need for agrarian reform by shifting attention toward extraction through penetration. Despite the rhetoric of democracy and participation, however, Belaúnde’s discursive fusion between *mestizaje* and development proved a highly exclusive political project, as I have already discussed in Chapter One. His vision of Peru operated with recourse to a false sense of opposites: politically, between the conservative obstructionism of the APRA-UNO coalition and the swiftly radicalizing left; economically, between Marxism and capitalism; historically, between the Spanish and the Inca; and culturally, between creole—or "españoloide"—culture and the culture represented for him in the Quechua-and Aymara-speaking world. The tensions resulting from each of these binaries were circumscribed to the coast and highlands, where humankind was attached to the land base. Through such rhetorical
stylings, the coast and highlands were imbued with history, they were contemplated as the ambit of mankind’s relationship to the land. Yet because of Belaúnde’s constant reliance on tropes reinforcing emptiness, the Amazon presented an escape from reality; it was a place without history, offering metaphorical access to the mysteries of everlasting life for the body politic.

If the Amazon didn’t make it into Belaúnde’s idea of Peruvian history it certainly became at least a liminal space in his politics. As part of his campaign platform and economic agenda the Amazon underwent a fetishistic disavowal; it loomed large at the edge of his mestizo Peru, useful yet negated. In the articulation of his politics, he worked the Amazon’s margins into the conceptual territory of the nation, but only to the extent that it was to be conquered, exploited to fill a hole in the man-land relationship and provide fodder for an extractive economic take-off. Yet if the Amazon slowly crept into the national discourse through Belaúnde’s road colonization, indigenous Amazonians were certainly denied subjectivity altogether, while the colonists portrayed as heroic migrants enjoyed a highly gendered agency.

5.3: Engendering Land in Tropical Colonization
At the height of his popularity, during the 1967 Alliance for Progress meeting at Punta del Este, Belaúnde stressed La Marginal as a means of tying national markets together into a continental network, though as early as 1959 he also outlined how it

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459 In his pioneering work, Wolf takes on sociology and anthropology for each discipline’s dehumanizing features. The former, under the influence of modernization theory, is charged with reifying so-called “traditional” societies by opposing them to the dynamic modern. The latter, in this same vein, is charged with being driven by imperial impulses to search out the static Other. “If sociology operates with its mythology of Gemeinschaft and Gesellschaft, anthropology all too frequently operates with its mythology of the pristine primitive.” (18) Wolf challenges both of these mythologies for their tendency to obfuscate dynamic processes of interaction and render the so-called traditional, non-Western societies “a people without history”. Eric R Wolf, Europe and the People Without History (Berkeley: University of California Press, 1982).
posed a solution to the growing demand for agrarian reform across most of the region.\textsuperscript{460} As an alternative to taking on entrenched highland and coastal 
\textit{hacendados} to redistribute land, Belaúnde framed the advance toward the 
Huallaga—and the Amazon writ large—in much the same was that he described his 
visit to the Marañon in the late 1950s. Road colonization was a “conquest” of new 
land, one where construction, not warfare, would defeat the main adversary to 
Peruvian progress: nature.\textsuperscript{461} Indeed, development in this context translated to the 
subjugation of nature through the deployment of brute force technology and the 
implementation of positivist science for the improvement of people’s economic 
conditions. Heavy construction projects were the principal means to such 
development. And though conquering the land was ultimately dependent on 
successful resettlement of highland migrants through planned schemes like the 
Tingo María-Tocache-Campanilla Colonization, the effort to “tame” the Huallaga 
rested principally on the joint project to build La Marginal.

Enlisting the Armed Forces in this conquest was crucial, as much because of 
their extensive knowledge of the national territory as for their role in defence. As I 
discussed in Chapter Three, the Ministry of Public Works dispatched the Air Force’s 
National Photographic Service to survey the entire route of La Marginal in an 
undertaking that not only proffered the first detailed topographical studies of the 
eastern departments, but also solidified the SAN’s status as the country’s principal

\textsuperscript{460} Belaúnde Terry, “Qué Me Aplaudes, Pueblo Peruano”; For descriptions of Belaúnde’s 
return to Lima after the 1967 Punta del Este meeting, see: Kuczynski-Godard, \textit{Peruvian 
Democracy under Economic Stress}, 126–27; Cabieses López, \textit{Rescate de la memoria}, vol. 2; 
Belaúnde Terry, \textit{La conquista del Perú por los peruanos}, 1959.

\textsuperscript{461} “… emprender una lucha no contra un adversario militar sino contra la adversidad no 
menos peligrosa de un territorio difícil y de una naturaleza desafiante”. Belaúnde Terry, \textit{La 
conquista del Perú por los peruanos}, 1959, 126.
source of aerial survey. Likewise, the Army's Engineering Battalions grew in stature to become the primary road builders in the sierra. They were also deployed along the trickier segments of La Marginal where international contractors' bids were too costly. Finally, a new Civic Fluvial Service was created under the Navy's auspices to facilitate transport and communication throughout the Amazonian lowlands for those whom Belaúnde called “those good Peruvians who, with pioneering spirit, struggle in the jungle for the greatness of la patria”. However, Belaúnde's figurative conquest was much more than a military affair. Because of his suggestive rhetoric, leaders from around the Neotropics engendered road colonization as a virile contingent of national progress, and road discourse in particular borrowed metaphors of sexual conquest.

Relying on tropes dating to the earliest Peruvian project of road colonization in the 1890s, politicians seeking population alleviation in undeveloped tropical forests resorted to characterizations that painted the land as empty and awaiting male virility. Joaquín Capelo's 1892 defense of colonization and infrastructure development in Peru's Selva Central enumerated an idealized inventory of the region’s resources and promoted relocation of native Peruvians to the web of tropical river valleys east of the Andes. Working as Minister of Public Works and Chief Engineer on the Vía Central highway in the early 1890s, Capelo was dispatched to the Pichis Valley to open one of the first sustained pioneer trails to the Amazon basin and under that charge he transformed the Peruvian state’s relation to its eastern territory. As Fernando Santos Granero has commented, Capelo’s account

462 “... los buenos peruanos que, con espíritu de pioneros, luchan en la selva por la grandeza de la patria”. Ibid., 129; Cessa - Hob Asociados, “ Expediente técnico. Tarapoto - Rioja.”
was couched in a *Civilista* rhetoric of order and progress and served a uniquely economic objective that downplayed the ingenuity and economic acumen of indigenous Amazonians and gushed about the area’s environmental riches. Though he painted the native Asháninka as dignified, and he later defended indigenous rights as a member of Peru’s Pro-Indian Association and Prefect of Loreto, his depiction stressed the need for “civilized men” to bring progress to the jungle. Capelo’s agenda also reflected the racialisation of Peru’s colonial project in the Amazon, as his efforts to promote internal colonization against the prominent thought that the area should be used as a vehicle for attracting European migration, stressed the contest over which human traits made for the best colonists. In the decade prior, granting of free land to German migrants—as in the case of nearby Pozuzo—satisfied a dual agenda of economic development and racial whitening pursued by Lima elites, but Capelo advocated seeding the land with modern, enlightened Peruvians. In both discourse and practice, Capelo’s descent into the *Selva Central* marked a watershed in the mission to modernize the Peruvian tropics. Indeed, the example set by Capelo represented a key precursor to a wave of Amazonian resettlement schemes ideated through the 1950s and implemented during Belaúnde’s first mandate. On the one hand, Capelo pushed a developmentalist agenda that married colonization to infrastructure but, on the other hand, he also did so in starkly *gendered* terms. Consider for a moment the parallel description of a seduction in his writings; by his description, every part of

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the land was on offer. Against what was assumed to be an inhospitable, unpredictable and impenetrable land of mystery and danger, Capelo juxtaposed the modern scientist’s gaze. He started with a litany of common axioms painting a scary wilderness, but then described to his reader what the civilized, modern scientist saw in that. First published in the prominent national daily, El Comercio, his report from the Pichis began: “There is something in the forest that attracts and fascinates”; for Capelo the topography was “smooth and easy”, “serpentine” and “fertile”, and he took the reader through it like caressing a female body; there was heat and electricity, clouds that explode and unload on virgin lands; and all that was needed was a seed to make the land fruitful. Capelo, who was in many ways Peru’s ur-architect-politician, the archetype of the engineer, planner and statesman that Fernando Belaúnde would later embody, laid the groundwork for the twentieth-century phenomenon of road colonization in Peru, and his justification for it rested as much on the feminization of Amazonian ecology as it did on racialised and economistic tropes written into the idea of the Amazon as emporium.

In Peru’s Own Conquest, Belaúnde famously dredged up Capelo’s representational model to write the Peruvian Amazon as the “land without men for men without land”, a phrase that apocryphally set the Amazonian lowlands as uninhabited—an obvious and ironic erasure of the indigenous populations that road

464 Depictions of the Amazon as a frightful place abounded throughout the nineteenth century. For examples, see Stepan, Picturing Tropical Nature.

465 Consider the following fragment from Capelo’s report on the Chanchamayo Valley: “Hay algo que atrae y fascina en el bosque”; “Vé en ese árboles, que por todas partes cubren el suelo, verdaderos e innumerables pararayos que atraen las nubes saturadas de electricidad y las obligan a descargar sus aguas, para regar periódicamente y sin trabajo alguno, tierras vírgenes y feraces, que solo han menester la colocación de la semilla, para retribuir, sin más labor, los abundantes y variados frutos con que la naturaleza recompensa siempre, y allí con creces, el inteligente trabajo del hombre”. Capelo, La Vía Central Del Perú, 150.
surveyors frequently relied on as guides—and erroneously portrayed highland peasants as landless. The phrase evoked a spatial division between highlands and lowlands that had fed many a colonial project in the past (including Capelo’s) and situated male virility as the force that would bring progress to the Amazon.466 “The breeding ground of men must orient its surplus of arms toward the jungle”, for “[where the Andes] have yet to be subjected to man’s civilizing action is on their eastern slope”, Belaúnde claimed. 467 Such characterizations also fortified a sterilization of social conflicts that underwrote the conquest metaphor by normalizing the notion that highland migrants belonged in the as yet inaccessible valleys of the Huallaga, the Pichis, the Biabo and the Apurímac rivers. The metaphor of Peru’s own conquest recast a struggle between peasants enacting land repossessions in the highlands and the hacienda owners whose political clout they were diluting as a depoliticized bout with an unwieldy and inhospitable nature. The issue became less about one owner—the Cerro de Pasco Corporation, for example—controlling 600,000 hectares of land and more about the supposed 300,000 hectares that road colonization in the Huallaga would open to agriculture.468 To help legitimize such an act of rhetorical sorcery, Belaúnde left the provenance of the “land without men for men without land” quote vague. In 1959, he presented it as


467 “El vivero de hombres debe orientar a su excedente de brazos hacia la Selva”. Belaúnde Terry, La conquista del Perú por los peruanos, 1959, 104; “Los Andes rebeldes y difíciles han sido dominados por nuestros habitantes .... Donde no han sido sometidos a la acción civilizadora del hombre es en su vertiente oriental”.Ibid., 114.

“the expressive definition that *someone* once gave the zone of the high jungle”. In a 1967 book about the progress of La Marginal, however, he attributed the phrase to an unnamed “great Peruvian” (Capelo, perhaps?).\(^{469}\) Whether intentional or not, such foggy attribution helped raise the phrase to axiom.

The rhetorical effect of recasting social strife as a fight with nature was attractive, and regional leaders with their own population concerns borrowed the phrase to justify their own tropical colonization schemes. In an early permutation, Nicaragua’s President René Schick Gutiérrez (1963-1966) inaugurated the Angelica de Schick colony in the northwestern Department of León exclaiming, “neither men without land nor land without men” were acceptable. The colony was formed under the direction of the Agrarian Institute of Nicaragua, which was established in 1964 with the expressed purpose of extending private ownership “to individuals who [were] squatters or [had] an otherwise nebulous or tenuous claim to land” and “putting heretofore fallow lands into production”.\(^{470}\) As in the Central and Southern Andes, those involved in contesting land claims (by “squating” or engaging in other

\(^{469}\) “‘Tierra sin hombres para hombres sin tierra’ ha sido la expresiva definición que alguien ha dado a la zona de la Montaña Alta”, my emphasis. Belaúnde Terry, *La conquista del Perú por los peruanos*, 1959, 105; “Es la región que un gran peruano definió como ‘Tierra sin hombres para hombres sin tierra’”. Belaúnde Terry, *La Carretera Marginal de la Selva*, 19; Whether the originator of the phrase was Joaquín Capelo, another figure from Peruvian history, or an apocryphal “great Peruvian” is still unclear. Though I have not seen the exact phrase in Capelo’s writings, a contemporary of his, Federico Rémy, indicated that Capelo had similar sentiments: “Si el Dr. Capelo ha escojido esta ruta, no ha sido solamente por el aspecto ó facilidades que ofrecen sus feraces tierras para la agricultura, sino que, tambien [sic], fascinado por este verdadero paraíso, no pudo menos que ofrecerlo á los hombres de mañana, pues los de hoy, dirijidos por él, siempre entusiasta y decidido, no harán más que poner la primera piedra en este verjel que ha de ser el centro del Nuevo Perú”. Rémy, *La Vía Central*, 33.

forms of “tenuous” possession such as renting, sharecropping or labouring) were framed as landless and deserving of seemingly untouched land somewhere else.

The most widely cited case in which tropical colonization was framed this way came from the military dictatorship of Emílio Médici (1969-1974) in Brazil. Médici was a hardliner in a succession of military rulers following the 1964 coup that ousted João Goulart. In the early years of military rule, government programs promoted the Amazonian interior for economic development that largely benefitted large-scale agribusiness, but the newly formed Program for National Integration (PIN) represented a shift in discourse to social concerns.471 Like Peru, Brazil had a storied history of attempts to resettle first European and then domestic migrants in its Amazonian interior. And the Médici regime also framed land disputes in the northeast—where drought perennially impacted land productivity—and increasing subdivision of lands in the south as issues of overpopulation. The solution orchestrated through the PIN was to build a Trans-Amazonian Highway east-west from Marabá, at the meeting of the Araguaia and Toncantins Rivers to Porto Velho, in the western state of Rondônia. Again resorting to the gendered language of domestication, the project promised untouched land for some 100,000 families. To promote the 1970 launch of this foray into road colonization, Médici proclaimed that the proposed Trans-Amazonian Highway would open “land without men for men without land”.472 Susanna Hecht and Alexander Cockburn have tied Médici’s

use of the phrase to the rhetoric of pre-mandate Zionism, though even then there were precursors from nineteenth-century Anglo—and often Christian—sympathizers who spoke varyingly of Palestine as a “land without people for a people without land”, “a country without a people”, or “a country without a nation”. Indeed, if the objective were to identify origins, the phrase could be traced to the concept of *terra nullius* in Roman law and the systems of tenure implemented in second-century CE Pannonia, where it served as a propaganda slogan to reinforce Marcus Aurelius’ settlement of migratory *laeti* in an attempt to convert them to stationary, tribute-paying—or “legible” as James Scott would have it—subjects. What distinguished the “men without land” trope’s deployment in colonization of the Neotropics were the way it cast men as civilizing agents and the way it served the seemingly depoliticized and positivistic agenda of mid-twentieth-century development that masked Cold War geo-strategy behind a thin veil of cooperation and poverty alleviation.

In a final example, though undoubtedly more abound, Colombia’s Minister of Agriculture, Rafael Pardo Buelvas, parroted the phrase that Belaúnde—or his anonymous great Peruvian, as the case may be—first wrote in defence of plans for Amazonian expansion. In April 1975, the ministers of Agriculture of Colombia, Susanna B. Hecht and Alexander Cockburn, *The Fate of the Forest: Developers, Destroyers, and Defenders of the Amazon, Updated Edition* (Chicago: University of Chicago Press, 2010), 122; Diana Muir argues that, more than a Zionist slogan, the phrase originated with Anglo Christians sympathetic to the idea of a Jewish state in Palestine. Diana Muir, “A Land without a People for a People without a Land,” *Middle East Quarterly*, Spring 2008, 55–82. 

Ecuador, Peru, Brazil and Venezuela met in Palmira, Colombia, to determine a strategy for Amazonian development rooted in thirty years of tropical research conducted at the Inter-American Institute of Agricultural Sciences. In his inaugural address, Pardo Buelvas evoked Belaúnde’s phrase, though in the context of what he saw as a new civilization, and with one extra clause: “This is the land without men for men without land that want to live kindly with nature”.475 Resulting in no small measure from work conducted under the IICA’s auspices, planners engaged in the social engineering of resettlement were now faced with the ecological consequences of their endeavours. In Pardo Buelvas’ speech, the Age of Development met what Donald Worster coined the Age of Ecology: that time when the global public began to digest the devastating forces science could unleash on nature and “[s]uddenly all the old rhetoric of conquest and power turned hollow …”.476

5.4: “Writing History into the Landscape”: Inscription and Conversion in the Huallaga

If the main agents of colonization were to be men, the roads they arrived on were tools of a sexual conquest. Alternatively termed transversal roads, but more commonly called “penetration roads”, the highways that crossed the Andes from east to west, offering access to the presumed fertility of the lowlands, tied the coastal centers of economic power (namely Lima, and to a lesser extent, Trujillo, Chiclayo and Chimbote) to raw materials. Though ideated on a continental scale, La Marginal came about right around the time the Huallaga was sought. The Huallaga’s

476 Worster, Nature’s Economy, 341.
rise to prominence was the effect of a calculated scripting of jungle colonialism, but it was also due to the historical moment in the late 1950s and early 1960s when New Deal ideas about doing science on the ground and in the field reached hegemonic status in the Western Hemisphere. Moreover, for all the talk of a “new road philosophy” that reoriented road building north to south so that more arable land could be accessed, La Marginal—at least the segments worked on in the 1960s—was a network of transversal roads meant to complete a circuit between the Huallaga Valley and the coast; that “appealing and little known valley” was the present—and the future—of a land-obsessed Peru. These phenomena combined so that the doctrine of progress that said productivity sprang from the submission of empty nature to Man’s patriarchal dominion was literally inscribed into Huallaga landscapes with radical bio-geological ramifications. Bringing progress to the forests of the Huallaga meant the dichotomies of a largely Belaúndean development discourse—man-land, domesticated-virgin, creole-indigenous, modern-backward, coast-highlands, overpopulated-empty—were expressed in both discursive and material ways.

Again, one of the most radical innovations fuelling the Huallaga’s transformation from forest to colony was tied to aviation. The view from the air marked a new stage in the process of circulating reference by which a forest became a clearcut, became a road, became an agricultural colony, one in which the land was abstracted into building blocks used to form new modern eco-assemblages. It can be useful to

477 My thinking here comes from Latour, “Circulating Reference: Sampling the Soil in the Amazon Rainforest”; and Deleuze and Guattari, A Thousand Plateaus Capitalism and Schizophrenia.
think of these assemblages—the monocultural plantation, the family farm, the cattle ranch—as representing a modernity that was literally inscribed into the landscape through the project of road colonization and with the explicit aid of aircraft. In 1967, as progress on La Marginal was moving through the Central Huallaga, Roads Department engineers had to make a decision on whether to build through the Biabo River Valley—supported by TAMS’s survey—or along the more expensive right bank of the Huallaga itself where the ONRA was moving ahead with plans for the Tingo María-Tocache-Campanilla Colonization. To solve their problem, they took to the air in a series of helicopter flights between Juanjuí and Tocache, first in May and then again in November, after the decision to follow the Huallaga had been finalized and construction begun. Images from the flights demonstrate what I mean by inscription, for they first abstracted the view of the land below. One photo in particular from near the Sión canyon showed the river converted into an unreal blotch, projecting out from the bottom-right corner of the frame and unexpectedly terminating at center frame in a total erasure of the river’s flow. (Figure 5.10) These visual fragments of the valley made it to the Roads Department offices in Juanjuí, where they experienced the first interventions of the planner’s hand in the form of dotted lines, kilometer marks and toponyms inscribed onto the photos in blue ink. (Figure 5.11) Road workers then repeated this process in life size when they inscribed La Marginal’s centerline into the dirt of the Huallaga’s left bank. Photos taken in the same area five months later showed scars of cleared forest where the engineers had run their blue pen. The images from those reconnaissance flights also showed the radical ecological reordering underway as ONRA experimented with
rice and African oil palm plantations near Tocache. (See Figures 5.13 and 5.14) In one of Solís Tovar’s last contributions to La Marginal, and as a testament to the closed circuit of influence constituted by aviation, photography and cartography, he documented this change of course in a 1968 series of maps and profiles (Figure 5.15).

In flight photos from the Juanjuí Roads Department offices, aviation, photography, and developmentalism again conspired to render the Huallaga a place without history, clearing a blank slate in order to then draft a new origin myth that began with conquest and colonization. A harmless pen became another tool for representing the colonial script’s Huallaga contemplations, spilling blue ink imbued with road philosophies, patriarchal imaginings, racial erasures and capitalist reordering. Though in an ironic twist, the inscription of toponyms also undermined these pretences, for it revealed that in fact the Huallaga had a long history of having its history purged. Some of the villages flown over in May and November 1967 had existed since the arrival of Franciscan missionaries in the mid seventeenth century.478 And one in particular carried vestiges of that utopian search for the Promised Land in its name: Zion (Sión), now scribbled down the edge of a Roads Department snapshot. (Figure 5.16) Indeed, the simple text of this anonymous engineer made clear how road colonization relied on its own mythologies, as

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dependent on rendering the Huallaga “pristine” and empty as prior colonial enterprises.

In another permutation of the “pristine myth”, figures as varied as Cándido Bolívar, Joseph Tosi, SCIF cartographers, and Fernando Belaúnde imbued healthy forests with virginity to connote both their emptiness and fertility. Colonization, the act of mestizo men, presumed to be landless, penetrating virgin forests on modern roads, sought forest domestication: the conversion of unwieldy land into an ordered, productive unit that couldn’t be fruitful but for the civilising force of modern Man’s authority. Thus patriarchy, emptiness and extraction formed the linchpin of jungle colonies and the family unit was the rubric for their socio-economic organisation. But while virginity and emptiness were attractive qualities in eyes of planners, they took on different meanings for colonists. For when in dispute, property claims could be threatened by virgin, fallow, or unoccupied lands because they evinced a failure to fulfill a national destiny as the domestication myth portrayed it. If development’s colonial script was written into Huallaga landscapes, it also reworked social arrangements. In the tenurial reconfigurations imposed first by the Tingo María-Tocache-Campanilla Colonization and later by the agrarian reform laws implemented under Juan Velasco, the courts became a vital mechanism for institutionalizing collective adherence to the concept of domestication and the general land ethic of road colonization.
Chapter Six: Eco-Colonial Encounters in the Huallaga

In July of 1970, five men planted a 14-hectare section of the fundo Pra Alto soon to be run by a newly formed cooperative, the Eastern Peru Agricultural Cooperative. Peasants all of them, with a long history farming in the area, the men had run foul of judicial authorities when they had staked their claim by planting corn, yucca and bananas in a section of the 15,000-hectare plantation near Aucayacu called Campo Grande. In addition to the crimes of usurpation and damage to property, the accusations against them included armed aggression for running off surveyors from the Ministry of Agriculture's Tingo María-Tocache-Campanilla Colonization. The conflict pitted individual farmers, acting in the name of their families, against the institution charged with settling them and a vague new bureaucratic entity: the coop. This was hardly the only time Pra Alto, or much of the land comprising the Tingo María-Campanilla would be disputed, but the timing was remarkable, for it signified a move by individuals to stake their claim before the one-year-old Agrarian Reform Law (DL 17716) could be implemented.

Settlement along this stretch of the Huallaga was still relatively new. Though the Pra Alto plantation was close to twenty years old, La Marginal had only opened the area to concentrated colonization about six years earlier. It had only been four years since the ONRA started allocating plots under the Tingo María-Tocache-Campanilla project. The lofty rhetoric deployed as part of the region’s colonial script promised a radical reordering of the land according to a tripartite embrace of patriarchy, capitalism and Roman Law, but the implementation of that utopian scheme was stunted by the abrupt change of course represented in Juan Velasco’s 1968 coup and
subsequent agrarian reform. If Belaúndean development imagined progress in the Amazon as new eco-assemblages run by nuclear families for extractive purposes, Velasco’s agrarian reform envisioned new collectives as the primary agents of jungle extraction. The seeming contradiction between these two visions of land and its use inevitably spurred conflict in the Huallaga, but as I argue in this chapter, those conflicts also evinced continuities in the state’s view of the Amazon as a colonial ambit. And, moreover, judicial records from such conflicts demonstrate the ways in which colonists themselves assimilated and adopted the tropes of jungle conquest to serve their own agendas.

Land invasions are hardly a new subject among scholars of Peru. Though while early treatments championed the practice as a form of resistance deployed by the restless urban poor and unsettled highland peasants, a look at the narrative tropes that typified how peasants—or their lawyers—defended themselves before the courts belies the institutional underpinnings of land invasions. What the specific case of Pra Alto demonstrates is the way land invasions were tied to a convoluted and ambiguous implementation of land reform through the Huallaga. By focusing on the way different actors scripted their own relationship to the land when defending ownership claims before the court, I aim to underline how they—through the mechanism of the court—manifested tropes of the state’s colonial discourse on the

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Amazon and fed the recreation of land in another institutional vernacular. After a brief discussion of the significant changes implemented as part of Juan Velasco’s agrarian reform I focus specifically on the case of Pra Alto. I chose to address the conflicts over this property in particular for a number of reasons, not least of which was the frequency of its appearance in the archives of the Superior Court of Huánuco. As one of the older plantations in this part of the Huallaga, Pra Alto was the site of multiple waves of peasant invasions spanning its time as a private plantation and a peasant-run cooperative. Thanks to the work of Eduardo Bedoya Garland, which I discuss below, there is detailed evidence of the motivations, political exigencies and outcomes related to invasions of the private plantation in the late 1950s. What I add is a detailed discussion of the environmental imaginaries that conflicting groups wielded when disputing the land during the period following both the region’s submission to road colonization and the 1969 agrarian reform. Finally I end with a brief discussion of other cases from the region to illustrate how the example of conflicts over Pra Alto represented a set of generalized phenomena throughout the Huallaga.

6.1: Land Laws Post 1969

Land disputes entered the court as either civil or criminal cases. Civil cases dealt with conflicts over ownership, boundaries, titling, eviction and valuation while cases

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involving invasions such as squatting or illegal threats of eviction, as well as crop theft, damage to property, etc., usually went before a criminal court. With the Agrarian Reform Law of June 24, 1969, this system was complicated by the creation of special land courts organized within the new Agrarian Tribunal, which catered to a newly established legal subject: the campesino.

Less of an organized effort to redistribute land, the Agrarian Reform Law reorganized land tenure according to newly established collectivities. The coastal plantations were organized into agricultural production cooperatives (CAPS) while in the highlands and the western high jungle peasants were organized into large social interest agrarian societies (SAIS) and later peasant communities (now labeled Comunidades Campesinas) based on the Comunidades Indígenas engendered by the Constitution of 1920. The discursive shift from indígena to campesino signified a move from legal personhood based on ethnicity to one rooted in economic activity, and was meant to abandon “from this day forward unacceptable racist habits and prejudices”, as President Juan Velasco Alvarado proudly proclaimed in a

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481 While not outwardly prohibiting individual ownership, Article 118 of the reform law stressed this point by explicitly proscribing individual use of land held by collective organizations. For a good discussion of this point, see: Mayer, Cuentos feos de la reforma agraria peruana.

482 This was done by Titles VI and X of the law, Title X, Article 115 making specific reference to the replacement of the Legúa-era Comunidad Indígena with the new Comunidad Campesina. For a comparison of these collective subjects, see: Yashar, Contesting Citizenship in Latin America the Rise of Indigenous Movements and the Postliberal Challenge; In his work from Michoacán, Mexico, Chris Boyer demonstrates how this process resulted from a combination of peasant organizing and top-down politics. Something similar could be said to have resulted from the exposure that Peruvian military elites had to highland militancy in the 1960s. Christopher R. Boyer, Becoming Campesinos: Politics, Identity, and Agrarian Struggle in Postrevolutionary Michoacán, 1920-1935 (Stanford: Stanford University Press, 2003).

televised address on the day the law was ratified.\footnote{Juan Velasco Alvarado, “The Master Will No Longer Feed Off Your Poverty,” in The Peru Reader: History, Culture, Politics, ed. Orin Starn, Carlos Iván Degregori, and Robin Kirk, 2nd ed., and updated, The Latin America Readers (Durham: Duke University Press, 2005), 267–68.} But from the legal standpoint, the rhetorical transformation was of little consequence.\footnote{Alberto Chirif and Pedro García Hierro, “Peruvian Amazon Indigenous Organization: Challenges and Achievements,” Indigenous Affairs 3 (2008): 40.} Despite dedicating all of its Title X to the subject of the peasant community, the Agrarian Reform Law did little to actually define a peasant or a peasant organization. Instead its drafters focused their energies on determining the strictures according to which peasants and peasant organizations would control land, thus defining a peasant based on his\footnote{The text of the law was clear; all campesinos were men. Article 84, which determined the criteria for those receiving family parcels, left no ambiguity by using nothing but masculine nouns: peruano, jefe de familia, propietario. Feminine nouns (“la cónyuge o compañera permanente”) were only used in Article 88, which stipulated the procedure of inheritance after a campesino died.} relationship to the land, a fact that was reinforced by the use of synonyms in place of definitions, all of which described how a man related to the soil he worked. Those synonyms, while sketching the character of the campesino, gave such a broad understanding of who could avail him or herself of the benefits bestowed by the new legislation that his or her status could best be described by what s/he was not: a title holder. “Yanaconas, aparceros, arendires, allegados, colonos, mejoreros, precarios, huacchilleros y otros feudatarios y sub-arrendatarios”, all of these discreet yet closely related terms described a condition of working the land without owning it.\footnote{Peru, Nueva ley de reforma agraria: decreto ley 17716, promulgada el 24 de junio de 1969. (Lima, Perú: Ediciones El Perú y sus Leyes, 1969), Article 188.} Moreover, by conglomerating these long-existing subjectivities under the rubric of the campesino and organizing them according to a corporatist legal framework from the 1920 constitution, the Agrarian Reform Law forged the skeleton of a new legal subject without fleshing it out. An attempt to remedy these
vagaries came in early 1970 in the form of Decree 370-70-A, the “Peasant Communities Statute”. The statute clarified that former Indian communities could claim the rights granted to peasant communities if 1) their members worked the land full-time; 2) they were permanent residents of the community; 3) they cultivated the land on a collective basis; and 3) the members of their administrative councils were literate in Spanish.488

Yet if the discursive components of the law didn’t represent a huge transformation, the total restructuring of the legal system brought on by the establishment and implementation of the land courts was the truly radical judicial reform. Article 155 gave any person or juridical entity the right to demand hearing before a land judge in any case regarding “agrarian reform, water, uncultivated land and jungle and agrarian law in general”.489 This meant a complete reorganization of judicial procedure and caused some turmoil in the law’s initial years as departmental superior courts, judges and lawyers struggled to adjust to the new tribunal. All civil cases involving land were reclassified as the purview of the Agrarian Tribunal and criminal cases could sometimes be dismissed for a detail as small as the defendant meeting the criteria for the vague yet coveted status of campesino.490 These courts were touted as reducing bureaucracy and corruption while promoting free, rapid justice to those who work the land, but their function carried the same ambiguities as the political agenda that spawned them. With

489 Peru, Nueva ley de reforma agraria, Article 153.
490 For some examples, see: “Expediente 40,” 1970, Juzgado de Instrucción de Moyobamba, CSJSM; and “Expediente 119,” 1969, Juzgado de Instrucción, Leoncio Prado, CSJH.
respect to the Huallaga, where much of the land could not be tied to a long paper trail denoting ownership, transfers, tax payments, harvest yields, and other written documents comprising what William French has called “the scrip of the state”, the courts served as another institutional mechanism by which land was brought under the state’s purview and processed according the state’s modern land ethic.\textsuperscript{491}

Though whereas the National Aerial-Photographic Service, the Roads Department, Morrison Knudsen, the International Institute of Agricultural Sciences, the Inter-American Service for Cooperation in Development, or the presidency operated in the service of development’s political agendas, the court system—especially under the Velasco-era Agrarian Tribunal—interfaced directly with the peasantry. In this sense it functioned similarly to the \textit{Cooperación Popular} program as a mediator between isolated and sometimes transient populations and the state’s ideas for how they should relate to the land. The courts then were a means both of legitimating and inculcating a value set rooted in the tropes of emptiness, male virility and production at a time when the state was in the midst of a confused transition toward corporatism. As the case of Pra Alto demonstrates, such convolution engendered conflicts in which peasants wielding a Belaúndean logic that placed primacy on the family as land manager were pitted against cooperatives that couched their land claims in the state’s new bureaucratic culture. That conflicts were rarely resolved despite amassing sometimes vast dossiers of visual inspections, testimonies, titles,\textsuperscript{491}

\footnote{French argues that judicial discourse engendered a legal persona that was inscribed onto the bodies of women appearing before the court as a constituent part of accessing the lettered world of the legal system. For him it was the many official documents through which such a process transpired that constituted and articulated the state’s gendered imaginary. They were the “scrip of the state”. See Section One. French, \textit{The Heart in the Glass Jar}.}
resolutions, affidavits and other textual simulacra of people’s relation to the land, only speaks to the court’s role as arbiter of yet more of the factical infidelities that fed development’s modern land ethic.

6.2: Competing Land Narratives in the Case of “Pra Alto”

The land named Pra Alto has assumed a fluid and contested identity in natural, social and legal terms since botanist, Ramón Ferreyra, floated through the area in 1948. For Ferreyra, Pra Alto would have been an indistinguishable speck in the monotonous blanket of tropical wet forests strung along the Huallaga from Tingo María to Tocache. Then it would have been littered with local ficus, ant trees and pumpwood, known to folks there as ojé, tangarana, and setico. It wasn’t until a year after the Bolívar expedition that Pra Alto became Pra Alto. As part of a stunted effort to attract Italian migrants, the state granted the land to the Italo-Peruvian Agro-Industrial Society (Sociedad Italo Peruana Agrícola Industrial), that spent the first part of the 1950s extracting commercial timber like mahogany, Spanish cedar and tornillo, before putting the land to growing the region’s two great cash crops, coffee and cacao, near the end of the decade. Throughout this period small subsistence fields called chacras opened up throughout the property both as a result of periodic peasant land seizures and the personal farming conducted by the Society’s employees.492 Once cleared and cultivated, the land quickly declined in fertility and the chacras were frequently abandoned to the forest and repopulated by the colonizing willow know to locals as purma-caspi. From that point the land settled into the ecological purgatory of the “purmas”, cycled through a fallow period until

decomposition of new growth could rebuild its fertility enough for more crops. During years of this Pra Alto was put to varied uses for grazing, cacao plantations and cultivation of subsistence and small commercial crops like banana, yucca, corn and coca.  

Alongside these changes in the land, though not always in parallel, were frequent name changes resulting in a convoluted folk taxonomy underwritten by competing socio-political agendas. At any given time, the 15,000 hectares in question could have been referred to as Pra Alto, Saipai, or, in the synecdochal appropriation of one of its component tracts, Campo Grande. This got further confused in the decade of agrarian co-ops, when the land might also be called Eastern Peru or Tea-Coffee of Peru (Cooperativa Agraria Perú Oriental, No. 104 and Cooperative Agraria Té-Café Perú, No. 10), after the two cooperatives that managed it through the 1970s and early 1980s. Geographically, the land sits in a narrow finger of the Department of Huánuco that juts out along the Huallaga River near the border with San Martín. Along this part of the Huallaga, between Tingo María and Aucayacu, the landscape folds over on itself forming tight crags littered with farmer settlements and La Marginal hugs the river’s right bank. The property of Pra Alto butts up against La Marginal on its western boundary beginning roughly twenty kilometers north of Tingo María around the small village of Apisa. From there it extends north along La Marginal past the settlement of Santa Lucía to the village Pueblo Nuevo. From the road, the property protrudes uphill and into the forest to the east. Up there, away

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from the highway, the property is divided into the sections of Campo Grande and Soledad.

In legal terms, the land was a shambles, allotted, appropriated, adjudicated, allocated, expropriated and re-allocated as a function of the many forms that colonization took during the 1950s, 1960s and 1970s. When the Society first laid claim to the land, it was granted as a fifteen-thousand-hectare rustic estate under the Law of Montane Lands. From the state’s point of view, the original objective for parcelling Pra Alto was to see it put to agricultural export and the Society reflected those goals in theory.

This period of the land’s history is covered thoroughly by Eduardo Bedoya, who, using the Society's own records, has shown how they struggled with the capital-intensive work of building a successful export-oriented plantation that by the end of the 1950s had only cultivated 271 of their 15,000 hectares. Under pressure from the APRA-backed peasant association that was vying for tracts from Pra-Alto’s Campo Grande section along the Anda watershed at its northern boundary, the Society nearly ceded 1000 hectares of less-fertile ground along La Marginal. Between 1956 and 1959 a strong peasant mobilization forced three mass land seizures that pushed the Society to the bargaining table. One of those leading the seizures was Humberto Magallanes, a long-time APRA militant who brought national attention to the peasant struggle through his connections in the party. Initially unwilling to negotiate, the Society eventually met the peasants’ demand for sale of 3,000 hectares with a much lower offer of 1,000 hectares to be sold in large—and therefore less affordable—tracts. While the peasant leaders held out for more, and
more affordable, land, the APRA’s interior secretary, L.F. Rodríguez, persuaded by Pra Alto’s administrator, leveraged his party’s support of the peasants and convinced them to take the deal, though many of the sales were never paid for and the peasant-farmers abandoned much of the land after a few years.\footnote{Bedoya Garland, “Ocupaciones de tierras en el fundo saipai,” 77, 93, 96–100.} With the Society floundering and a new vision for high-jungle settlement \textit{en vogue}, the ONRA expropriated 14,468 hectares of Pra for the Tingo María-Tocache-Campanilla Colonization in September 1966.\footnote{“Expediente 213,” 6; Bedoya Garland, “Ocupaciones de tierras en el fundo saipai,” 102; Resolución Suprema 405, of the Ministry of Agriculture. Ballón Aguirre, \textit{La Amazonía En La Norma Oficial Peruana, 1821-1990}, 738.} Less is know about what happened to the remaining Pra Alto land after expropriation. Much of the expropriated land presumably went to some of the near 5,000 migrants served by the Tingo María-Tocache-Campanilla Colonization, while the remaining 532 hectares were anaemically worked by what remained of the Society’s once-ambitious colonists. By 1968, only two of the original forty families that came with the Society remained and there were seventy-six men on the payroll.\footnote{Nelson, \textit{The Development of Tropical Lands}, 102.} Even as the Society waned, tensions with the surrounding community remained constant.

On July 3, 1970, the Ministry of Agriculture passed Supreme Resolution 515-70-AG, which established a Special Administrative Committee to manage the remaining 532 hectares of Pra Alto land until the new agrarian co-op, Eastern Peru, could take possession. These final remnants of Pra Alto were now going to serve the corporatist goals of Juan Velasco’s agrarian reform and the first legal entity to take control of the newly nationalized Pra Alto had just been formed. The next day,
Antonio Cuadros Basucro, President of Eastern Peru’s freshly convened Special Committee and a representative of the Tingo María-Tocache-Campanilla Colonization, filed a complaint with the Investigative Court against Humberto Magallanes, three of his relatives and another man for usurpation (invasion), damage to property and sabotage.

As was common in cases of invasion, the Agrarian Reform Office conducted a simple visual inspection of the Campo Grande land early in the morning of October 30, and though the men never responded to the court’s order to give testimony, they all appeared at the inspection and signed off on the fact that they were actively growing crops on the contested land. A few details from the inspection offer a hint at what happened to Pra Alto after most of the property was expropriated in 1966. To begin with, the inspection stated that all of the invaded terrain bordered land possessed by the Magallanes clan outside of Pra Alto’s 532 hectares. It seems they were granted these lots after the 1966 expropriation, which suggests they didn’t leave the area after the confrontations of the late 1950s and early 1960s.497

The inspection noted that the men tore up cacao plants and invaded purmas in equal measure, and they planted corn, some yucca and banana. All of the plants were roughly three-months-old, which coincided with the claim that they invaded right around the time the Special Committee was formed.498 The narrative was neat: it looked as though the men, seeing the last members of the Italo-Peruvian Society banished and the land in transition, seized the moment to claim some for

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497 In his statement, the President of the Eastern Peru co-op, Policarpo Isla del Castillo, called the men “adjudicatarios de fundos colindantes”. “ Expediente 213,” 15.

498 Ibid., 9.
themselves before the new co-op took possession. When surveyors confronted them, they ran them off with threats of violence. However, if the crimes were that clear, one has to ask why the men weren’t evicted. Instead the case was postponed for more than a year while the Agrarian Reform Office tried to negotiate a compromise. And in the meantime, at least one new takeover occurred when L.B.S. moved into fifteen hectares of purmas alongside those of the Magallanes.499

With little evidence to indicate their reasoning, one can only speculate as to what motivated the men. Of the five, three were related to Magallanes. When interviewed by Eduardo Bedoya about the earlier actions of the late 1950s, Magallanes explained: “We were all poor, some worked as farm workers on small coffee plantations, others on the highway. We all wanted that land that no one worked. Saipai (Pra Alto) had 15,000 hectares and less than 1,000 were worked, and we had nothing”500 These general sentiments were surely a factor in their actions, but the court documents give no clear sense of the men’s motives. Instead, their actions over the next few years point to a lack of concern for the court’s proceedings. In early 1972, the President of the Eastern Peru co-op, Policarpo Isla del Castillo, renewed the charges against Magallanes et al, and the court summoned them to give testimony. When the men didn’t respond, a capture order was issued. When that warrant expired six months later, the presiding judge, Lucio Orellana Huerta, chose

499 In dealing with court cases, I’ve chosen to preserve people’s anonymity, opting either for initials or pseudonyms depending on which improves readability. Only when the person in question experienced some degree of notoriety—by holding a government position, or other prominent role in the local community, or if they appear in press reports or other published sources—do I use their full name.

500 “Todos éramos pobres, algunos trabajaban de peones en pequeñas haciendas cafetaleras, otros en la carretera. Todos queríamos esa tierra que nadie la trabajaba. Saipai tenía 15,000 hectáreas y menos de mil hectáreas trabajadas, y nosotros nada”. Quoted in Bedoya Garland, “Ocupaciones de tierras en el fundo saipai,” 80.
not to try them in absentia, and instead sent the case back to the state’s attorney, Ángel García La Noire, for more investigation. This was a telling move and it infuriated the state’s attorney. In a letter dated May 10, 1975, García La Noire decried the court’s lethargic response, accusing it of negligence and disregard for the State’s interest. In García’s view, the men had invaded Campo Grande, destroyed cacao plants, refused to leave and threatened representatives of the colonization program with violence, and yet they hadn’t even been compelled to testify. García’s protests, however, fell on deaf ears. Just more than a year later Orellana absolved the defendants for lack of evidence.501

The question of guilt, however, is of less consequence than the conditions of the contested land. Though not overtly acknowledged, the primacy of land domestication operated behind the scenes of this case at every stage. When the ONRA expropriated Pra Alto in 1966 to make way for the Tingo María-Tocache-Campanilla Colonization, it fit into a colonization scheme that ordered land according to the family unit. After the Agrarian Reform law of 1969 replaced that agenda with the corporatist organization of land represented in the CAPs, the men launched an incursion onto a part of the property that was notably neglected. As was protocol in the new land courts, Judge Orellana consulted with the Agrarian Reform Office in Tingo María about the status of the men and their relation to the land. Specifically he inquired as to whether they could be classified as campesinos, which covered single men and heads of families that—regardless of the varied and complex ways they may be connected to the land—relied on land for their own and

their families’ subsistence in a permanent way. At the same time he checked their
criminal backgrounds. The response he got confirmed that the cacao plantations on
Campo Grande “were not efficiently managed in their totality”.502 Indeed, while the
men did clear cacao trees, most of the land they planted—especially after L.B.S.
joined them—consisted of purmas, empty secondary growth that likely hadn’t been
planted since its 1966 expropriation. The invasion of Campo Grande hinged on the
assumption that empty land merited, indeed mandated, cultivation. And based in
part on their status as campesinos in good standing with the law, making use of
empty land for their subsistence, the judge ruled in their favour.

At the same time, Eastern Peru was floundering. The co-op that had started with
fifty-two members had just nineteen by 1976 and they had trouble managing their
acreage. The Agrarian Reform Office looked on their few cacao plantations with
scorn and they were under threat of a takeover. As early as 1973 it was
consolidating lands around Pra Alto and needed a cooperative to run them, but
Eastern Peru was bordering on insolvency and proved incapable of taking on more
land. The situation came to a head in August 1977, when Eastern Peru agreed to
merge with Tea-Coffee Peru, a neighbouring co-op that brought twenty new
members to Pra Alto. After finalizing the deal in February 1978 the ONRA granted
Pra Alto to Tea-Coffee. In just over a year Tea-Coffee Peru had consolidated 1,588
hectares for a membership of thirty-nine associates.

502 Ibid., 6.
The title, granted under the short-lived Law of Native Communities that extended Velasco’s reforms to the jungle,\textsuperscript{503} listed Tea-Coffee Peru’s obligations as the following:

1. Work the land and use renewable natural resources in an associative fashion.
2. Establish a business-like administrative structure.
3. Do not sell, damage or cede use of the allocated lands without permission from the Agrarian Reform Office.
4. Maintain croplands to ensure better output.
5. Comply with forward-thinking restructuring projects, keeping in mind that they will function beyond the terms of this contract.
6. Do not subdivide lands.
7. Do not acquire more lands without prior authorization from the Agrarian Reform Office.
8. Work with other agencies to meet the development goals assigned for your area.
9. Comply with the technical and administrative mandates of the Ministry of Agriculture.
10. Pay your agrarian debt in full.\textsuperscript{504}

\textsuperscript{503} For analysis of the Law of Native Communities, see Grillo Arbulu and Sharon, “Peru’s Amazonian Imaginary: Marginality, Territory and National Integration.”

\textsuperscript{504} My translation is simplified. The entire text reads: “Trabajar la tierra y realizar el aprovechamiento racional de los recursos naturales renovables en forma asociativa; 2] Establecer una estructura administrativa empresarial que garantice el cumplimiento de los planes de producción y desarrollo de la empresa, así como buen manejo de los préstamos obtenidos; 3) No vender, gravar, ceder en uso o transferir total o parcialmente por cualquier título sus derechos sobre la unidad adjudicada sin autorización de “LA DIRECCIÓN GENERAL”; 4]
In sum, Tea-Coffee was obliged to manage and maintain Pra Alto according to a business-oriented, modern agricultural model that restricted the co-op’s ability to buy, sell or trade property. So in the face of the next wave of invasions that hit, they found themselves obliged to take action. What follows is the story from the perspective of Tea-Coffee Peru’s directors, employees and supporters.

6.3: “Professional Invaders”

In April 1979, about one year after folding Pra Alto into its estate, Tea-Coffee filed a complaint with the director of the Tingo María-Tocache-Campanilla Colonization, Werner Bartra García, denouncing mass invasions in the Campo Grande and Soledad regions of Pra Alto. Bartra ordered a visual inspection and identified eighty-five individuals in different states of farming the land. Bartra’s inspector met thirty-five of the squatters personally and registered the remaining fifty based on prior knowledge of the situation. The inspector didn’t note the types and ages of their crops, but he did mention that the invaders in the area of Soledad had already constructed pioneer trails, while those in other parts were still engaged in burning and clearing. He also noted that many of the people he spoke with identified F.P. as the man orchestrating the Soledad invasions. Armed with the
inspection and a list of names, Tea-Coffee filed charges against all eighty-five individuals and issued a foreboding call for the invasions to stop.

In their case against the people they called invaders, Tea-Coffee Peru filed copies of their land title; proof of the Eastern Peru co-op's dissolution and transfer of all its property and members to Tea-Coffee; and the visual inspection that Bartra ordered. They framed the squatters as people who shrugged off communal responsibilities and had been dismissed from other co-ops, only to usurp Tea-Coffee's land for their own personal profit. It seemed proof that Pra Alto was theirs, and that there were people farming it with no legal claim should suffice to mobilize the authorities and start the evictions, but in case “the magnitude of the gravity of these facts” went overlooked, the co-op’s general manager, Jorge Jordán Ortiz de Orúe, dressed his complaint in a thinly veiled threat.

... the defendants continue to cause disturbances that can bring disastrous repercussions for public tranquility.

Such illicit acts have affected the tranquil and peaceful conduct of our members, who, finding themselves violently ejected from their own property, are already planning to convene on this issue at the next general assembly meeting, making it clear from this point on that they will face any consequence to defend their right, be it with their own lives if necessary ....

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506 “... los denunciados no contentos con haber cometido este delito de invasión, siguen fomentando disturbios en el agro que pueden traer repercusiones nefastas para la tranquilidad pública. Estos actos ilícitos han repercutido en la conducta tranquila y pacífica de los asociados de nuestra representada, quienes, al verse despojados violentamente de los bienes de su propiedad, se vienen organizando para tratar esta (sic) asunto en una próxima asamblea general, manifestando desde ya, que defenderán el derecho que les asiste hasta las últimas consecuencias
From the point of view of the co-op, this first case was a legal failure. For a number of reasons, the case lingered in the court, passed over by prosecutors, judges, and tribunals until the statute of limitations ran out in 1986. Some claimed conflicts of interest, having been associated with Tea-Coffee, and the court did initiate an investigation, only going far enough to confirm that none of the eighty-five defendants had prior convictions. From this experience Tea-Coffee learned that casting the net so wide could hinder their case. So when they took on another wave of incursions in October, they reassessed their strategy.

With most of the squatters in Campo Grande and Soledad hunkered down, Tea-Coffee Peru made good on their threats and moved to forcefully evict another colony of squatters from the Apisa region of Pra Alto, right along La Marginal. Squatters and co-op members butted heads in a squabble that ended with minor injuries but sparked a joint police raid conducted by the Civil Guard and the Peruvian Investigative Police (PIP) a week later. They rounded up eleven men and launched a more serious investigation into invasions of Pra Alto. This time Tea-Coffee Peru lodged their first complaint with the provincial Sub-prefecture alleging the co-op was beset by two more invasions. They claimed hundreds of people launched more incursions into the old purmas of Campo Grande and still others were moving into the secondary forests of Apisa where the co-op lands bordered with the hamlet of Alfonso Ugarte. The Sub-prefect, clearly sympathetic to the co-op’s plight, started his

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y con sus propias vidas si fuera necesario, por cuanto dichas tierras les fueron entregadas legalmente por nuestro Gobierno Revolucionario de las Fuerzas Armadas para trabajarlas cooperativamente en beneficio de sus hogares y de la propia patria que nos cobija”. Denuncia dated May 28, 1979. Ibid., 41–43.
report with accusations. Relaying the complaint to the local branch of the Peruvian Investigative Police, he began:

... with the present report I inform you that Mr. César Mejía is the AGITATOR that is organizing the invasions in our Cooperative, Sector III, it is worth mentioning that this man has prior convictions for conducting an invasion near Tocache, likewise I want to communicate that Mr. Calixto Soto Romero, Lieutenant Governor of Alfonso Ugarte is the AGITATOR of the invasions in Sector II APISA of our Cooperative.507

This time taking a different tack, the co-op identified two clear antagonists, against whom they would lodge an increasingly detailed series of accusations. Mejía was labeled a “professional invader habitually dedicated to these criminal acts”,508 and to back up their claim, the co-op’s lawyer supplied the court with an affidavit from the Agrarian Reform Office confirming that Mejía had 30 hectares within another cooperative, called New Horizon, that he acquired by squatting. The evidence presented against Calixto Soto Romero was also compelling. Claiming he was a cheat and an instigator and a land trafficker, they supplied two damning letters. The first came from two of the squatters, who pleaded innocence and asked mercy from Ortiz de Orúe and Tea-Coffee in general. They admitted to clearing a half a hectare each, slashing and burning them under direct orders from Soto Romero.

507 “De mi especial consideración. Por medio de la presente hago llegar a usted para su conocimiento que el Sr. Cesar Mejía es el AGITADOR que está dirigiendo las invasiones en nuestra Cooperativa Sectoe (sic) III, cabe anotar que este señor tiene antecedentes de haber hecho una invasión por Tocache, igualmente quiero comunicarle que el Sr. Calicto (sic) Soto Romero Teniente Gobernador del Caserio de Alfonso Ugarte es el AGITADOR de los invasores de Sector II APISA en nuestra Cooperativa ...”. Ibid., 1.
508 “... César Mejía Argüe es un invasor profesional dedicado a estos actos criminales de manera habitual ...”. Ibid., 53.
Moreover, they claimed Soto Romero charged each 2,000 soles for their lots: 1,000, they said, for the land and another 1,000 “... for the pachamanca [barbeque] for the engineers from Agrarian Reform who are going to come and title our lands ...”.

These weren't the only men who claimed Soto Romero deceived them, however. It turned out both of the squatters had been co-op employees and they weren’t the only ones from within the co-op who were caught squatting. In another letter, F.S.R. came clean under serious pressure from his coworkers. It seems that on his vacation days he too had taken part in the invasions, clearing a parcel of land to plant some corn. The letter expounded on F.S.R.’s reasons, which never included the intention to invade or appropriate the co-op’s property. By dint of a simple mistake, F.S.R. was now persona non grata amongst his fellow members of the co-op, and he feared the pressure might result in his removal. Only later that day, in another document signed before a notary public, did F.S.R. add the crucial detail for the case against Soto Romero: “Expanding on my prior letter I must manifest the following: All of the invasions taking place in the María Teresa Sector are provoked by Calixto Soto, who has been receiving money for every inscription”.

The confrontations that provoked such accusations, and that launched the case in the first place, came on October 21, 1979, when Tea-Coffee Peru members moved to evict squatters from both areas of the property. The conflict turned violent and three of the co-op's members ended up hospitalized with minor scrapes, bruises and

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509 "... para la pachamanca que se va a ofrecer a los ingenieros de Reforma Agraria que van a venir a parcelar y hacer entrega de todos (sic) sus tierras ...". Letter from J.R. and S.P.M. to Jorge Jordán Ortiz de Orúe, Nov. 10, 1979. Ibid., 46.
one broken arm (the number of peasants hospitalized, if any, is unknown). That was when Tea-Coffee Peru lodged their complaint with the sub-prefect and eleven of the invaders were detained. Among them was César Mejía; Calixto Soto Romero remained free. That was also the moment when the case began to focus on identifying ringleaders. While in detention, each of the accused was asked the same set of questions, geared especially toward eliciting who was in charge. And this was the strategy that Tea-Coffee Peru adopted when the case went to court. The bulk of their evidence—including affidavits from some of their own members involved in the invasions—was geared toward catching Mejía and Soto Romero. But this strategy proved difficult as events escalated and the movement to occupy Pra Alto lands was revealed as the amorphous conglomerate that it was.

After a few weeks of seeming calm, the co-op appealed to Judge Orellana to take immediate action, as the accused had been impeding their work and co-op workers had received daily threats. Soon there was another confrontation. In a new complaint from December 18, Ortiz de Orúe alleged a new defendant, Oriol Vidal Salvador Campos, helped César Mejía in organizing others as they let havoc loose around Campo Grande. Ortiz de Orúe accused the men of destroying barbed-wire fences, damaging a bridge along Pra Alto’s internal road, setting fire to co-op vehicles, including a tractor-trailer; they also harmed a head of cattle and took two co-op workers hostage on December 13, all while armed with fire arms, sticks, rocks and Molotov cocktails.  

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511 Certificados médicos 1204, 1205 and 1206, dated October 23, 1979 ibid., 55–57.
512 Oficio dated December 11, 1979, and the denuncia dated December 18, 1979. Ibid., 76, 78–79.
Though he had never come up in the case thus far, Salvador Campos represented the ultimate threat to the co-op. He moonlighted as president of La Esperanza Association of Agricultural Workers, a community group charged with organizing the squatters that, according Ortiz de Orúe, claimed every one of the defendants as members. While the case launched in April floundered based on the sheer number of people and social connections involved, the discovery and portrayal of Salvador Campos as the highest up, and most violent, of all the organizers gave Ortiz de Orúe an opportunity to make the case about one man and his actions. He had already tried it with Mejía and Soto Romero, but they had a lot of evidence in their favour. With Salvador Campos the co-op could take a loose movement they had unsuccessfully painted as individualistic, greedy and anti-co-op and make it all the work of one antisocial arch-enemy.

Ortiz de Orúe’s protests following the December events injected a new vigour into the court proceedings. Until that point investigators had merely brought Mejía and Soto in for preliminary hearings and collated the evidence that Tea-Coffee of Peru amassed for them. Now, two months after the skirmish that started things, they renewed the effort to collect testimonies only to find most of the accused men were gone. Over the first three months of 1980 the court set about finding them, dispatching the Civil Guard to search in Tingo María, Pueblo Nuevo and Anda on five different occasions. Yet without defendants to try, and despite the evidence against the supposed ringleaders that Té-Café had amassed, the case against these twelve Campo Grande invaders went much like the parallel case against the other eighty-five—it closed after the statute of limitations ran out with no one sentenced.
From the court’s point of view, the co-op had the loudest and most active voice in the land invasions taking place through Pra Alto. Mainly through the person of Tea-Coffee’s lawyer and general manager, Jorge Jordán Ortiz de Orúe, investigators painted a picture of a few individuals acting against the communal, indeed the national, interest to swindle landless peasants and make money off of the one entity that the Revolutionary Government of the Armed Forces had held up as the central protagonists of its revolution: the Cooperative. Yet if the objective was to evict squatters or see the main organizers imprisoned, Tea-Coffee failed. To understand why, one must look to the invaders’ perspectives. What follows is the story of Pra Alto as told through their experience.

6.4: “Moral and Material” Improvement

César Mejía must have been pretty rattled when the PIP interviewed him about the Tea-Coffee land seizures. In the preceding week he had seen his crops destroyed; he’d been called an agitator and an invader; and along with ten fellow farmers he’d been arrested. After sitting in custody for two days, he was now facing interrogation. The officers presented him and the other men with the same set of general questions: Do you know why you’re here? Why did you invade Saipai? Who instigated the invasions? But Mejía was also taken aside and pressed with more specific questions. He admitted he invaded co-op lands; about two months prior he heard Tea-Coffee of Peru was being invaded and he went to the organizers and asked if he could have a plot. He also admitted to being an organizer. According to the police report he explained that soon after arriving, he was elected president of the Saipai Farmer’s Committee, which was formed to help manage the ordered
division of invaded lands and advocate for the peasants’ legal rights. Some of the other men described how, when they arrived, Mejía was there with a one-hundred-meter rope to section off plots in one-hectare increments. He then registered the newcomers and left them to their business. In a resounding chorus, those who admitted invading justified it because they had no land of their own. Some said they did it in name of their families and some explained that they did it because the land was abandoned. For his part, Mejía added that he had been involved in a similar action on the New Horizon Cooperative about two years earlier, and when he had to leave that land for family reasons, he found the Pra Alto invasion in medias res.513

This version changed a week later when Mejía had his preliminary hearing and testified that in fact the Pra Alto land was abandoned. To attest to this claim he cited a public deed authorized by the Ministry of Agriculture that declared Pra Alto state property. His new account also dramatically expanded the scope of the invasions. This time accompanied by a lawyer, Mejía testified that:

... we are four hundred farmers that have occupied the virgin forested lands for two, three and four years, said forests are abandoned and the only owner is the state and we find ourselves obligated to work said lands for two reasons: one is to satisfy the elemental needs of our families and the other is to collaborate in society.514

514 "... somos cuatrocientos agricultores que ocupamos las tierras vírgenes con monte alto desde hace dos, tres y cuatro años, dichos bosques son abandonados y el único propietario es el Estado y nosotros nos hemos visto obligados a trabajar dichas tierras por dos motivos: uno para satisfacer las necesidades elementales de la familia y otra es la de colaborar con la sociedad". Instructiva dated November 6, 1979. Ibid., 40.
Now speaking less as the individual in police custody and more as the leader of a movement, he transitioned into the first-person plural. “We have been on this land for long time”, was a statement he could only make as president of the Saipai Farmer’s Committee, but it underlined two salient details: the first—that this case dealt with only a few of the most recent adherents to a much larger movement—was borne out by the case against eighty-five other Campo Grande\textsuperscript{515} peasants that was simultaneously going through the court; the second point—that Tea-Coffee was the newcomer—was to be a point of contention. In the police report following Tea-Coffee’s orchestrated yet botched attempt to evict the farmers, the PIP mentioned that people had been invading Campo Grande since at least January of 1978. It is likely that the public deed Mejía cited dated to this period, just between the dissolution of the Eastern Peru co-op and Tea-Coffee’s acquisition of Pra Alto and the idea of land resting on the shoulder of La Marginal, along the banks of the Huallaga, and that had yet to be exhausted, might revert back to the state could surely have piqued people’s interest. Moreover, considering Pra Alto’s long history of peasant seizures dating back to the days of Humberto Magallanes, it was likely that landless peasants were farming Campo Grande as far back as early 1978. And in fact the testimonies of other peasants confirmed it.

R.C.G. was fifty-eight years old when he was arrested at Campo Grande on October 27. He had no land, no possessions to speak of, eight children and he earned

\footnote{\textsuperscript{515} Campo Grande and Soledad were located within the Saipai sector of Tea-Coffee of Peru’s holdings.}
a monthly salary of 5,000 soles as a driver.\textsuperscript{516} Since early 1978 he had been working two hectares at Campo Grande, where he planted corn and yucca and maintained banana trees. In testimony he explained that he also reserved other lands beyond that two hectares for rozo, or swidden farming in which the land was left fallow, then cleared and the cut vegetation left to decompose. He never denied the land he was working belonged to Tea-Coffee, but he roundly rejected the allegations that he threatened co-op workers or damaged co-op property. He also tread a thin line between acknowledging Tea-Coffee’s title and defending his own rights to the land, stating that when they acquired Pra Alto, “well after [he] took possession”, he approached Tea-Coffee Peru’s Administrator, Chiyuki Saito Okochi, about joining the cooperative on account of his having already been there working the land.

H.V.S.’s testimony also confirmed the longevity of this chapter in the land seizure movement at Pra Alto. At eighteen years old, and living on the good graces of his parents, H.V.S. saw a chance to strike out on his own at Campo Grande. He was one of the latecomers and, indeed, the fact that the camp was well established was part of what appealed to him. When he and his cousin were picked up, not more than a few minutes after arriving on the afternoon of October 20, 1979, he had only been working his two-hectare plot for about six months. While he planted the usual corn, he was also experimenting with rice as a cash crop and he figured there shouldn’t be any trouble because all of his immediate neighbours had been doing the same for much longer. So, encouraged by the fact that no one had been evicted, he cleared and planted land that—in his view—was abandoned. While thirty years R.C.G.’s

junior, he nonetheless used much the same reasoning when he moved into Campo Grande, citing emptiness and economic need.

Though summoned, none of the other ninety-two peasants that Tea-Coffee Peru accused ever appeared in court. The seven who were detained alongside César Mejía, H.V.S. and R.C.G. backed up much of what they had said about motives and circumstance when the PIP interviewed them. They all told investigators they were landless and that was their primary reason for heading to Campo Grande. Half of them explicitly cited the need to provide for their families as cause for going to Campo Grande. Though some, like R.C.G., hoped to leverage the land’s fertility to feed a numerous and widely dispersed family, others brought families with them in the hopes of homesteading. Lastly, emptiness, expressed as abandonment, was what justified at least three of the defendants.

Meanwhile the one suspect tied to the Apisa seizures, Calixto Soto Romero, maintained complete innocence. While very few of the Campo Grande peasants denied staking a claim, Soto Romero presented himself as an upstanding member of the community and leaned on his social credentials to prove he had nothing to do with any of the invasions. For Soto Romero, his social class distinguished him from any invader. He owned land with clear title; he earned a decent income; he was a family man and a devout Catholic; and he had been lieutenant governor in Alfonso Ugarte for seven years without a complaint against him. In testimony he rejected the label of invader because he was independently farming corn, coffee, bananas, cacao and other crops on titled land, and the evidence he accumulated in his favour drew a telling picture of the social stratification that separated him from the other
defendants. Unlike any of the other ninety-six people embroiled in court battles with Tea-Coffee, Soto Romero presented a list of character witnesses who vouched for his social standing and his whereabouts on the day of the encounter between one hundred or so peasants and co-op workers.517

Soto Romero was certainly aware the invasions were taking place. In his position as lieutenant governor, he consulted with Werner Bartra García at the Agrarian Reform Office over how to handle the issue some two months earlier. This no doubt brought him to the attention of the co-op and invaders alike, situating him as a kind of easily misunderstood intermediary. On the morning of Sunday, October 21, Soto started his day in church, a detail that while not relevant to his whereabouts during the confrontations that afternoon, he stressed nonetheless in every interview, testimony and affidavit he gave to the court. His status as an evangelical in the community seemed to him a crucial factor in separating himself from the other defendants and establishing his innocence. It was only after returning from church that he transitioned into his role as a local authority and involved himself in the events taking place at Apisa. His own testimonies, and an affidavit from the city manager of Alfonso Ugarte, have him briefly returning home after church and then heading to the local Civil Guard post to convince them to intervene.518 To his dismay, his efforts were futile since the Civil Guard was understaffed, but he did succeed in further entwining himself in the increasing tensions just as they boiled over.

517 Manifestación dated October 27, 1979; Instructiva dated November 5, 1979; and Oficio dated November 20, 1979 ibid., 20, 39, 62.
518 Instructiva dated November 5, 1979; and Oficio dated November 22, 1979 ibid., 39, 62.
Why he was singled out by Tea-Coffee Peru just isn’t clear. The most likely explanation is he stood out as a figurehead, just when Tea-Coffee was shifting to a two-front strategy of intimidating everyday peasants while identifying ringleaders to challenge in court. At that moment, doing anything to differentiate yourself could make you a target and, though nothing but the two suspect letters from co-op members—who themselves where facing retribution from the co-op for also taking land—pointed to Soto Romero as an organizer, he did raise his profile when he urged the Agrarian Reform Office and the Civil Guard to intervene. Whether he did something during those interactions to raise suspicion or the case against him was the sole invention of three men in a precarious situation between the co-op and peasants, Soto Romero’s predicament illustrated the extremes to which constructions of family and social position could be manipulated in cases of contested land. On the one hand, in order to prove his innocence Soto Romero had to demonstrate how his identity aligned with social morays that put a premium on domesticating land for the private benefit of an individual and his family. And he relied on his standing within the religious and political communities of Alfonso Ugarte as evidence of his success in doing so. Yet, on the other hand, it was that very same success, the fact that he so closely embodied the ideal social subjectivity envisioned through the colonial project, which put him in Tea-Coffee’s sights.

There is little evidence to form a good sense about the final so-called agitator, Oriol Vidal Salvador Campos. Like most in the area of Aucayacu, he was a farmer; he was married and in his early thirties when he found himself embroiled in the Tea-Coffee land conflicts. Perhaps by coincidence, he only entered into court records
after the final piece of evidence vindicating Calixto Soto Romero was filed. The last we hear of Soto Romero was in an affidavit from the city manager of Alfonso Ugarte on December 5, and Salvador Campos first appeared on December 13, when he, César Mejía and others allegedly vandalized co-op property and took two co-op workers hostage. Whether this was part of a concerted strategy to redirect attention to a new figurehead just as the case against another was crumbling, the arrival of Salvador Campos marked a moment of Aristotelian anagnorisis in the story of Pra Alto when the extent of peasant organization becomes much clearer. While the Saipai Farmer’s Committee (SFC) that Mejía headed represented an ad hoc effort to conduct the invasions in an orderly manner, La Esperanza Association of Agricultural Workers, which elected Salvador Campos as president, demonstrated the level of collective coordination that the seizures took on almost from the outset. Peasants had been organizing invasions of Pra Alto since the first incursions of the 1950s, so Tea-Coffee’s early attempts to portray this current wave as a spontaneous and haphazard move quickly dissolved. What the formation of La Esperanza Association of Agricultural Workers showed was that well before Mejía arrived, peasants were already meeting as a collective in regularly scheduled general assemblies to advocate for their rights and attend to the daily logistics of working as independent farmers. The Association had an eleven-member executive that comprised a president, vice president, treasurer, secretary, sub-secretary, and six peasant liaisons who coordinated meeting times and raised member issues before the executive.
La Esperanza also set strict guidelines on who was eligible for membership and what rights and obligations came along with it. Members had to be landless heads of families dedicated to working the land without any plans to sell it. Moreover, they were to “have the character of a farmer, whose only means of subsistence be agricultural work”. Those who met these criteria, and paid regular dues, boasted the solidarity and backing of their fellow members and could also count on advocacy surrounding issues of tenure, land management, agricultural production and other aspects of working the land. Indeed, from its inception, La Esperanza took a firm stance on the Campo Grande lands. Chapter One, Article One of its constitution stated in no uncertain terms that it was situated “on land in its possession, which was in a state of abandonment until members of the Association began to work it”. In the same defiant tone, Salvador Campos and the Association's secretary, José Salas López, claimed Campo Grande as their address of record.

The juxtaposition of this form of peasant organization with the Saipai Farmer’s Committee reveals some telling contrasts and some striking similarities. While every indication is that the purpose of the SFC was to ensure the ordered seizure of Campo Grande lands, La Esperanza was more heavily invested in the legal battle to ensure peasants could stay. Alongside such differences in mission, what constituted membership also varied substantially between the two organizations. In what could be read as a consequence of increasing pressure on Campo Grande’s land base, one

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520 “... en terrenos que tiene en su posesión, las mismas que se encuentran (sic) en estado de abandono hasta la fecha en que los socios de la presente Institución ingresaron a trabajar”. Ibid., 100.

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had to claim between six and ten hectares to be eligible for membership in La Esperanza—the older of the two groups—while Mejía and the men he registered in SFC worked just one-hectare plots. The one unifying thread that bound these two organizations together, however, was their commitment to the notion that empty land warranted, indeed deserved, landless male farmers who would work it for the “moral and material” improvement of themselves and their families. Whether in statements to police, affidavits and testimonies before the court, or the constitutions of peasant organizations, this core tenet of the Belaúndean colonial project was the central governing paradigm behind the seizure of Campo Grande.

6.5: Bananas Equal Time and Confidence

In the battle for Pra Alto, peasants and co-op lawyers all vied to have their respective timelines accepted as the official version of events. Based on the interview he gave while in detention, the PIP was prone to agree with César Mejía’s claim that the seizures had been going on for years, until Jorge Jordán Ortiz de Orúe took them to task. In his first complaint against Mejía and his eleven co-defendants, Ortiz de Orúe explained to Judge Orellana that he had tried to bring the invasions to the attention of authorities since September 1979. And, in fact, his first complaint about Campo Grande invasions in general dated to May 1979. It became clear the agreement on the date the invasions began would be contentious when Ortiz de Orúe expressed outrage at the PIP’s police report, denouncing how they had “denatured”—or altered—his account. While the PIP contextualized the Mejía case saying that invasions began in January of 1978, Ortiz de Orúe insisted they distorted

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521 Among the objectives of La Esperanza was “b) Luchar por la superación moral y material de los socios”. Ibid.
reality and demanded the court acknowledge that in fact the conflict only began in April of 1979. Of course the other side made its own attempts to retroactively establish a firm start date. This would explain the discrepancy between Mejía’s police interview and his testimony in preliminary hearings ten days later. In the former instance he began his account with his own arrival at Campo Grande in August 1979, but in the latter his account went back to early 1978, when the Pra Alto land was in transition between the Eastern Peru Co-op and Tea-Coffee. Considering the Agrarian Reform Office officially merged Eastern Peru into Tea-Coffee on February 10, 1978, and Tea-Coffee only received title to Pra Alto a month later on March 16, there was time when Pra Alto had to revert back to the state in order to transfer ownership to the newly formed co-op. In that period of at least a month the land was in flux and if the peasant organizers could establish that they launched occupations near that time, they hoped they could argue they had squatters’ rights. That is probably why following the confrontations of December 1979, and facing allegations of kidnapping and vandalism, Oriol Salvador Campos and José Salas entered La Esperanza's constitution into public deeds, thereby creating a notarized public record that confirmed La Esperanza was formed by vote of a general assembly held in April of 1978.

In circumstances such as these, when establishing a clear timeframe was a critical point of contention, visual inspections were a crucial source that could point

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523 Manifestación dated October 26, 1979 (that date is likely a typo seeing as Mejía wasn’t arrested until October 27 and all of the other detainees gave interviews on October 29); and Instructiva dated November 6, 1979 ibid., 8, 40.
525 Escritura Pública dated December 20, 1979 “Expediente 519,” 100.
to a more neutral accounting of time. In some ways counteracting the power
dynamics that governed production, admission and interpretation of evidence in
court, the visual inspections conducted by the Agrarian Reform Office documented a
less partisan arbitration in the form of plant time. In land conflicts throughout the
Huallaga, both plaintiffs and defendants vied to have their respective plant
inventories accounted in the official record. Though ownership claims had to be
articulated through a modern legal idiom—often mediated by lawyers—in the
absence of a clean title, people resorted to ecological transactions, as well as
economic ones, to assert their property rights. This meant that when it came to
untitled land, ownership depended more on one’s relationship to the dirt than his or
her activity in the land market. Clearing and planting land counted toward proving a
claim and, while the genre of the legal complaint (denuncia) could make such
activities legible in the court’s vernacular, there was no substitute for the visual
inspection when it came to reading the story told by plants.

As a genre, the legal complaint sought to organize details that were by nature
case-specific into a methodically categorized—and therefore systematically
approachable—format. In land cases this meant the text began with specifics about
the plaintiff (including identifying documents, address, age, but also elements of civil
and social status such as employment, family, literacy and the like), and then
proceeded through details of the land in question and the charges against the
defendant. The way land was characterized followed a protocol that tended to order
things according to their legal weight. If the owner had a title, certificate of
possession, or documented concession, this was noted up top, directly following the
name the property was commonly known by (e.g. Campo Grande, Soledad, Pra Alto, etc.) and its size. Next came geographical particulars, usually as a list of neighbours or surrounding lot names. Then came a few sentences describing the state of the land, the varied uses it was put to and any other details that the plaintiff (or lawyer) thought relevant to an ownership claim. This was typically where a plaintiff would list all of the work he or she had done on the land and all of the crops planted there. As with the case in Pra Alto, these almost always included annual crops like corn and yucca, but it regularly included perennials such as bananas, citrus trees, cacao and coffee, these latter examples being important cash crops. One result of this institutional predilection was that it encouraged the standardization of descriptors so that unique socio-ecological circumstances were bracketed out in the interests of ease and argument. In one extreme example of the kind of standardization this engendered, a local lawyer, Juan Vásquez Bustamante, used the exact same language in representing plaintiffs of two completely separate cases involving grazing lands.\(^5\) In the face of the trial process’ inherent lean toward generalizations, visual inspections offered all involved a case-specific glance at the facts.

Inspections documented the size of lots, their state of use, structures or other capital improvements made, and most importantly the ages and types of plants found on site. These could be crucial instruments in the adversarial context of a court battle because the plants told their own story. When the Magallanes clan was disputing Pra Alto in 1970, the one piece of court evidence they signed was the visual inspection, which confirmed that they had removed parts of an ill-managed

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cacao plantation to cultivate healthy subsistence crops. Moreover, the age of the crops—three months—confirmed that they moved into the land before the Eastern Peru co-op took possession. Likewise, thirty-two of the eighty-five defendants in Tea-Coffee of Peru’s first attempt to clear Campo Grande and Soledad were present at the visual inspection, while none of them showed up to their hearings. There, too, the inspection confirmed their presence as farmers on the land.

Conversely, in an incident that occurred near Naranjillo, about 10 km up river from the Campo Grande sector of Pra Alto, the lack of a visual inspection held up the entire case. Just as the Magallanes clan was settling into their new fields, on July 20, 1970, A.R.S.’s modest few hectares of yucca, coca, banana and fruit trees was the scene of a violent takeover. Six assailants, one sporting a rifle and popping off a wild shot or two before running out of ammunition, ran him and his family off, pocketing valuables and tossing the rest of their things at the highway’s edge. They then moved in and proceeded to harvest his plants for their own consumption. When A.R.S. pressed charges, the case for robbery and attempted murder went ahead, but the case for invasion languished until the statute of limitations ran out because a visual inspection was never conducted. In desperation, A.R.S.’s lawyer Lucio Orellana Huerta (who would coincidentally preside as judge over all of the Pra Alto cases eight years later) repeatedly implored the court to move ahead with the inspection, often deploying capital letters, but to no avail. A.R.S. even supplied confirmation of crops from the Tingo María-Tocache-Campanilla Colonization
project administration to account for what he had lost, but the missing visual inspection proved the bottleneck that stalled his case.\footnote{527}

It was not just that the inspection was proof-positive of occupation and domestication, nor that it could quantify damages or inventory people and plants alike; rather, in the Pra Alto cases, visual inspections contributed that unique knowledge that came in distinguishing crop types, as well.

Sometime in 1964, Raymond Watters, a human geographer at the University of Wellington in New Zealand, visited sites near Tingo María and Aucayacu to study the impacts of shifting cultivation—or swidden agriculture—on the tropical wet forest. Working under the auspices of the United Nations Food and Agriculture Organization and at the invitation of the Ministry of Agriculture, Watters’ mission was to consult on how to encourage more stable, permanent agricultural practices that could eventually replace the nascent patterns of slash and burn that came with the colonial migratory influx. For him, the main distinguishing factor of shifting cultivation was in the rotation of land instead of crops. This could be achieved through what he deemed a more traditional form, in which a lasting cycle of utilizing, abandoning and fallowing land combined with strong community ties to encourage farmers to remain in and around their villages, but in the Huallaga it was more common for newly arriving farmers—with scant few community ties—to use up the soil after a few annual plantings, and set out to battle more forest land with machetes and firebrand somewhere else.\footnote{528} Watters knew this was not the only way

\footnote{527} “Expediente 119,” 1969. 
\footnote{528} Raymond Frederick Watters, \textit{Shifting Cultivation in Latin America} (Rome: Food and Agriculture Organization, 1971), 27–30; Robin Shoemaker gives an account of how these two
to colonize the area and in crop types he found evidence that more encouraging and certainly less damaging forms of swidden could be practiced. In the varied lateritic soils of the area, grain crops like corn would max out fertility after two or three years of planting, while bananas and other tree crops could withstand longer term. He found, then, that recent arrivals would typically stake a claim by clearing and planting annual crops like corn and yucca, and when time came for fallowing, they would either plant tree crops or move into unworked *purmas* or forestland. If they gave the land a period of fallow, it was too brief at no more than a year or two. Eduardo Bedoya noted a similar phenomenon when he observed that, of the farmers he interviewed about the Saipai invasions, those who had been on the land for some time tended to have tree crops like bananas, coffee or cacao, while all the new migrants grew corn and yucca. Thus crop types helped indicate the sort of colonist one was. While a single man planting annuals might be prone to move on after a year or two, those planting bananas, coffee or cacao were making a statement about their planned permanence. And inspections that noted the presence of such perennials could be read as a testament to the farmer’s time already on the land, as well as his or her intention to stay. Amongst the contentious, convoluted and contradictory discovery process, in which legal vernaculars lent themselves to manipulation by power, bananas were indicative of time on the land and a peasant’s distinct forms of swidden were spatialized in different ways when combined with the more transient forms of settlement inspired by road construction. He distinguishes between “radial” forms of indigenous settlement in which farmers respected fallow periods and reused the same land, and the “lineal” settlements formed along the highway as migrant farmers abandoned used land and moved on. Robin Shoemaker, *The Peasants of El Dorado: Conflict and Contradiction in a Peruvian Frontier Settlement* (Ithaca: Cornell University Press, 1981), 60.

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529 Watters, *Shifting Cultivation in Latin America*, 248–49; Bedoya Garland, “Ocupaciones de tierras en el fundo saipai,” 81; Dourojeanni, “Aprovechamiento del barbecho forestal en áreas de agricultura migratoria en la amazonía peruana.”
confidence in staying. The banana was also an indicator of those peasants who embodied the colonial ideal of domestication.

Though he ended up in court, and in spite of his early years as a peasant organizer, Humberto Magallanes fit the profile of the kind of peasant imagined as the agent of high jungle colonization. Belaúnde’s road colonization, which the Tingo María-Tocache-Campanilla Colonization epitomized, envisioned the jungle as a feminine void awaiting virulent, landless males who, through hard work and patriotism, would forge the Peru of the future one homestead at a time. The colonial unit imagined through the planning process was comprised of active men and their passive families, taming wild nature into individualized, domesticated plots where families would thrive. The land was meant to sustain the nuclear family, not be used to exhaustion and discarded as part of a progressive, voracious march ever deeper into the forest. But the ecological realities of unstable, nutrient deficient soils combined with economic prerogatives and questionable tenure to necessitate some form of shifting cultivation, which could sustain a permanent homestead if the needed fallow periods were respected, but more often sent farmers in search of new land after a couple of years in one place. As a landless migrant farmer with a sizable family, Magallanes was just the sort of man planners yearned for. And his recurrence through different chapters of the Pra Alto story demonstrated that he was working to achieve permanence on the land, within the ecological confines that surrounded him.

When Magallanes and his three relatives came up against the Eastern Peru co-op in 1970, they had seized land that was mostly second-growth purmas that—whether
by intent or neglect—was in the process of recovering much-lacking nitrogen, magnesium and phosphorous. The land bordered their own overworked property and they moved in making the bold statement of planting bananas. This was a shift in cultivation necessitated by the soil that resulted from a common outcropping of the colonial understanding of land. As with many defendants in cases of usurpation, the Magallanes made a calculated choice to exploit nearby purmas instead of leaving the area to clear new forests. But their predicament was as much tied to a culturally constructed notion of emptiness as it was to soil content.

While planners and politicians saw emptiness as resulting from a lack of population in and ownership of eastern forests, the peasants who populated the area saw emptiness as something resulting from a lack of man’s mark on the land, expressed through the different stages of clearing, burning and planting that made up the swidden cycle. When trying to evict invaders, people in court didn’t see emptiness as an opportunity as much as a liability. Though virginity was the characteristic that drew Cándido Bolivar, Joseph Tosi, Fernando Belaúnde, and countless unnamed technicians in the Ministry of Agriculture, SCIPA and SCIF to the Huallaga, people trying to defend land claims in court shied away from admitting they held virgin lands. The same people who went to great lengths to fill court complaints and testimonies with inventories of the crops they planted, tucked mention of the inconvenient existence of uncultivated land in between their agricultural achievements. On the other hand, invaders like César Mejía underscored the land’s virginity—even when in reality they were dealing with secondary forests—as a means of situating themselves as the conquering males that the
domestication myth wanted them to be. Of course, emptiness wasn’t merely expressed as virginity.

In fact, it was the much more ambiguous secondary forests that were the greatest source of contention. Woe to s/he who bet on fertility in the place of cultivation and let his or her lands lay fallow, for fallowing was the most inviting form of emptiness. Much of Campo Grande was fallow when Tea-Coffee took possession and launched its failed eviction bid. And though not always pitting peasants against cooperatives, many cases of usurpation revolved around resting, rather than ancient, forestland. In the rainy season of 1978, A.G.E. took W.V.T. to court for clearing and planting the small portion of his land left fallow. Careful to ensure he was making efficient use of all his land, he explained that he had a small island property in the Huallaga River planted in its totality, with the exception of a few small floodplains that he let restore during the river’s high season. He assured the court that he planned to farm that land too, once the threat of floods diminished, but seeing an opportunity, W.V.T. beat him to it and set the recent purma caspi brush ablaze in preparation for planting. Because in instances like this the fallow lands of others presented easy terrain for cultivation shifts, fire was a common tool of usurpation. Indeed, as much as it served to prepare the ground for crops, it was also a statement of ownership.

Many of the land seizures in Soledad required that peasants have at the forest with flames, and similar to a phenomenon that Susana Hecht and Alexander

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531 “Expediente 417,” 1978, Juzgado de Instrucción, Leoncio Prado, CSJH.
Cockburn observed in 1980s Brazil, this early stage of swidden agriculture was a
common means of acquisition practiced by land speculators.\textsuperscript{532} Instead of marking a
claim with crops, A.B.F. burned half an hectare of reforestation land in order to sell it
to Ms. P.R.H. in early 1979.\textsuperscript{533} In this case the perceived emptiness came in the form
of a reforestation contract granted to the Areasa timber outfit. According to the
police report, Areasa was farming mahogany and sitting on natural forest reserve
outside Aucayacu when A.B.F. and others began burning. While the other peasants
said they didn’t know that invading forest reserves was prohibited, A.B.F. had
received a warning from the Forest Service six months before selling to P.R.H. and
signed a promise to stop clearing land. Interestingly, the Areasa case dealt with
some of the earliest attempts to give nature a legal status during the Age of
Development in Peru. As Cándido Bolívar’s ambivalent defence of the Huallaga
demonstrated, there existed two models for conceptualizing a modern rainforest:
fortress conservation and colonization. In the early 1960s, Congress passed the first
pieces of legislation institutionalizing nature reserves. In theory these would be
islands of untouched forestland surrounded by vast domesticated swaths. But in
practice, this form of the protected modern rainforest could not be articulated
through the court’s vernacular and stood in blatant opposition to the colonial
impulse. Nature reserves exuded emptiness and thus called to potential colonists
while the courts had little means to assert the rights of nature. This was another
form of incommensurability that thwarted the institutional impulse to apprehend

\textsuperscript{532} Hecht and Cockburn, \textit{The Fate of the Forest}, 1989, 122.
\textsuperscript{533} Atestado policial dated September 21, 1979 “Expediente 443,” 1979, 12, Juzgado de
Instrucción, Leoncio Prado, CSJH.
nature; the mechanisms of the court that placed primacy on a subject’s written presence couldn’t be effectively wed to the competing worldviews that envisioned a modern rainforest. Thus, the protected forests under Areasa’s control beckoned A.B.F. back and by January 1979 he was again selling sections of cleared land. In his defence, he resorted to a common self-portrayal that characterized most all Huallaga land conflicts.

Indeed, the Areasa case echoed a lot of the tropes in play at Pra Alto. To begin with, the crux of the allegations against A.B.F. was that he cleared land for sale, not to support his family. That this could be read as violating the domestication myth, sitting more easily in the mercantilisation of land than its submission to the patriarchal order, made the case against him even more serious. Indeed, once Tea-Coffee of Peru homed in on perceived organizers, they too attempted to intensify the accusations against César Mejía and Calixto Soto Romero by suggesting those men were in it to market land, not cultivate it. This distinction—drawn between cultivator and middleman—was something many leveraged to protect their land claims.

In 1978, L.A.A. lodged a complaint against O.V.C. and his father, A.V., in which he denounced the invasion of his pasture. L.A.A. was raising cattle and growing coca on sixty hectares that he obtained from the Tingo María-Tocache-Campanilla Colonization in 1973, and was shocked and offended when O.V.C. tore down his fences and claimed a prime slice of pastureland resting on the edge of the Concha River. According to the complaint, O.V.C. threatened violence to enforce his claim, which rested on a purchase he made from a third party, A.G. The case not only upset
L.A.A., he admitted to the court that he remained perplexed by the defendant’s bravado: how could O.V.C., or the seller, A.G., even imagine that land belonged to them when neither had planted a single crop? “... [Y]ou don’t sell or transfer lands, but the crops on them”, he asserted.\(^{534}\) For L.A.A. ownership rested in cultivation; his experience clearing and planting, for which the Tingo-Maria-Tocache-Campanilla project awarded him a title, bore that out. The nerve of A.G. to claim ownership, and transfer it, when he hadn’t planted anything left L.A.A. dumbfounded. In other cases, a landowner’s lack of experience working the land proved more than vexing, it was grounds for questioning his or her character.

C.G.S. had spent some twenty years working the right bank of the Huallaga near Juanjuí when he was accused of invasion. In this case neither C.G.S. nor his accuser, A.V.P., could give the court proof of ownership. C.G.S. cited a concession granted to him under the Law of Montane Lands in 1956 and another document that purportedly came from the Agrarian Reform Office in 1965, but both had been voided because of his own neglect.\(^{535}\) A.V.P., on the other hand, claimed he acquired the land in a private sale that he was in the process of regularising with the Agrarian Reform Office. Unbeknownst to him at the time of purchase, the land was officially considered property of the state—meaning neither C.G.S. nor A.V.P.’s seller had a formal right. So in the absence of clear documentation, both men resorted to a volley

\(^{534}\) “Expediente 324,” 1978, 4, Juzgado de Instrucción, Leoncio Prado, CSJH.

\(^{535}\) Though C.G.S. didn’t clarify what he meant by neglect, the court later asked for proof of tax payments or exoneration of tax duties and he failed to provide either one. While the first title might have been declared void as part of the wave of expropriations that swept through the Huallaga between 1964 and 1966, it seems likely that the second one—if not both—was voided because C.G.S. wasn’t paying on his property. Affidavit dated June 29, 1971; and Resolución No. 6 dated August 31, 1971 “Expediente 12,” 1971, 11–12, 15, Juzgado Mixto de Mariscal Caceres, CSJSM.
of one-upsmanship—based as much on evidentiary disclosure as on character assassination—to prove their claims.

As his opening salvo, A.V.P. leveraged the sale, the stilted tambo—or frond-laden hut—he contracted for, some citrus trees his wife maintained, and the hectare of pastureland he grazed his animals on to sway the court toward granting him title and evicting C.G.S. For his part G.G.S. tied his claim to his relationship with the dirt; first and foremost he asserted that twenty years of working it made that land his and indeed it was A.V.P. who was invading. The pastures of tururcu and the citrus orchard were improvements that he, C.G.S., made long before A.V.P. dispatched the first of a number of groundskeepers to tend the land in his stead. But C.G.S.’s defence didn’t rest there; after establishing his proximity to the grounds in question he proceeded to unpack A.V.P.’s assertions, demonstrating A.V.P.’s distance from the land with every step. In his declaration, C.G.S. forged a social hierarchy of dirt workers that placed primacy on getting down to earth. At the top of his social order, the most land-worthy of all occupations was that of the farmer. With twenty years of experience and (he claimed) a variety of crops under cultivation, C.G.S. naturally fit this position. Next was the rancher, who though tied to the land, was one step removed from its utilization. The final two social slots in C.G.S.’s dirty microcosm hardly warranted consideration except as examples of what not to be. Those were the position of absentee landowner and, finally, the urban, small-

537 In an inversion of the racialized identities rooted in people’s relationship to the earth that Ben Orlove observed in the highlands, C.G.S.’s appeals suggest that when land tenure was disputed the ideology of progress echoed in the Cooperación Popular program’s cult of dirt provided a social rubric to follow where clear, legalized documentation was absent. See Chapter One and Orlove, “Down to Earth.”
business class, each increasingly distant from the land. At some point or another, C.G.S. managed to fit his accuser in each of these categories but that of the farmer. He asked the court to consider that A.V.P. merely raised cattle on the land in question (on pasture grasses that C.G.S. planted) and even then he used hired hands to watch the herds. Indeed, by C.G.S.’s account, A.V.P. was a manipulative local business owner who, never present on the disputed land, used cattle, cowboys and contracts to try and swindle the court. C.G.S. claimed his accuser fabricated a sale, sent groundskeepers to watch his cattle, and paid to have his tambo built, all to keep the appearance of occupation and domestication, and knowing that the privileges of his urban existence would ensure he’d have no problem displacing the impoverished subsistence farmer whose land he was usurping. Though in this case C.G.S. was the accused, he made good use of the reigning socio-ecological doctrine that said “the land is for those who work it”. Echoing the social cosmography of both agrarian projects to have affected the valley in the prior decade, and complete with a well-placed spelling error for effect, C.G.S. painted his accuser as someone who “[wa]s not and ha[d] never been a farmer”, while he himself, as victim, fit the profile of a “humilde camapeco [sic]”.

The ubiquity of such constructs is telling, for C.G.S.’s example is but one of many in a generalized context of land disputes on the Huallaga frontier. At Pra Alto, though under entirely distinct circumstances, the peasants who bothered to respond to accusations against them painted Tea-Coffee of Peru and themselves

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using much the same sort of adversarial caricatures. This framed rights to land as the unique purview of the farmer and posited socio-economic power—usually non-local, often urban—as deviant and antisocial. The Campo Grande peasants spoke in unison of themselves as farmers with families, while Tea-Coffee represented a violently imperial antagonist with its committee located in Lima. In case after case, C.G.S.’s language of “humble peasants” or “humble farmers” was replicated time and again. Even A.V.P., the Juanjuí businessman who “didn’t even work the land directly”539 listed his occupation as “farmer” on court documents.

That the general framing of the Amazonian colonial project abided by the tropes of emptiness and virility inherent in Belaúnde’s oft-echoed declaration that this was the land without men for men without land was clearly apparent. Despite the fact that this rested on a process of imagining that emanated from the metropoles of Lima and Washington, and the scientific institutions spawned by these power centres, when peasants vying over land title bumped into the state they assimilated—more than resisted—such predominant visions of how progress could and should be forged from the forest. In both the act of invasion and the discourse that justified it before the courts, peasants recurred to the idea that forest domestication—resting as it did on the myth of emptiness and the centrality of the family unit as agent of change—was the ultimate objective. But their adherence to the rhetorical positioning that fed the colonial project was incommensurate with the legal system’s syntactic mechanisms in the post-agrarian-reform era. As part of the Peruvian state apparatus, tribunals betrayed a myopic predilection for bureaucratic

539 According to C.G.S.: “... pues este señor demandante ni siquiera trabaja la tierra en forma directa”. Ibid.
that failed to apprehend the socio-ecological particulars of a colonial project that encouraged men to “create” land where state institutions had yet to implement an effective regime by which it could be rendered legible. In this sense, the court was but another mechanism for bringing land under the state’s purview, as forests bundled under the broad rubric of “state property” became individuated parcels with a paper identity. But it was an inefficient one. Few cases were resolved by anything resembling a clear verdict, so the legibility was only partial—cemented in paper through testimonies full of claims and counter claims. In a context like this, where people who could claim to be upholding the spirit—if not the underlying intentions—of the state’s designs, and who were often backed by court-appointed lawyers, regularly struggled to defend their land claims, the defence of nascent rights bestowed on nature in the form of natural reserves was an overlooked and quixotic enterprise.

To scour court records with the intent of trying each case retroactively is an exercise in futility. Given the scarcity of such seemingly definitive evidence as land titles, area courts were reduced to a reputational Coliseum where combatants vied to accumulate more paper in their own defence. Like most legal systems, and despite the radical changes instated under Velasco, the victors tended to be the more socio-economically powerful. The sole exception that offered some

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540 In a comment to the Washington Post in April, 1966, Belaúnde noted “Si nuestras reformas agrarias se limitan a repartir con un criterio de mayor justicia lo que ya de por sí es escaso e insuficiente, si ellas no abordan la gran tarea, no sólo de dar tierra a quién la trabaja, que es una idea universal, sino de dar tierra a quien la crea que es la idea rectora de la vieja civilización andina”. Sin autor, “La Carretera Marginal de la Selva por la magnitud de la obra adquiera respaldo y notoriedad mundial.”
circumvention of this norm came in the form of visual inspections, which could introduce a counterpoint to the litany of affidavits, public deeds, and transcribed testimonies that favoured literate, connected people of means.

If the multiple visual regimes discussed in Parts One and Two served as a means for the predilections expressed in development discourse to be inscribed into the land, then the visual component of land disputes acted as a sort feedback whereby the land’s truth was inscribed—sloppily to be sure—into discourse. In the varied reasons used to justify invasion (rooted in economics and patriarchy) and consequent land claims (planted crops, evidence of clearing, a lack of emptiness, and social standing as a farmer with ties to the dirt) tenure disputes brought new juridical subjects into being that reverberated, *mutatis mutandis*, the prevailing tropes of jungle colonization. All of these hinged on people’s relationship to the dirt, and in the contentious back and forth of legal disputes, the court’s visual element—the inspection—carried a lot of weight. Visual inspections were, however, a counterpoint at best and rarely served to close a case. Instead they proffered mediated access to the land’s truth, complicating already convoluted court procedures with yet another contending version of reality. To further inhibit the swift application of justice, the decade of the 1970s was also bookended by two challenges that radically undermined the court’s authority.

The first challenge came with the agrarian reform law itself, which instituted a parallel tribunal in the form of the land courts that caused all kinds of bottlenecks in the justice system. In land disputes this meant that usurpation cases brought under the penal code’s Article 257 either languished awaiting the Agrarian Reform Office’s
review, or were dismissed citing jurisdictional problems. The agrarian reform law required all plaintiffs and defendants involved in land cases to be cross-checked with the Agrarian Reform Office to determine whether they qualified as campesinos, and could therefore avail themselves of the new land courts. If they could, the civil, criminal and mixed tribunals that typically tried such cases lost jurisdiction and were forced to leave cases to the land courts. In the early part of the decade this stunted a good amount of litigation as everyone involved adjusted to the new procedural environment. Once those adaptations were made by the middle part of the decade, the courts then began to face what would prove their most severe challenge of the twentieth century: the impunity and corruption that attended the dual rise of drug trafficking and Sendero Luminoso.
Chapter Seven: Developing Cocaine

The story of Pra Alto, and the tale of disputed land in the colonial Huallaga more generally, cannot be told without acknowledgement of the most radical socio-economic transformation to unfold there since en masse settlement took off in the 1940s. Though the conversion of the Upper Huallaga into the global epicentre of illicit cocaine production and trafficking is another story unto itself, it remains one of those incalculably illegible phenomena that permeated every sphere of life in the Huallaga by the late 1970s, and it has to be understood when attempting to understand the role played by courts, peasants, criminals and planners in fabricating the valley’s environmental imaginary.\(^{541}\) I choose the word “fabricate” with caution and intent. I don’t mean to flippantly imply that Huallaga development rested on lies and inventions—though in some cases (like those of Morrison Knudsen and Brown & Root building the Tarapoto-Río Nieva) it certainly did.

Instead I want to suggest that development fabricated a new socio-ecological reality much in the same way that a blacksmith forges a fine tool—by folding layer upon layer of dense and seemingly impenetrable raw fragments into something useful. Each of development’s raw fragments engendered its own reality and in the preceding chapters I have tried to uncover the multifaceted landscapes painted by development agencies, early climate scientists, builders, planners and peasants. In the Age of Development these were used to fabricate a patchwork of new developable spaces. In the case of Peru’s ceja de selva, modern exploration, photographic rituals, schematic sciences, political machinations and criminal proceedings were the ingots of history that development welded into a mutant assemblage where, by the early 1980s, men with zoomorphic handles denoting lunacy (like Mosca Loca) bastardized the lofty objectives of a bygone era. Of the myriad socio-ecological matrices grown out of Huallaga development was the uneasy connection between the Belaúndean colonial project and expansion of the region’s most lucrative monoculture. In its language, spirit and practice—though completely unwittingly and by no means uniquely—road colonization developed cocaine.

Though court records only tell a fraction of the tale, the number of cocaine-related criminal proceedings indicates cocaine’s spread through the valley over the course of the 1970s. In the early 1970s, hardly any cases of cocaine trafficking entered the courts. By 1986 cocaine was wreaking socio-ecological havoc on the Huallaga. In addition to autochthonous cartels aligned with Shining Path militants who inflicted a culture of terror on the valley, Colombia’s infamous Medellín Cartel
exercised transient power throughout the valley. The environmental consequences were dire, too. More than 120,000 hectares of cleared forest went to coca production and it was estimated that the annual discharge from clandestine labs amounted to some 57 million litres of kerosene, 32 million litres of sulphuric acid, 16 metric tons of unslaked lime, 3,200 metric tons of carbides, 16,000 metric tons of toilet tissue, 6,400 litres of acetone and almost as much toluene, all spilling unchecked into the Huallaga’s hydrological web.\footnote{Paul Gootenberg, “Peruvian Cocaine and the Boomerang of History,” \textit{NACLA Report on the Americas} 47, no. 2 (2014): 48; Mac Gregor, \textit{Coca and Cocaine}, 118.}

The first time that cocaine entered the court was in 1973, after a sequence of events that seemed more fitting to a Hollywood set than the idyllic high jungle so frequently touted as the promise of Peru’s future. The crime had all the elements of Aristotelian drama: naïve novice dealers; a sinister limeño trafficker as antagonist; a late-night exchange; and fraudulent betrayal.

Around 10:00 o’clock on the night of April 28, 1973, Gregorio Pajuelo Fernández and his uncle, Darío, met their buyer’s father in the central plaza of Monzón, roughly forty kilometers up the tributary of that same name from Tingo María. Monzón was growing a reputation for exporting basic cocaine paste (\textit{pasta básica de cocaína}, or PBC)—the product resulting from the first of three phases of converting coca leaves to cocaine—and the guileless uncle-nephew duo wanted to situate themselves as middlemen. So they dropped their savings on just over six kilos of \textit{pasta básica}, tacked on a twenty-percent mark-up and started fishing for a client. It wasn’t long before a neighbour came forward. His son would be visiting from Lima and stood to make a lot of money selling the Fernández’s crude PBC to refiners on the coast or
other traffickers moving PBC to the burgeoning processing labs that littered pre-Pinochet Chile.\textsuperscript{543} Under cover of night they rendezvoused at the plaza and made their way back to the neighbour’s house. When the deal was over, the Fernández’s had 76,000 sols in crisp one-thousand-sol bills. Unfortunately for them, it took the discerning eye of a local shop owner to see the bills were counterfeit (Figure 7.1) and by the time that happened the next morning, their buyer and their drugs were well on their way to Lima. Exposing their tragic flaw—indignation or naïveté—the Fernández’s reported this betrayal to the local Civil Guard, prompting a brief investigation that easily exposed the larger crime in which the bills were implicated. The Fernándezes were given a slap on the wrist, paying fines of 5,500 sols each, but their case exposed the operation of a small narcotrafficking crew that epitomized the style of early illicit cocaine production in the Huallaga.\textsuperscript{544}

The purveyor of the false bills, Manuel Arcayo Céspedes, and two associates, brothers Wilmer and Eybel Pinelo, had been processing coca into PBC in small quantities of around one kilo out of a fundo outside Monzón for nearly six months. Their operation consisted of a rudimentary chemical process that used sulphuric acid and kerosene to extract the cocaine alkaloid (one of twelve present in the coca plant, \textit{Erythroxylum coca}) from coca leaves utilizing clandestine plastic-laden...

\textsuperscript{543} In his canonical study of the global commodity chains that fuelled Upper Huallaga cocaine production and trafficking, Paul Gootenberg situates the September 11, 1973, coup that ousted Chilean President Allende as a watershed in cocaine history. Until that time, most illicit processing of PBC was done in Chile and the U.S.-friendly Pinochet crackdown on chemists and smugglers opened the way for the now-infamous Colombian cartels to take over. Gootenberg, \textit{Andean Cocaine}, 297, 301–6; The prominence of Chile as a cocaine-export hub through the 1940s, 1950s and 1960s is also discussed in Eduardo Sáenz Rovner, \textit{The Cuban Connection}, trans. Russ Davidson (Chapel Hill: The University of North Carolina Press, 2008), 99–100; and Gootenberg, "Cocaine’s Long March North, 1900–2010," 165.

\textsuperscript{544} Atestado Policial dated May 2, 1973; Dictamen dated September 7, 1973; and Sentencia dated July 15, 1974 “ Expedientes 930 y 932,” 1973, 1-3; 121-122; 195-206, Juzgado de Instrucción, Leoncio Prado, CSJH.
“pozas”, or pits (Figure 7.2), hidden amongst typical subsistence and small commercial crops. In the following years these pozas littered the valleys of the Huallaga and its tributaries as cocaine production seeped north from its traditional origins farther up river, marking not only its spatial spread over the next two decades but its increased sophistication.

The geography of cocaine paste mapped exceptionally well to the varicose expansion of the regional road network. The drug’s heartland adhered with astonishing precision to the confines of the Tingo María-Tocache-Campanilla Colonization, and tracked northward from the nearly exhausted traditional coca lands between Huánuco and Tingo María to settle its capital on the quiet hamlet of Uchiza, perched some ten kilometers up the small Chontayacu River, tributary of the Huallaga near Tocache. This northern progression is clearly charted through court cases, as the earliest cases from 1973-1975 were all concentrated around Tingo María and its—especially southern—surroundings, often involving stops at the Las Palmas customs checkpoint outside the city.

The road network not only sketched the boundaries of the early geography of what Paul Gootenberg calls cocaine capitalism, it also facilitated growth of the illicit sector. Pozas were regularly discovered near road access, sometimes within meters

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545 The organic source of cocaine, the coca plant, is recognized as one of the oldest cultivated plants in South America, dating its cultural and economic significance far passed Abert Neimann’s 1860 invention of cocaine hydrochloride and its subsequent creolization by Alfredo Bignon. The work done by Timothy Plowman in the 1970s and 1980s (the boom years of the cocaine trade) to underline this plant’s millennial past has become the stuff of legend thanks in no small part to Wade Davis’ memorializing. For a sample of Plowman’s work on Erythroxylaceae see Timothy Plowman, “Botanical Perspectives on Coca,” Journal of Psychedelic Drugs 11, no. 1–2 (1979): 103–17; For the impact of Plowman’s work, see Wade Davis, One River: Explorations and Discoveries in the Amazon Rain Forest (New York: Simon & Schuster, 1996); On Alfredo Bignon, see Gootenberg, Andean Cocaine.

546 Gootenberg, Andean Cocaine, 294–95.
of La Marginal. And in some cases road building was the activity that brought future narcotraffickers together. Roberto Doria Ramírez and Augustín Ramos met working in an MTC road camp on the La-Morada-Tocache segment of La Marginal in 1972. When road work dried up, Doria scraped together a living plying the lanes he helped build as a colectivo driver between Tingo María and Tocache, but was unsatisfied with his meagre driving wages. So he teamed up with Ramos to start a poza outside the village of Ricardo Palma, only to have his neighbour turn them in before finishing its construction. As a taxista who knew the roads and had the intra-regional connections that go with such work, Doria’s case exemplified the early years of illicit Huallaga cocaine. As a reflection of the trade’s reliance on regional infrastructure, all of the cases before 1976 (except that of the Fernándezs) involved distance colectivo drivers like Doria and most dealt with highway trafficking from Tingo María to the departmental capital, Huánuco. From there, product presumably continued to Lima on the same route that Manuel Arcayo planned to use in 1973. Small crews running PBC out to the coast on roads marked these early years. Julio Constantino Marín Reyes headed one of the bigger organizations that ran the up-river trade through the 1970s. Based near Chinchao—the same area whose unequalled beauty compelled Ramón Ferreyra to advocate its designation as a National Park in 1948—the Marín Reyes group relied exclusively on a fleet of borrowed trucks and vans to transport supplies and product.

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547 “Expediente 114,” 1976, 153, Juzgado de Instrucción, Leoncio Prado, CSJH.
548 “Expediente 76,” 1975, Juzgado de Instrucción, Leoncio Prado, CSJH.
Nineteen seventy-six was a watershed in Huallaga cocaine. It marked the first year that the courts registered activity farther down river in San Martín and that activity pointed to new trafficking routes. The year also marked a large jump in the quantity of cocaine in play and it opened a new chapter in Huallaga imagining. Until then, drug trafficking in San Martín was unheard of, at least in the courts. Early in the year the court saw its first trafficking cases when a string of busts cracked down on pot growers in the Mayo Valley. Three cases in March all dealt with small-scale growing and selling along the Morrison Knudsen-built stretch of La Marginal between Tarapoto and Moyobamba. But it was in September when the PIP broke a case unlike any seen thus far.

The case against Carlos Gálvez Galán, César Augusto Duarte Ramírez and others exposed the extent of cocaine’s permeation into the Central Huallaga, and gave a glimpse into the methods deployed to move PBC from its source in Uchiza down river to Juanjuí, then along La Marginal to Tarapoto and finally on to Iquitos, from which point it would surely be destined for the trans-border port of Leticia. The case also offers insight into the myriad of interlocking networks implicated in trafficking even at this early date. For in addition to the family and friendship ties that bound those involved, the case suggested the complicity of regional transport companies and raised issues about the position of local and national law enforcement in the new political geography of cocaine. Yet to be sure, the way this case pointed to such truly tectonic shifts in the story of Huallaga cocaine was indirect. Indeed, if anything,

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the events surrounding the case point to an emerging Huallaga imaginary, one in which coca was the primary cash crop and illicit markets replaced those envisioned by a generation of planners.

On a personal note, this case is without doubt the most frustrating source that I have slogged through in all my study of Huallaga Valley development. Delving into it I found that my understanding of events waxed and waned in line with that of the presiding judge, Luis Calderón Bedoya, who early on wrote to the President of San Martín’s Superior Court that: “It seems to deal with a well-organized gang of drug traffickers, and that the Specialized Investigative Police [PIP] that have come from Lima has undertaken the preliminary investigation”.551 Calderón’s communications with the court president read as confident and clear-cut; this case shouldn’t take long, since the PIP’s special narcotics branch was on it. And indeed from the police report things did seem obvious.

The PIP’s report summarized a rash of unsettling activities that centered on the transport of some 134.75 kilos through the valley dating back to 1974. In compliance with orders from PIP headquarters in Lima aimed at “the total eradication of narcotics traffic in the country”, PIP agents arrested four local businessmen and issued a warrant for a trader in Iquitos.552 Upon further investigation, they also revealed the active participation of four Civil Guard officers...

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551 “Parece que se trata de una banda bien organizada de traficantes de drogas, i [sic] que la policía de investigaciones especializada que ha venido desde Lima ha hecho las primeras investigaciones”. Oficio dated October 27, 1979 “Expediente 119a,” 1976, 43, Juzgado de Instrucción de Tarapoto, CSJSM.
involved in orchestrating drops, running the implicated transport company, and extorting their co-accused.

Understanding the context surrounding this mandate is crucial. Pressure from the United States to curb coca production had been mounting over recent years, including efforts to tie narcotics eradication to foreign aid; train Peruvian Civil Guard officers in enforcement; and shame Peru under an increasingly public and multilateral denunciation of its increasing cocaine exports. Such pressure could not have been lost on the higher echelons of the PIP and certainly filtered down to local offices.553

The case against these men was rife with inconsistencies that raise serious questions about even the most fundamental facts of who transported what when. Preliminary hearings were at variance with interrogation transcripts in the police report and sometimes defendants contradicted themselves, even within the same sentence. Alarmingly, no drugs were actually confiscated, despite thorough searches of the detainees and their homes. Unlike in similar police reports that inventoried amounts of drugs seized, or incriminating substances (ranging from excessive stores of kerosene, sulphuric acid or sodium carbonate to cinder blocks or plastic lining used to make pozas), the only evidence confiscated in this case was a scale allegedly used to weigh one seven-kilogram shipment. Indeed, the bulk of the PIP’s case rested on the word of one man already in custody for a seemingly unrelated crime.

Judging from court records, one would assume Carlos Gálvez Galán was a cancer who affected anyone with the sour luck to slip into his orbit. When the PIP grabbed him in early September for robbery, he was wanted in Trujillo, Juanjuí and Tingo María for charges mostly tied to petty thefts. While in custody in Tarapoto, he revealed his participation in a much more serious drug trafficking ring and implicated a number of other acquaintances. The way his name was liberally peppered through the case documents it becomes immediately clear that—despite the innocence or guilt of his co-accused—he was the author of the actions on trial. And “author” is the appropriate word, for as you read through the case you can practically see him spinning yarn after contradictory yarn. For me, reading Gálvez’s varied testimonies was like watching a trapped ant scurry from one doomed escape to the next. Simply by dint of his varied versions, it was clear Gálvez was crafting a story more than relating remembered events. The story he crafted, however, was a valuable one. His was the only testimony that tied all the accused together into what was a wildly expansive web of misdeed that spanned from Tocache to Iquitos, but rested on a few choice happenings in Tarapoto during July 1976.

According to the police report, Gálvez was a go-between carrying pasta básica from Tocache to Juanjuí between 1974 and 1976. His connection in Tocache was Civil Guard Sub-Lieutenant Tomás Dante Bustamente Figueroa, for whom he moved a total of nearly ninety-five kilos in shipments of five to ten kilos at a time. The biggest shipment he carried was thirty-two kilos squeezed into a briefcase. His job as a transient motorist lent itself to the task, as he picked up work on the many ships plying the waters of the Central Huallaga and it paid well until he and Bustamante
had a falling out. Gálvez confessed that in late 1975 he stole seven kilos from Bustamante and fled to Tarapoto, where over the next six or seven months he crossed paths with each of his co-accused and entangled them in his surreal underworld drama. The problem with this version of events was that none of the evidence or testimonies corroborated Gálvez’s story until he reached Tarapoto. The first to make his acquaintance there was the unlucky young César Duarte, who in early 1976 was working as a colectivo driver along La Marginal. By chance one day, Duarte picked up Gálvez in Lamas and by the time their short trip to Tarapoto had concluded, the two were enmeshed in one of Gálvez’s plots. In July, Gálvez conspired with one of his connections in the Civil Guard to entrap a local businessman with the lure of a cocaine sale, and use the threat of arrest to extort money from him. Doctoring a bag of baking soda with kerosene and dirt to make it appear like PBC, Gálvez and officer Eliodoro Isla Méndez caught two men with their scam, one of whom was brought to their attention by Duarte, indeed it was the cousin of Duarte’s wife.554 When Gálvez later robbed the transport company TransSelva, he doled out the cash amongst his acquaintances to garner favour, neglecting to mention it was stolen, and ingratiated himself to Duarte with a gift of 50,000 soles to help with his business selling veterinary supplies.555 But when the Investigative Police brought Gálvez in on suspicion of robbery, they pressed him for other crimes in which he was involved and he detailed a gross embellishment of the extortion scheme that implicated himself, Duarte, Isla and the men they scammed in much more than the

supposed trafficking of fake cocaine. Instead, Gálvez confessed that the scam involved real drugs, the same drugs he had stolen from Dante Bustamante in Juanjui.\footnote{Manifestación dated September 22, 1976 “Expediente 119,” 1976, 13.} The declarations of this one confessed hoodlum made a big yet flimsy case for the PIP. It was the first of its kind in San Martín and the largest one the Huallaga Valley had seen. But it was beginning to split at the seams.

On November 8, about a week and a half after Judge Calderón wrote the Court President of his confidence in the case’s swift closure, the prosecuting attorney, Anselmo Morgan Zavaleta, issued a judgement in favour of one of the main defendant's release: “... Gálvez Galán’s declaration raised doubts not just because he is a delinquent but because of its inconsistencies”, he wrote. Moreover, “until now there is only Gálvez Galán’s word about the actual existence of basic cocaine paste and even that has yet to be confiscated (which casts doubt on the implication of Civil Guard Officer Dante Bustamante’s role as principal trafficker)”.\footnote{“... la declaración [de] Gálvez Galán se presta a dudas no solo por ser un delincuente sino por que sus declaraciones no son uniformes ... Hasta ahora solo existe el dicho del inclupado Gálvez Galán sovre [sic] la existencia real de la pasta básica de cocaína más no se ha llegado a incautar la misma (habiéndose llegado a hechar [sic] sombras contra el Alférez GC. Dante Bustamante al implicarlo como el principal traficante)”. Dictamen No. 301 dated November 8, 1976 “Expediente 119a,” 46.} The testimony of one man just couldn’t hold the weight of all his accusations, Morgan reasoned. This, and another creeping threat to his case’s integrity, were going to have to be taken seriously before the accused could be convicted.

Throughout the first weeks of October, César Duarte’s lawyer, an irreverent and fastidious man whose tenacity on Duarte’s behalf earned him a court sanction,\footnote{“Expediente 119h,” 1976, Juzgado de Instrucción de Tarapoto, CSJSM.} was diligently introducing evidence that pointed to physical abuse in custody. First
he petitioned for a medical exam, which was granted on September 30, but the military doctor assigned to examine Duarte’s injuries refused to look at his face. Then he dug up an exam from Duarte’s first days in custody that proved he was in perfect health when detained. Finally, he managed not one, but two more medical exams be conducted by civilian doctors, which confirmed that around the time of his statement to the PIP (September 23) and his initial public hearing (September 29), Duarte sustained injuries that left him with bruised ribs and other bruises on his torso, along with cuts, bruises and swelling on his face and feet. Later, on November 9, a vague yet ominous passing reference to two other defendants mentioned they were hospitalized at the time. That the PIP used torture to elicit confessions was then addressed openly when Duarte petitioned for unconditional release on November 15, claiming that any of the statements he gave while held by the PIP were obtained through violence. Such grunt work on the part of Duarte’s lawyer, and Duarte’s eventual accusation of harm, were crucial for the way they primed the judge and prosecutor to receive the otherwise unbelievable, nearly magical realist, account they were about to hear.

Tomás Dante Bustamante was finally brought before the court on November 19, when he promptly and categorically rejected all the claims against him. He explained that, while he knew Carlos Gálvez and had occasionally paid him to transport cargo, he severed that relation once he learned of Gálvez’s checkered legal past. He also added that during that time, Bustamante worked for the Juanjuí Civil

Guard; he was not posted in Tocache like Gálvez said. As Line Chief in Juanjui, Bustamante did on occasion go to Tocache, but it was usually tied to his role in the Intelligence Service’s Operación Selva, a Civil Guard initiative to combat drug trafficking in which Bustamante had personally apprehended a number of traffickers. Indeed, Bustamante even speculated that the false accusations he faced might have been drummed up as a kind of reprisal for the work he did bringing in narcotraffickers.562 Three days later, Bustamante faced his accuser in court and Carlos Gálvez Galán retracted every one of his earlier incriminations. Pressed on why he crafted such a bizarrely daedal tale, Gálvez relayed a saga more reminiscent of Miguel Ángel Asturias’ chillingly tragic novel, El señor presidente, than of a courtroom testimony. Gálvez, interrupted only by tears, proceeded to detail a harrowing ordeal in which, over twenty-seven hellish days, PIP agents dragged him all over the Huallaga Valley to do their bidding. They took him to Pucallpa, Progreso and Tocache in search of pozas where they forced him to fabricate charges against Bustamante. He went on to explain how, returning to Tarapoto, he was moved between the Gran Hotel and PIP headquarters and made to sleep blindfolded and tied spread-eagle to the floor. Then, prior to his court appearance, five PIP agents drove him to Juan Guerra—site of the Ministry of Agriculture’s Experimental Station outside Tarapoto—and hung him from a tree with a wet rag tied at the elbows. In Juan Guerra Gálvez was beaten with a stick and left hanging for hours.563

562 Instructiva dated November 19, 1976 “Expediente 119g,” 1976, 21–22, Juzgado de Instrucción de Tarapoto, CSJSM.
In early December, the Civil Guard shared their own investigation with the court and Judge Calderón saw new statements from each of the accused, this time revealing a much clearer picture of the events at hand. Gálvez had come clean and in doing so he gave weight to the claims of torture and coercion that César Duarte had already made. With the floodgates now open, nearly every one of the accused spoke of intimidation and torture in PIP custody. While Gálvez was violently coached over weeks to forge an elaborate fable, the others were forced to sign statements that they weren’t permitted to read. Some were tortured, others threatened with torture.\footnote{Informe No. 33-IGGC-DI dated December 13, 1976 “Expediente 119,” 1976, 688–94.}

One of the accused admitted the consternation brought on by the charges against him, for he had never even met Gálvez until the two crossed paths in police custody. The first time they shared a cell the accused man avoided Gálvez the best he could, noting that Gálvez entered in a silent stupor, clearly distressed. The next time they met, after Gálvez had been held incommunicado for five days, the man sympathetically warmed to Gálvez and offered him a cigarette. He then asked why Gálvez would invent such lies about him and the other accused. In hushed tones and choking back tears, Gálvez begged his forgiveness and promised that he would come clean once he got to see a judge, but that he couldn’t retract his accusations while in PIP custody.\footnote{Manifestación dated November 16, 1976 ibid., 710.}

If the Civil Guard’s report is to be believed—and indeed all indications are that Judge Calderón and Prosecutor Morgan eventually subscribed to the Civil Guard’s version—there was a crime committed, but it was nothing like a regional trafficking
ring responsible for moving more than one-hundred and thirty kilos through the Huallaga over two years. That story, and every part of it that involved Tomás Bustamante, his alleged accomplices, and any alleged cocaine-related crime in Tocache, Juanjuí or Iquitos, was the brainchild of PIP sub-commissioner Chávez Carhuamanca, whom Bustamante had detained for drunkenness and disorderly conduct when he shot up a Juanjuí bar in mid-1975. And he had his instrument in the terribly cursed petty thief, Carlos Gálvez. Most likely, the real crime was the extortion that Gálvez and Civil Guard Officer Isla exacted against two unwitting Tarapoto businessmen with César Duarte’s tacit help.

Given the whirlwind of competing underlying agendas and nefarious manipulations that produced the case against Carlos Gálvez, César Duarte and others, it hardly offers a direct portal to what was really happening in the Huallaga Valley of the mid-1970s. Instead, it underlines the precarious fidelity of any court documents, especially those from cases originating with a PIP investigation. Indeed, allegations of PIP torture and proof of PIP violence featured regularly in court proceedings and significantly compromised their reliability for historicity’s sake. Behind Carlos Gálvez’s coerced inventions, what was supposed to be the biggest case of Huallaga smuggling ever seen boiled down to a deceiving concoction of baking soda, kerosene and dirt. Yet in the frustrating ambiguity of statements, testimonies and confrontations rest vestiges of what were often antagonistic positionalities rooted in everything from personal animosity to institutional competition for scant resources and bureaucratic mismanagement. In this way,

among others, cases of cocaine trafficking and land usurpation share a commonality: what they manifest is land narratives more than land deeds, and they expose the rootedness of land narratives in specific agendas. They conjured a Huallaga from the flotsam and jetsam of so many eroded development myths and they did so through recourse to the state’s vernacular. Though factually false, Gálvez’s lies were but one of many examples in which fragments of a Huallaga reality could be recovered, though only as constituent parts of a new geo-ecological assemblage fashioned this time by the PIP, the civil guard, and—increasingly—the courts.

To make my point it is best to recur to the historiography of an earlier regional resource boom. Aside from scattered nods to Belaúnde’s quixotic escapades, the last period in the annals of Western Amazonian history to attract the attention of global audiences was the rubber boom of the late-nineteenth and early twentieth centuries. And though it has shed its early penchant for Articulation Theory, the historiography of the period—indeed its very definition as a period—rests in large part on economic readings and obsessions with global power dynamics. Yet, in addition to being a period of jaw-dropping price fluctuations and transitioning labour regimes, the age of rubber was also beset by uncanny colonial violence that was rooted in extremely localized contexts. And contrary to the predominant trend in Amazon rubber boom studies, Michael Taussig has contended that the atrocities associated with rubber extraction in the upper Amazon cannot be reduced to economics.\(^{567}\) For Taussig, violence was more than the product of non- or pre-
capitalist modes of production; it was a constitutive act that rested at the flimsy boundary between being a human and being a debt in the Putumayo Region of what is today Colombia. That the savagery was seized upon and fetishized through the muck-raking prose of a Walter Hardenberg or a Benjamín Saldaña Rocca, Taussig reads as evidence of a collective imaginary that envisaged the jungle as a place of subhuman bondage. Meanwhile, Michael Stanfield stresses the problem of facticity raised by those same accounts. Indeed, for Stanfield the writings of Saldaña in particular stood out more for their second-person sourcing and Stanfield treats them as little more than proof of Saldaña's anti-capitalist leanings: just blunt critiques that lack corroboration. Both scholars proffer ways of interpreting sources spawned in a surreally chaotic milieu, but while Stanfield is content to read over them, Taussig reads into them. Rather than cursorily discarding them as factual infidelities, he gets to their value as evidence by examining their poetics. They may not credibly relate actual atrocities, but they reproduced and now represent a culture of terror that reigned in the Putumayo at the turn of the twentieth century.

Factual infidelities are the troublesome pockmarks of history typical of what one finds in court documents involving torture and other forms of coercion used to elicit false or misleading testimony from a defendant like Carlos Gálvez. His lies pose grave hang-ups to the historian’s pursuit of the truth, but they can nonetheless be mined as the rich troves of communal imagining that they were. Reading judicial
archives alone, there was no cocaine in San Martín’s Huallaga provinces in 1976, just kerosene and baking soda. But there was a geographical imaginary of cocaine that identified the area around Tocache and Uchiza as the new heartland of illicit production. Officers Dante Bustamante and Eliodoro Isla both acknowledged having worked as part of Operación Selva and boasted catching hundreds of narcos around Tocache in just a few months. Bustamante put the number at two hundred, while Isla said they rounded up more than four hundred in the mere six months that he was assigned there. Once caught, he said, traffickers would tempt them with fat bill roles that courted corruption.\(^{568}\) However, that burgeoning drug bonanza was emerging around Tocache was more than an invention of police tales; Prosecutor Anselmo Morgan noted that merely working in Tocache meant you were well acquainted with PBC: “We have to note that Civil Guard Officer Isla acknowledges having worked in Tocache, which makes us suppose he knew the characteristics of pasta básica”.\(^{569}\) And the cocaine imaginary influenced how Carlos Gálvez invented a bond between himself and César Duarte, as well. In the fiction he drafted for the PIP, it wasn’t but a few minutes in the fated car ride that brought them together before Duarte was asking Gálvez about whether he had cocaine and how much he could get his hands on. Under pressure to craft a believable story, Gálvez said that it was the mere mention of being from Tocache that spurred Duarte to inquire about


\(^{569}\) “Es necesario hacer notar que el G.C. Isla reconoce haber trabajado en Tocache, lo que hace suponer que conocía las características de la pasta”. Dictamen No. 303 dated November 8, 1976 “Expediente 119b,” 1976, 45, Juzgado de Instrucción de Tarapoto, CSJSM.
cocaine.\textsuperscript{570} While earlier court cases from the Huallaga provinces of Huánuco centered the emergence of the illicit trade on Tingo María and Monzón, Bustamante, Isla, Morgan and Gálvez all tapped into a common knowledge bank that recognized Tocache-Uchiza as the new sourcing grounds for PBC. Tocache was imagined as a vast, green narcotics factory, and Carlos Gálvez’s fabrications, real or not, evinced a new geographical imaginary of cocaine, one sketched through the diligent confabulations of road builders and colonization planners as much as Civil Guard officers and Investigative Police agents. For the tracking of cocaine down river mimicked the spread of colonization over the previous ten years.

Moreover, the extractive vision embodied in colonial planning was reflected not only in Gálvez’s invented flow from Tocache downstream, but also in the actual scheming between him, Isla and the Tarapoto businessmen they ensnared. Whether fabricating a story to avoid more beatings, or fabricating a scheme to extort money, Gálvez directed cocaine ever further down river—from Tocache through Juanjuí, Tarapoto and on to Iquitos—in a spatialization of the cocaine imaginary that could just as well have been charted by Brown & Root, TAMS or Fernando Belaúnde. And the economics of their scheming proved the conversion of Huallaga forestlands into export-oriented monocultures could be lucrative, at least for the middlemen. Factoring in inflation, the PBC that the Fernández’s were selling in Monzón in 1973

\textsuperscript{570} Manifestación dated September 22, 1976 “Expediente 119,” 1976, 14; Similar beliefs about the Central Huallaga being a haven for cocaine producers can be found stated in other cases. For example, see the Sentencia dated June 9, 1980 “Expediente 156,” 1979, 595, Juzgado Mixto de Mariscal Caceres, CSJSM.
would have gone for 15,360 soles if sold in the same place in 1976.\textsuperscript{571} Gálvez and Isla wanted 40,000 soles per kilo downriver in Tarapoto and their buyer, Duarte’s cousin, had a connection in Iquitos willing to pay 50,000 soles, plus 10,000 for transport. Thus pulling real cocaine through the valley could promise almost a quadrupling of value.

In the face of such alluring profit margins, it wasn’t long before San Martín’s criminal court saw more drug-related crime than Huánuco’s, and this time involving actual narcotics. By the end of the 1970s, an illicit economy characterized by small crews running small shipments along the branch roads and highways of the area had morphed into new beast. The generally agreed upon periodization of illicit cocaine states that during this period (1973 to 1990) an international division of labour reigned in which capitalist smallholders generated the PBC and an emerging class of Colombian kingpins—famous for a mythological Antioquian business acumen—collected this near primary commodity at its sources in the Upper Huallaga and the Bolivian Chapare and transported it to centralized jungle laboratories like the infamous Tranquilandia for it to be refined into the cocaine hydrochloride. It was supposed to be the Colombian cartels that infused the global cocaine trade with a blend of family-based, capitalist structure.\textsuperscript{572} But the Huallaga also developed autochthonous cartels. One was run by the Tupiño García family in

\begin{itemize}
\item \textsuperscript{571} Based on Scheetz’s calculation of 28 percent inflation between 1973 and 1976. The Fernándezes wanted 12,000 soles per kilo. Thomas Scheetz, \textit{Peru and the International Monetary Fund} (Pittsburgh: University of Pittsburgh Press, 1986), 172–73.
\end{itemize}
the Boquerón del Padre Abad, along the Tingo María-Pucallpa highway east of Aucayacu. In February 1978, PIP agents surprised the Tupiño Garcías at their fundo with seventy-one kilos of cocaine, a Helio Super Courier utility aircraft and three bulldozers they had commissioned in the construction of a clandestine runway. Three of the brothers were taken into custody while the eldest, René—who boasted a history of near convictions for other drug-related crimes—was killed in the raid.573 Another cartel gained fame in 1980 when its frontman, Guillermo Soto Cárdenas Duarte, a.k.a. Mosca Loca, almost evaded justice. Hailing from the small hamlet of Bellavista, the same village that mobilized scores of pick- and shovel-wielding Cooperación Popular volunteers for La Marginal in 1964, Mosca Loca, his kinsfolk and his hometown would come to be synonymous with Huallaga cocaine during the 1980s. While on trial, Mosca Loca enjoyed a favourable, though brow-raising, move to dismiss his case with five Supreme Court judges citing a lack of evidence. On pressure from the Public Ministry, however, they reversed their decision and hit him with a twenty-year sentence, condemning him to Lima's notoriously over-crowded El Sexto prison. It was rumoured that Mosca Loca’s wealth and power were such that he approached President Belaúnde—starting a second presidential term twelve years after the coup that exiled him—with an offer to pay the national debt if he were allowed to conduct his business in peace.574 While

Mosca Loca was murdered in the infamous *El Sexto* riots of 1984, his Huallaga legacy endured in the operations of family members. Most notably, Fidel Tello Pérez and his nephew, Abraham Cárdenas Tello, plagued the Huánuco and San Martín courts for more than a decade. Tello, who was arrested in Bellavista with 5.4 kilos of *pasta básica* in August of 1978, was sentenced to ten years imprisonment and granted parole in 1981. Then, in 1986, he was implicated—though not convicted—in a case against his nephew.\(^{575}\)

As part of the ominously named Operation Condor III, the Civil Guard raided a rural *fundó* outside Uchiza in December 1985. Flown in by helicopter, they started at the site of a clandestine airfield, which they debilitated by blowing craters into the cleared ground. From there, the police report detailed how they proceeded along a narrow trail through steep terrain, passing various *pozas* and drying sites along the way. After more than a kilometer trek, they came upon a vast complex that included a 15-kilowatt diesel generator that powered a radio communications station and a PBC processing lab where the dried PBC was refined. Moving on toward a camp that enclosed an 18-bed dormitory and fully equipped kitchen, they were ambushed by automatic-pistol and rifle fire. In the resulting shoot-out, the Civil Guard detained two of the fleeing gunmen and shot Tello’s nephew, Abraham Cárdenas, in the mouth.

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\(^{575}\) “Expediente 36,” 1981, Juzgado de Instrucción, Huallaga-Saposoa, CSJSM.
This encounter and the resulting court case marked a new norm for the Huallaga of the 1980s. First of all, the courts had caught on to the familial bonds that tended to organize trafficking crews and police and prosecutors began using kinship as an incriminating factor. In perhaps the most extreme perversion of the development drama’s myth of domestication, family—or at least kinship networks—formed one of the primary organizing principles of the Upper Huallaga cocaine trade.\textsuperscript{576} This was masked behind the vernacular monikers so common to cocaine culture, in which handles like 	extit{Mosca Loca, El Viejo, Mosquito, Pájaro Loco}, etc. proffered restricted access to the familial component of cartel hierarchies. While observers like Paul Gootenberg have remarked on the importance of family structures in ordering the cocaine economy, its thorough analysis as a category for constituting the agency of criminal bands remains a project for future endeavours. For one, such a project would bind the illicit cocaine trade to the utopian projections that ordered the Belaúndean Amazon. This important aspect of illicit drug making might have been missed thus far because others rely on U.S. documentary troves and local newspaper accounts, which in turn parrot the police actions that routinely cast broad nets, sweeping up unrelated bystanders that—after having their arrest publicized in news reports—were quietly absolved of any wrongdoing as cases moved through the courts. This happened to a cousin of Calixto Soto from the Pra Alto invasion cases, who, like his ill-accused relative, successfully leveraged his

Christian evangelism in his own defense. But while newspaper accounts and State Department cables indicated the scope and reach of the growing cocaine industry, tracing judicial papers uncovers the culprits who remained after the PIP and Civil Guard sweeps were cleaned up. And family ties regularly bound those who remained. In the case against Abraham Cárdenas, the court used kinship to further trap him and to try and involve his uncle Fidel, who was released on parole. At his sentencing, the judge remarked that the facts, “duly accredited [Cárdenas’] responsibility, and even more so when we consider that the accused has family relations with declared and known narcotraffickers such as his uncle Fidel Tello Pérez ... and that he is related to the sadly famous narcotrafficker, Guillermo Porto Cárdenas Duarte (Mosca Loca), as the accused himself has accepted”. From the earliest Huallaga court record in 1973, kinship conditioned cocaine commerce, and now the institution recognized it as incriminating.

The case against Cárdenas also indicated the exponential growth of the industry. The self-contained mega-processing complex where Cárdenas et al were encamped hardly resembled the artisanal pozas that dotted the road network in the 1970s. The fact that the Civil Guard confiscated hydrochloric acid and acetone indicated that the Huallaga was no longer merely a source of pedestrian PBC. This

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577 “Expediente 3564,” 1979, Juzgado de Instrucción, Leoncio Prado, CSJH.
578 “... está debidamente acreditada su responsabilidad, y más aún si tenemos en cuenta que dicho acusado tiene vinculación familiares con narcotraficantes declarados y conocidos como son su tío Fidel Tello Pérez ... al igual que es pariente del tristemente famoso narcotraficante Guillermo Porto Cárdenas Dávila (Mosca Loca) tal como el propio acusado lo acepta”. Sentencia dated December 30, 1986. Cárdenas was also interrogated about these family ties in an earlier hearing: Audiencia dated December 17, 1986 “Expediente 151,” 1986, 242, 255, Juzgado de Instrucción, Leoncio Prado, CSJH.
579 Recall that the 120,000 hectares of land dedicated to coca farming in 1986 equalled the entirety of what planners expected to open with the Tingo María-Tocache-Campanilla Colonization.
was a laboratory capable of refining higher-grade “washed” PBC and cocaine hydrochloride. But beyond an enhanced processing capability, the encampment featured its own integrated transport network in the form of an airfield. While traffickers relied on the Roads Department in the 1970s, an economy of scale pushed narco-families away from roads and into remote forest locales. If investigations focused on automobiles, and colectivo drivers through the 1970s, then the clearing and maintenance of clandestine airfields, those storied and tell-tale pockmarks in the jungle that so flourished in the era of Colombian trafficking were the activities that investigators homed in on the early 1980s. The area where Abraham Cárdenas was apprehended in late 1985 had already represented a thorn in the side of authorities for more than a year. In mid 1984 there was a spate of tit-for-tat demolitions/reconstructions of airfields that pitted the Civil Guard’s Mobile Unit for Rural Patrol (UMAPOR), the PIP, the Air Force and Sinchis against Colombian and Peruvian traffickers and the legions of peasants they conscripted to work on clearing and maintaining landing strips. In one operation in May,

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580 The process of converting Erythroxylum coca leaves into commercial cocaine hydrochloride consists of three basic steps. First, the leaves are soaked in a tincture of kerosene and later mixed with sulphuric acid and calcium carbonate to produce basic cocaine paste (PBC), the primary Huallaga commodity. PBC is then “washed” in a second step using potassium permanganate, and more sulphuric acid and calcium carbonate. The product of this concoction is commonly called pasta básica lavada, or washed basic paste (PBL). In a final step, which requires the kind of lab discovered in the Cárdenas case, the PBL is diluted in acetone and steeped in hydrochloric acid. Court records betray a frequent slippage between PBC and PBL, which reinforces the notion that the Huallaga was the source of pasta básica alone. But the confiscation of acetone and hydrochloric acid, along with the discovery of electric drying facilities, are clear indications that the Huallaga was not the source of artisanal PBC alone. For details on this process see: Romina Mella, “El dilema de los insumos,” IDL Reporteros, February 15, 2012, accessed 16 August 2012, http://idl-reporteros.pe/2012/02/15/el-dilema-de-los-insumos/; and Edmundo Morales, Cocaine: White Gold Rush in Peru (Tucson: University of Arizona Press, 1989), 75–79.

authorities demobilized twenty-three airfields in the area of Uchiza alone. The blown landing strips were quickly rehabilitated, so authorities returned a few weeks later to blast them again—work done in vain as an air patrol at the end of June revealed that six of the airfields were already rebuilt. Indeed, the crescendo of blasting and rebuilding led authorities to devise increasingly daring and confrontational interventions, like the one that injured Cárdenas. This was epitomized in December 1987, when nineteen Civil Guard officers surprised a group of traffickers at an airfield near Bellavista. The nine men were loading a plane—of Colombian provenance and presumably destined to return there—with cash and cocaine when the authorities sent them scattering under a hail of gunfire. (The police report even boasted they lobbed a grenade, “with the objective of frightening the individuals present”.)

By this time the Huallaga was in disarray. The dreams of inventing a modern agro-industrial river valley that began with the Bolívar expedition and were executed through the project of road colonization represented by La Marginal were a far cry from the valley’s coca-laden realities. The segment of La Marginal that connected Juanjuí and Tocache—the one sketched in blue pen over snapshots in the Juanjuí Roads Department offices—was completely derelict, as neglect slowly fed it

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582 “… intervinieron en forma decida, efectuando disparos con las armas que portaba el personal y haciendo explosión una granada de guerra con la finalidad de amedrentar a los individuos presentes, haciendo lomismo [sic] el personal de apoyo del Ejército”. Resolución sin número dated January 6, 1988 “ Expediente 2,” 1988, 3–4, Juzgado de Instrucción, Huallaga-Saposoa, CSJSM.
back to the jungle. In a 1988 interview, the mayor of Juanjui lamented that the town was growing quickly with migrants fleeing the Tocache-Uchiza region; it was a costly place, flooded with coca dollars; and yet it remained utterly isolated. The 160-km journey to Tocache on what was left of La Marginal could take upwards of eighteen hours and air travel was as frequent as it had been when Edwin Doran and Aníbal Buitrón visited in 1948. And much like then, aviation drew a stark line between those with the means to travel and those without, as the valley experienced a boom in light aircraft traffic connecting the fluctuating patchwork of clandestine airfields to Amazonian destinations such as Leticia or Manaus, and on to Colombia, the Caribbean and Miami.
Epilogue

Mexico City’s Plaza de las Tres Culturas is loaded with tragic history. The site marks the spot where Hernán Cortes defeated the last Mexica ruler, Cuautémoc, in the battle for Tenochtitlán and a Catholic cathedral built over Aztec ruins attests to three centuries of colonial domination. The third of the three cultures represented there also has its own sordid legacy. The plaza sits amidst high-rise multi-family towers of the Nonoalco-Tlatelolco public housing complex designed and built at the height of Mexico’s enchantment with architect-politicians. Tlatelolco—in its form and function—embodies the modernist idyll of the state's capacity for instituting utopia in much the same way as Peru’s Belaúnde-promoted unidas vecinales did. But Tlatelolco is less known for the prowess of its main designer, Mario Pani, and more widely recognized as the place where the ruling Institutional Revolutionary Party (PRI) lost any remaining shred of its waning legitimacy as a revolutionary party.

In the evening of October 2, 1968, months of mobilization and unrest culminated in a mass demonstration on the Plaza de las Tres Culturas, where organizers from the National Strike Council (Consejo Nacional de Huelga CNH) hoped to attract global attention in the lead up to the Olympic Games ten days later. What happened at that demonstration marked a turning point in Mexico’s twentieth century. Film footage shows a haunting line of soldiers creeping over the ruins of a Mexica marketplace firing wantonly into a frantic crowd. Oral accounts from survivors paint the picture of a massacre that lasted a half an hour, only to become a house-by-house search after demonstrators—surprised by the police cordon—scurried into the high rises
seeking safety. \textsuperscript{583} Years later, the film \textit{Rojo amanecer} (1989) captured the combination of dread and suspicion that must have plagued hiding protesters and the families in whose homes they sheltered as police and soldiers cleared the buildings through the night.

The massacre at Tlatelolco unmasked a social crisis lurking beneath the thin veneer of Mexico’s waning “miracle”. It demonstrated the lengths to which the state could go to preserve its image as a modern, developing economic prodigy.\textsuperscript{584} It also revealed the moral promiscuity of modern architecture’s reigning tropes. As if drawn from the Athens Charter itself, the Nonoalco-Tlatelolco complex exhibits many of the features reserved for the future-looking designs of the Le Corbusiers, the Josep Lluís Sert and the Oscar Neimeyers of the architecture world. It was rigidly planned to control the lives and movement of its inhabitants, something Pani and other modernists touted as bringing ease and usability; the design would facilitate a benign state’s efforts to improve people’s lives. But on the night of October 2 elements such as the enclosed plaza, with limited, gated access points, and the standardized, grid-like layout of high-rise apartment buildings facilitated state repression. The ever-enclosing police cordon began with agents locking those gates and then proceeding to corral demonstrators into apartment buildings from which there was no escape. Among the myriad significances of the Tlatelolco massacre was

\textsuperscript{583} For details, see the second half of: Elena Poniatowska, \textit{La noche de Tlatelolco: testimonios de historia oral} (Ediciones Era, 1998).

\textsuperscript{584} Aceves Sepúlveda, “Mujeres Que Se Visualizan,” 64–65.
the realization that modernism’s utopian gloss could fade with devastating consequences.585

History presents strange, sometimes confounding, alignments that elude analysis. One of those is the fact that in the early hours of October 3, not but a few hours after gunfire ceased to ring out in Tlatelolco and Mexico’s modernist myth cracked in two, an old Sherman tank rolled through Lima’s Plaza de Armas and toppled over the Palacio de Gobierno’s front gate. Members of the Armed Forces whisked a pyjama-clad Belaúnde to the airport, where he was sent into exile.586

The striking correspondence of these episodes puzzles me for a lot of reasons. The impact of each was undoubtedly powerful and begs one to read some significance into their alignment. Yet while Tlatelolco signified an end to Mexico’s modernist utopianism, the coup against Belaúnde ushered in a new kind of utopian identity politics in a moment of Peruvian crisis. Whereas October 1968 is read as marking the start of outright state oppression and the opening of a decade of dirty war in Mexico, in Peru, under the leadership of the Revolutionary Government of the Armed Forces, hitherto marginalized social classes gained purchase on national politics. However, another way to read the events in Mexico and Peru that night and early morning is as the death of utopian state modernism in Latin America. The remaining regimes carrying the architect-politician’s mantle were rendered illegitimate: one exiled, one bankrupt. But while modernism was dead, the modern land ethic persisted and so did the style of development that projected it. Though


586 Contreras and Cueto, Historia del Perú contemporáneo, 326.
the Velasco regime eschewed Belaúnde’s middle-of-the-road politics, preferring outright defiance of reigning elites, there was a continuity in the Amazonian imaginary espoused by the two administrations. While Belaúnde brought Amazonian space into the nation’s view and Velasco expanded the political agency of Amazonian peoples through the 1974 Law of Native Communities, both remained committed to a capitalist and patriarchal vision of Amazonian nature. Likewise, despite an initial slowdown in the flow U.S. development dollars, both regimes relied on the transnational cooperation regime to make road colonization happen. Indeed, from his first meeting with U.S. Ambassador, J. Wesley Jones, Velasco was anxious to ensure development aid would continue.\textsuperscript{587} That such disparate administrations sought the same objective can easily be explained by recourse to the types of broad definitions of development that populate the literature. For instance, common definitions of development as the general improvement of humanity, or as a U.S. foreign-policy objective using aid dollars in the place of military might, quickly explain why it might appeal to leaders as different as Belaúnde and Velasco. But I contend that this fact begs further, more granular, exegesis of the phenomenon, not broader, more all-encompassing definitions.

In the years since I started my doctoral program, academics watched as real estate developers increasingly colonized university boards of governors in pursuit of a philanthropic enterprise to mask the inequality they unleash on cities. The University of British Columbia was a visual facsimile of Belaúnde’s 1965 \textit{Mensaje al

Congreso, constantly dotted with new construction representing the latest in architectural theory, but the new buildings did nothing to improve the school’s academic ranking. And, like the Plaza del Progreso Miguel Cruchaga envisioned for Lake Junín, UBC’s building boom—big on coffee shops, residential space and corporate-funded research facilities—betrays an agenda to produce passive consumers through spatial manipulation. Instead of making citizens, those who gentrified Vancouver are using the university to create future consumers. In Portland, Oregon, where I wrote much of this dissertation, the land market mimicked Vancouver, BC’s, meteoric rise, spurred by unchecked development and speculation. There too, the reconfiguration of space is engendering an ever-more stark division between the consumer class and the forgotten class. And now, as I write this, the United States is four weeks into its first experiment with a real estate developer-in-chief using divisive identity politics to institute sweeping pro-corporate reforms. There is a continuity between these phenomena that unmasks the seamless forms by which development can dovetail with fascism just as easily as with liberal democracy. Such ideological promiscuity testifies to the need for scholars to rigorously unpack development’s striated meanings.

I began in Chapter One with a deconstruction of the discourse and practice of popular cooperation because the ideology behind the COOPOP program was a critical axis upon which Peru’s modern development ethos was articulated and inculcated. The years of COOPOP’s zenith—roughly 1964-1965—marked the pinnacle of Peru’s age of development, when architecture, environmental transformation and corporatism were seen as the ingredients of progress. And
through the institution, its rhetorical foundations and the spectacle orchestrated around it, the techniques and aesthetics of modernist architecture were blended with the social engagement of modernization theory and infused with the Belaúndean brand of millenarian nationalism. Photographic rituals proved a catalyst that sped the spread of popular cooperation and the modern land ethic that underpinned it. A close reading of COOPOP discourse and practice contextualizes Amazonian road colonization, not merely because COOPOP contributed to road construction and development of colonist communities, but because it embodied the developmentalist cosmovision that Belaúnde and his ilk wrote into the landscape of eastern forests. This is a critical connection that I try to extend through the concept of inscription.

It is vital to any critical assessment of development to unpack the stories promoted under its rubric. In the case of Peru’s age of development, the story of progress was best elaborated in visual terms. Photography produced socio-ecological categories that served as a roadmap for achieving progress. It also facilitated rituals by which everyday people enacted development’s story of progress. But I want to stress that the visual narratives of Peruvian development did not necessarily reflect extant social fields or even historical events. As the archival record of COOPOP praxis demonstrates, things did not happen the way that the story of progress was meant to unfold. Instead, the visual record conjured archetypical models—the peasant, the woman, the architect-politician, etc.—and narrative projections that modeled a vision of development. Those who envisioned it used themes such as heroism, conquest, camaraderie, and distinct environmental
imaginaries to shape it into a story. I call this the development drama because it comprised new subjectivities, new physical and temporal spaces and it was expressed with urgency and exuberance. It was, however, yet one more factual infidelity in that it was a powerful narrative—with transformative capabilities and consequences—that could never apprehend the reality it supposedly reflected. Instead, through its fabrication in institutional vernaculars and subsequent inscription into the land, the development drama constituted its own new socio-ecological reality.

In the case of road colonisation inscription was effected through the practice of SAN technoscience and Holdridgian ecological classification. The reliance on aviation helped impose a singular view that aided road colonization’s remake of the Huallaga, eventually as a vast cocaine complex. This because the global perspective achieved from the air helped planners imagine development amongst the complexities and contradictions of the valley’s vast and chaotic socio-ecological universe. Here photography effected a disambiguation of Huallaga forests seemingly devoid of human ecology and human artifice. The professionalization of aerial survey and the continual development of the craft of survey increasingly masked the presence of people in what images represented and how they were produced. While photography served the inculcation of development’s modern land ethic through the rituals performed around the camera, its role in the survey process was to help convert the landscape into data. Through the science of photogrammetrics, men like Arturo Solís Tovar rendered the Huallaga Valley in kilometers, meters above sea level and hectares of potential cropland or forest resources. But the meeting of
vision and data was a mutually constitutive dialogue. If aerial photographs helped planners envision nature as data, map making and mosaics fashioned that data into revisions of nature that ultimately brought engineers out of the sky and back down to earth. Maps, after all, were indispensible tools wielded by the road builder and colonial planner alike. But the sciences of photogrammetrics and ecological classification also helped change the meaning of land. Through disambiguation and decontextualization, these sciences rendered living landscapes as a conglomerate of individuated fragments in a move that primed the region for commodification and subdivision. They also converted landscapes into canvases ready to receive the vision of progress elaborated through development practice. This is the process that I call inscription. My hope is to help environmental history bridge the gap between its emphasis on environmental imaginaries—on the one hand—and environmental change—on the other—through this concept.

Thinking of anthropomorphic landscapes as products of inscription ultimately forces the question of land’s meaning. As the story of the Huallaga demonstrates, land’s individuation eventually hurt communities. As a host of transnational actors converted the valley’s land base into standardized eco-assemblages, they bypassed two fundamentals of ecology. The laws of ecology tell us that, in a context of finite resources, communities build resilience through diversity and interdependence. By fomenting a select few capitalist monocultures, road colonization undermined the law of diversity and by relegating their residents to discrete parcels, planners defied the law of interdependence. The vast eco-assemblage brought into existence through road colonization was the product of power dynamics that favoured a
cosmovision imbued with capitalism, patriarchy and colonial discourse’s penchant for emptiness. This was one specific meaning attributed to Amazonian nature that won out over alternative knowledges.

This is the point at which my exploration of visuality’s modern engagement with environment shifts away from the process of rendering nature to the ways in which visual representations mitigated people’s experience of nature. After all, when disputes arose, visual inspections held considerable weight in their resolution. In Morrison Knudsen’s conflict with the Ministry of Public Works, a swift visual inspection on the ground authenticated MK’s version of what caused landslides. In the process of adjudicating land under the Tingo María-Tocache-Campanilla Colonization Project and ensuing land conflicts, visual inspections represented one of the few ways in which the agrarian courts could account for the land’s biological reality. By authenticating the sorts and ages of plants growing on contested properties, visual inspections could verify or discredit competing land narratives. But they also attested to a different brand of visuality, a more fully embodied experience of walking the land and taking in its flora. This fact underlines how the visual mitigated competing power dynamics at play in people’s land use and the meanings they endowed it with. However, it also points to a mode of envisioning that gives hope. While much of this dissertation explores the imposition—or inscription—of a reigning discourse of modernity on the land, the way that visuality conditioned people’s ownership disputes points to an inscription of the land into discourse. Though fraught and flawed, the land court’s method of accounting for the particulars of a parcel of land represents one way that the nuance of plants—
especially plant time—could figure prominently in solidifying people’s relationship to the land. Indeed the way new juridical subjects emerged through the bureaucratic rituals embodied in court cases hints at how biodiversity and climatic subtlety might be folded in, rather than bracketed out, of institutional vernaculars, for they brought discrete epistemological fields (in this case the legal and the botanical) in dialogue with one another.

In Chapter Seven I discuss how torture and state violence figured in the creation of a new environmental vision for the Huallaga forged from cocaine capitalism and the colonial project’s discursive detritus. I am reluctant to draw too straight a line between, for instance, the blind spots in SAN technoscience and the birth of the global illicit cocaine trade. But road colonization did foster the growth of cocaine capitalism in hard and soft ways. By the early 1970s, the road network was the primary means by which basic cocaine paste left the valley. And much of the logic of patriarchal capitalism that fuelled colonization—the fragmentation of a feminized nature to be put to the service of monocultural, male-dominated smallholder economies—characterized the valley’s later illicit cocaine economy. Recent work in the history of development has uncovered similar continuities between river valley development and the emergence of illicit drug economies, but the subject demands further exploration.\textsuperscript{588} Like the massacre at Tlatelolco, the new imagined geography of Huallaga cocaine marked a stark declension from the modernist utopianism that fed jungle colonization. But by foregrounding the ways that such a dramatic socio-

\textsuperscript{588} See Nick Cullather’s work on Morrison Knudsen’s damming of Afghanistan’s Helmund River and the rise of heroin production. Cullather, \textit{The Hungry World America’s Cold War Battle against Poverty in Asia}.
ecological decline was entwined with different process of envisioning, I have tried to expose the very precarious, unstable and contingent nature of Peru’s internal colonial project. Like the Yanesha informants who taught Fernando Santos-Granero about their style of topographical writing in the 1970s, every agent of jungle colonization that I’ve described played a part to inscribe their own vision of development into the land. And every fissure and contingency in that process—abundant as they were—represented an opportunity to do things otherwise.
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Appendix: Images and Graphs

Figure 1.1: Miguel Cruchaga and Alberto Cerritelli’s proposed Plaza del Progreso. Source: Biblioteca Nacional del Perú, El Arquitecto Peruano Jan-Feb-Mar, 1962.

Figure 1.2: Ají Molido. The COOPOP train, with Belaúnde and Eduardo Orrego (complete with characteristic moustache) conducting, about to run over a hyperbolized Haya de la Torre with carloads of tool-toting peasants while APRA-UNO reps Luis Alberto Sánchez and (perhaps) Ramiro Priále look on. Source: Biblioteca Nacional del Perú, Caretas, Mar. 1964.
No Image Available

Figure 1.3: Construction of a highland roadcut. Source: Biblioteca Nacional del Perú, Cooperación Popular: la dimensión peruana del desarrollo, Luis Vier, 1964.

Figure 1.4: Construction of a highland roadcut. Source: Biblioteca Nacional del Perú, Cooperación Popular: la dimensión peruana del desarrollo, Luis Vier, 1964.

Figure 1.5: Community members pose after construction of a highland roadcut. Source: Biblioteca Nacional del Perú, Cooperación Popular: la dimensión peruana del desarrollo, Luis Vier, 1964.

Figure 1.6: Cover illustration for Cooperación Popular survey. Source: PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ, Datos distritales para fines de desarrollo, 1964.
Figure 1.7: “To back the Government, mark 4 when you vote / Peru will forge ahead unhindered / because we’ll all vote for 4 / When you vote, clearly write 4. Write it in every square. Remember: / 4 means: Peru Ahead”! Popular Action propaganda for the 1966 municipal elections. Source: Biblioteca Nacional del Perú, Oiga, Nov. 1966.

No Image Available

Figure 1.8: Community members pose after construction of a highland roadcut. Source: Biblioteca Nacional del Perú, Cooperación Popular: la dimensión peruana del desarrollo, Luis Vier, 1964.
Figure 1.9: “Not just men, but women of the small towns; they know what popular cooperation is”. Source: Biblioteca Nacional del Perú, Óíga, Aug. 1964.

Figure 1.10: Compelling view of the central ceremony commemorating the inauguration of the Viscas-Punchao Highway, Huamalíes Province, Department of Huánuco, on October 18, 1981. One notes the chief of the Huánuco Central of Cooperación Popular, Naut [sic] Aguilera Presco surrounded by political and community authorities, moments before the traditional ribbon cutting”. Source: FONCODES.
Figure 1.11: Jubilant neighbours from the communities of Singa and Punchao, pose for posterity, under the sign that marks the project carried out by Huánuco central of Cooperación Popular. This is the building of the Queropata-Punchao-Singa Highway. One can see profound rejoice in the people’s faces resulting from completion of this transport route, which now benefits hundreds of thousands of families, who commercialize their products by way of the highway”. Source: FONCODES.
Figure 2.1: Graph showing distribution of investments in Cooperación Popular divided into state expenditures and community expenditures. Source: *El Perú construye*, 1965.

Figure 2.2: Minister of Foment and Public Works, Gastón Acuña, arrives in Picota to examine the work of Cooperación Popular volunteers on La Marginal. Source: Biblioteca Nacional del Perú, *Oiga*, Dec. 1964.
Figure 2.3: Walter Miranda Pardo with Corky Lentz and Martín Santamaría, km 81.8 of the Tarapoto-Río Nieva road. Photo courtesy of Walter Miranda Pardo, 1967.

Figure 2.4: Walter Miranda Pardo on the Tangarana Pass, km 83.4 of the Tarapoto-Río Nieva road. Photo courtesy of Walter Miranda Pardo, 1967.
Figure 2.5: Walter Miranda Pardo, together with fellow road workers, poses before a blast hole-drilling rig. Photo courtesy of Walter Miranda Pardo, 1967.
Figure 2.7: Conselva’s fleet of heavy machinery arriving at the port of Yurimaguas, March 7, 1966. Source: *La Carretera Marginal de la Selva*, Fernando Belaúnde Terry, 1967.

Figure 3.1: Leslie R. Holdridge’s “Determination of World Plant Formations” based on temperature, precipitation and evaporation. This early version of his system identified 100 distinct plant formations. Source: *Science*, April 1947.
Figure 3.1a: Leslie R. Holdridge’s Life Zone System updated in 1967. This version of the system identified nearly 120 life zones based on the confluence of biotemperature, precipitation and evapotranspiration. It also substituted the subtropical altitudinal belt for the term “premontane” to avoid confusion. Source: *Life Zone Ecology*, L.R. Holdridge, 1967.

Figure 3.4: Section of Joseph Tosi’s hand-drawn ecological map depicting Central Peru. Note Holdridge’s graphic of world plant formations in the legend. Source: Archivo General de la Nación, Fondo Nacional de Desarrollo Económico: p.148.95.
Figure 3.4a: Section of Joseph Tosi’s coloured ecological map depicting Northern Peru. Based on the published map from 1960, this was the version adopted by the National Office for Evaluation of Natural Resources in 1975. Note the Central Huallaga and Lower Mayo valleys in yellow. Source: *Mapa ecológico del Perú*, ONERN, 1976.
Figure 3.5: “Subtropical Desert Brush: Edaphic association upon deep and porous soils typical of the wide plains of the north coast, northwest of Olmos. Bushes and small, micro-leafed, deep-rooted trees take advantage of the humidity stored in the subsoil”. A typical example of Joseph Tosi’s photography, this image highlights one dominant species while situating it within its subtropical desert context. Source: *Zonas de vida natural en el Perú*, Joseph Tosi, 1960.
Figure 3.6: Very Humid Subtropical Forest: Edaphic association under technically-managed forestry. Lucanyope forest, near Tingo María. The operator is affixing a high-lead cable to a "spar-tree" that will be used in reforestation. Beautiful example of Huaira caspi (Cedrelinga cateniformis)". Source: Zonas de vida natural en el Perú, Joseph Tosi, 1960.
Figure 3.2: Species-level depictions of two plant associations from Leslie R. Holdridge’s *Life Zone Ecology*. Source: *Life Zone Ecology*, L.R. Holdridge, 1967.
Figure 3.3: Scale demonstrating the interplay of altitude and latitude to determine mean annual biotemperature. Source: *Life Zone Ecology*, L.R. Holdridge, 1967.

Figure 3.7: The Wild-Heerbrugg RC-5A camera purchased by the *Servicio Aero Fotográfico Nacional* (SAN) in 1956. Photo by author.
No Image Available

Figure 3.8: Autograph A7 stereoscopic plotting machine. Source: www.wild-heerbrugg.com

Figure 3.9: SAN Project 149-66, shot over the lower Mayo and Central Huallaga valleys in 1966. Source: Servicio Aerofotográfico Nacional.
Figure 3.10: Aerial photograph of La Marginal and the Huallaga River taken in 1966 near San Rafael. Source: *Servicio Aerofotográfico Nacional*, Project 149-66
Figure 3.11: Map and longitudinal profile depicting elevations for the road segments between San Rafael, Tocache, La Morada and Tulumayo (most of the central and part of the upper Huallaga Valley). Source: *La Carretera Marginal de la Selva*, Fernando Belaúnde Terry, 1967.
Figure 3.12: SAN Project 99-63, shot over the Central Huallaga Valley in 1963. Source: Servicio Aerofotográfico Nacional.
Figures 4.1, 4.1a and 4.1b: Photos of where the sub-base became saturated and buckled near La Huarpia (km 55.8), March 6, 1969. Courtesy of Walter Miranda Pardo, 1969.
Figures 4.2 and 4.2a: Photos of severe flooding near the confluence of the Gera and Mayo rivers, January 11, 1970. Figure 15a shows the roadbed completely inundated. Courtesy of Walter Miranda Pardo, 1970.
Figure 4.3: Debris removal and cutting a new bank after a landslide near La Huarpia, February 1, 1970. Photo courtesy of Walter Miranda Pardo, 1970.

Figure 4.4: Source: “Allegations of Mismanagement of a Peruvian Highway Project Financed with U.S. Assistance Funds”, Comptroller General of the United States, 1971.
Figure 4.5: Source: “Allegations of Mismanagement of a Peruvian Highway Project Financed with U.S. Assistance Funds”, Comptroller General of the United States, 1971.

Figure 5.1: Map showing agricultural production in the zone of the Tingo María-Tocache (later to include Campanilla) Colonization in 1961. Note the concentration of export crops around the completed road segment (later part of La Marginal) connecting Tingo Maria with the area of the Siapai plantation. Source: Universidad Nacional Agraria La Molina, Servicio Cooperativo Inter-Americano de Fomento.
En esta formación se puede desarrollar agricultura y ganadería intensiva; los principales cultivos adaptables a la zona son los siguientes:

<table>
<thead>
<tr>
<th>CULTIVOS ALIMENTICIOS ANUALES</th>
<th>FRUTALES</th>
<th>CULTIVOS DE EXPORTACION E INDUSTRIALES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arroz</td>
<td>Plátano</td>
<td>Cacao</td>
</tr>
<tr>
<td>Frijoles</td>
<td>Chirimía</td>
<td>Jebe</td>
</tr>
<tr>
<td>Maíz</td>
<td>Palta</td>
<td>Maní</td>
</tr>
<tr>
<td>Yuca</td>
<td>Mango</td>
<td>Tabaco</td>
</tr>
<tr>
<td></td>
<td>Papaya</td>
<td>Abacá</td>
</tr>
<tr>
<td></td>
<td>Piña</td>
<td>Yute</td>
</tr>
<tr>
<td></td>
<td>Anona</td>
<td>Cebolla</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Barbasco</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coca</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Café</td>
</tr>
</tbody>
</table>

Existen otros cultivos cuyas posibilidades no han sido suficientemente estudiadas, entre ellos están: caña de azúcar, palmera aceitera, caña, colita, sapote, niu-juaya, taperaiba, cacao y otros.

El área además tiene grandes posibilidades para el desarrollo ganadero, encontrándose numerosos pastos que se adaptan a la zona principalmente:

<table>
<thead>
<tr>
<th>Jaragüí</th>
<th>Iparrhenia rufo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castilla</td>
<td>Panicum maximum</td>
</tr>
<tr>
<td>Pangola</td>
<td>Digitaria Decumbes</td>
</tr>
<tr>
<td>Gramalote</td>
<td>Panicum Purpurascens</td>
</tr>
<tr>
<td>Posto Elefante</td>
<td>Pennisetum Purpureum</td>
</tr>
<tr>
<td>Posto Pard</td>
<td>Brachiaria Mutica</td>
</tr>
<tr>
<td>Kudzu-tropical</td>
<td>Pueraria Phaseoloides</td>
</tr>
</tbody>
</table>

Figure 5.2: Chart showing planned colonial crops for the Tingo María-Tocache (later to include Campanilla) Colonization. Source: Universidad Nacional Agraria La Molina, Servicio Cooperativo Inter-Americano de Fomento.

Figure 5.3: Agrological map of the Tingo María-Tocache (later to include Campanilla) Colonization based on SAN aerial photography. The map depicts soil classification and land uses in the projects zone of influence. Source: Universidad Nacional Agraria La Molina, Servicio Cooperativo Inter-Americano de Fomento.
Figure 5.4: Geological map (including areas in need of future study) of the Tingo María-Tocache (later to include Campanilla) Colonization based on SAN aerial photography and SCIF reconnaissance. Source: Universidad Nacional Agraria La Molina, Servicio Cooperativo Inter-Americano de Fomento.

Figure 5.5: Subdivision around the town of Aucayacu under the Tingo María-Tocache (later to include Campanilla) Colonization, 1962. Note the resemblance to SAN photo mosaics. Source: Archivo General de la Nación, Fondo Nacional de Desarrollo Económico: p.127.51.
Figure 5.6: Back cover of Fernando Belaúnde Terry’s 1959 book, *La conquista del Perú por los peruanos*. Source: Belaúnde Terry, 1959.

Figure 5.7: Graphic depicting the road colonization’s penetration philosophy. Source: Tippetts-Abbett-McCarthy-Stratton, 1965.
Figure 5.8: Graphic depicting the Inca Highway. Source: Belaúnde Terry, 1959.

Figure 5.9: Rendering of La Marginal’s inter-continental connectivity with existing transport routes. Source: Archivo General de la Nación, Dirección de Caminos, Boletín Informativo: 0578.
Figure 5.9a: Various of the maps of La Marginal published in the February 1964 edition of Oiga. The same maps also came out in the Road Department's Boletín Informativo and Belaúnde’s La conquista del Perú por los peruanos. Source: Biblioteca Nacional del Perú, Oiga, Feb. 1964.

Figure 5.9b: Front cover to Fernando Belaúnde Terry’s 1967 book, La carretera marginal de la selva. Source: Source: La Carretera Marginal de la Selva, Fernando Belaúnde Terry, 1967.
Figure 5.10: The Huallaga River shot from a FAP helicopter near Sión Canyon, May 1967. The Huallaga abstracted. Source: Ministerio de Transportes y Comunicaciones, Archivo Central, Juanjui-Tocache por la margen derecha, 21-63 5-04.

Figure 5.11: The Huallaga River shot from a FAP helicopter near Campanilla, May 1967. Note the engineer’s blue interventions. Source: Ministerio de Transportes y Comunicaciones, Archivo Central, Primer vuelo Juanjui-Tocache, 21-63 C-04.
Figure 5.12: Proposed centerline placement inscribed onto an oblique photo of the Upper Huallaga Valley. Source: Ministerio de Transportes y Communicaciones, Archivo Central, Brown & Root, 1965.

Figure 5.13: The Huallaga River and progress on La Marginal shot from a FAP helicopter near Campanilla, November 1967. Note the cleared road path. Source:
Figure 5.14: Rice monoculture carved into the Huallaga forest at the National Agrarian Reform Office’s (ONRA) experimental station. Shot from a FAP helicopter near Tocache November 1967. Note the cleared road path. Source: Ministerio de Transportes y Comunicaciones, Archivo Central, Carretera Marginal, Juanjui-Campanilla-Tocache, 21-63 C-04.
Figure 5.15: Map and longitudinal profile reflecting final route selection between Tocache and Juanjú. Prepared by Arturo Solís Tovar, October, 1968. Source: Pontificia Universidad Católica del Perú, Mapoteca, GZ 5314.S3A 3.

Figure 5.16: The Huallaga River shot from a FAP helicopter near Sión, May 1967. Note the engineer’s blue interventions. Source: Ministerio de Transportes y Comunicaciones, Archivo Central, Primer vuelo Juanjú-Tocache, 21-63 C-04
Figure 7.1: Falsified bills confiscated in a 1973 drug trafficking case from Monzón, near Tingo María. Source: Corte Superior de Justicia de Huánuco, Archivo Central, Juzgado de Instrucción de Leoncio Prado, Expedientes 930 y 932, 1973.

Figure 7.2: A typical 1970s coca maceration pit. Source: Corte Superior de Justicia de Huánuco, Archivo Central, Juzgado de Instrucción de Leoncio Prado, Expediente 30, 1979.