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## Perspectives

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### The Tropical Andes: Where Multiple Visions of Nature Co-exist<sup>1</sup>

The Tropical Andes includes most of the mountainous areas of Bolivia, Peru, Ecuador, Colombia, and small parts of Venezuela, Chile, and Argentina, starting at elevations between 600 and 800 meters. Its biology, geology, and climatic zones are extraordinarily diverse. It is also the indigenous heartland of South America, with close to ten million indigenous people belonging to dozens of different ethnic groups. This indigenous population, and the close coexistence of multiple worldviews, which I identify in their most extreme incarnations as indigenous and *mestizo*, are key to understanding the environmental history of the Tropical Andes from the nineteenth century. Unlike other regions of the Americas, where the composition of the population is more homogeneous, or where indigenous peoples are more isolated, or where Afro-descendants predominate, the roads, cities, and countrysides of Ecuador, Peru, and Bolivia are densely populated by indigenous peoples speaking languages such as Aimara or variants of Quechua and living in close proximity to *mestizos*, or people of mixed race (Sichra 2009).

This proposition might seem problematic to those unfamiliar with indigenous worldviews. While some would rather refer to western “ideologies” and indigenous “traditions,” to me these words divide both ways of being and thinking; instead of trying to avoid otherness as the point of departure, they foment it. By contrast, the concept of “worldview” can be applied to any large group of people, in that it refers to ways of thinking and acting as well as ways of relating to the nonhuman world.

Likewise, this argument does not presuppose an essentialist or Manichean reading of indigenous and mestizo worldviews. Between these extremes there is a great deal of syncretism, mixing, and gradation, sometimes free-flowing and sometimes forced. And it goes without saying that there is a great deal of variation within indigenous worldviews, which in some places have been profoundly transformed.

Some of the key characteristics of the indigenous worldview include: the idea of the *Pacha Mama* (Mother Earth or Mother universe), which human beings are a part of rather than separate from; communal land tenure and productive systems (such as that named *ayllu*); relationships of exchange, bartering, reciprocity, and complementarity; indigenous justice; voluntary collective work for the benefit of the community (*mingas*); a high re-

1 English translation by Shawn Van Ausdal.

gard for work; an appreciation for traditional agricultural technologies. By contrast, in the mestizo worldview—inspired by modern philosophy and Western systems of government, and central to institutions such as the nation-state, the Church, *haciendas*, industries, and businesses—nature should be civilized and domesticated, land is a form of private property, and monetary exchanges are a good way to structure human relationships. Of course, there is also a lot of heterogeneity within the mestizo worldview. Some mestizo authors, José María Arguedas and Jorge Icaza, for example, even adopt an *indigenista* position. But the majority of mestizos share a way of thinking about nature that bears little resemblance to ideas such as the *Pacha Mama*. Political leaders, whether they be liberal or conservative, socialist or capitalist, from the left or right, have all promoted models of development that crush indigenous worldviews, sometimes even highlighting them as a source of cultural, technological, and economic “backwardness” or “underdevelopment.”



Figure 1:  
Distribution of  
the biomes in the  
Tropical Andes  
Source: Cuesta,  
Postigo and  
Bustamante  
(2012).

These tropical mountains, where various ways of thinking coexist, are themselves heterogeneous. From the cold puna grasslands, *páramos* (high, tropical areas of vegetation), and glaciers, where clouds rest and condors reign, they quickly drop into cloud forests, whose emblematic species is the spectacled bear; from there the descent continues until they eventually reach hot and humid regions where jaguars, alligators, and boa constrictors thrive in forests. The map in Figure 1 illustrates this broad range of ecosystems. This biological diversity is largely the result of being located within the tropics, a large altitude gradient, and the collision of a cold and warm marine current at the equator, which generates dif-

ferent rainfall regimes to its north and south. While the highlands have long functioned as reservoirs of water for human consumption, irrigation, and hydroelectric power, páramos and cloud forests have recently acquired significance in terms of carbon sequestration. To the north, the mountains are younger and divide into three distinct branches separated by the Cauca and Magdalena River valleys. To the south, by contrast, the mountains are higher and wider, with features such as the nine hundred kilometer wide Altiplano of Peru and Bolivia.

The diversity of ecosystems across a large altitude gradient has influenced human settlement patterns. By means of their relationships of kinship and reciprocity, the Inca and other indigenous societies organized the exchange of goods between the highlands and lowlands. This form of complementarity, which has been described as a “vertical archipelago” (Murra 2002), continued during the colonial period and after independence, although under different political, social, economic, and cultural systems. For example, haciendas that extended from páramos to the lowlands incorporated a range of spaces into individual properties. Despite a settlement pattern that emphasized altitudinal niches, people have generally preferred to live in the highlands. In fact, three capitals, Bogotá, Quito, and La Paz, are located at elevations above 2,600 meters. It was also at such elevations where an ancient, dense population domesticated dozens of foodstuffs, such as the potato, quinoa, ulluco, and guinea pig, as well as llamas for fiber and traction; at lower elevations they domesticated sacred plants such as coca. All these life forms, such as the four thousand varieties of potatoes that currently exist, not only connect different mountain spaces, but are vital to the subsistence of local populations and illustrate their millennium-old relationship with nature.

\* \* \*

The major environmental transformations since the nineteenth century have been the result of certain mestizo visions that have promoted the export of unprocessed raw materials and, in exchange, the import of manufactured goods, knowledge, and technology. This history has been characterized by boom-and-bust cycles of wealth generation and subsequent decline. Cinchona, an Andean tree whose bark contains antimalarial compounds, is an example of this kind of fleeting (and in this case recurrent) exploitation. The last boom occurred during World War II, when millions of pounds of cinchona bark were extracted from Andean nations. Figure 2 shows indigenous workers, under the

watchful eye of a US specialist, carrying bundles of the bark on a road that was built to open up new Andean territories for exploitation.

The transformation of the high Andean landscape from the nineteenth century, however, needs to be understood in terms of vertical complementarity rather than just local production. The production of guano, saltpeter, cacao, and tobacco in the lowlands, or coffee between one thousand and two thousand meters, pushed the highlands to specialize in gold or silver mining, wool production, foodstuffs, such as potatoes, for local consumption and regional markets, as well as to act as a labor pool by reason of its dense population. Conscious of the need to better connect highland and lowland regions, national governments constructed railways, which, in turn, added an additional layer of spatial differentiation based on the relative accessibility of the new forms of transportation.



**Figure 2:**  
*Cascarilleros*  
carrying cinchona  
bark in Ecuador,  
c.1944  
Source: Courtesy  
U.S. National Ar-  
chives (photo no.  
229-R-11119-5).

As the nations of the Tropical Andes intensified their commercial ties with the United States from 1940, they stopped producing highland crops that competed against imports, such as wheat. While the vertical archipelago was not completely lost as a result, it acquired continental dimensions in which technology, manufactured goods, and temperate foodstuffs arrived from the north. In turn, banana and oil palm plantations spread, and oil production, which occurs in the lowlands, sustained the growth of highland cities, such as Quito. Large-scale mining, especially for copper and gold, also

increased. Industries developed as well, especially in the textile and food-processing sectors. And road networks expanded at the expense of railways, consolidating national and international networks. In the late twentieth century, rural to urban migration contributed to the rapid, chaotic growth of cities.

The most significant environmental change over this period was widespread deforestation, which was driven by agriculture, ranching, forestry, and colonization policies (which, until recently, required clearing the forest to demonstrate legal possession). Many of these processes have been associated with the construction of access roads to mining and oil enclaves or with the opening up of the agricultural frontier. In 1850, for example, 80 percent of Colombia's Andean forests were still intact; by 2000, they had shrunk to less than 40 percent of their original cover (Etter, McAlpine, and Possingham 2008). Other recent environmental changes include the contamination of the water, soil, and air through the application of agricultural pesticides and fertilizers, and by the fumigation campaigns to eradicate coca and poppy cultivation; in the cities, fossil fuel consumption has caused significant pollution.

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While mestizo worldviews have shaped these large-scale transformations, millions of indigenous peoples and their communities have continued to practice other forms of territorial appropriation. It is true that, over the second half of the twentieth century, agrarian reform and development policies contributed to the erosion of agricultural diversity—both the crops and the traditional practices that maintained them—as many indigenous peoples sought to increase their labor productivity and profits (Knapp 1991). Such developments, however, are not widespread.

Many indigenous people continue to emphasize reproductive strategies that are not simply rooted in economic maximization. From Ecuador to Bolivia, thousands maintain many different potato landraces as an adaptive mechanism to varied environmental conditions. To gain access to diverse crops, some even prefer to sharecrop, rather than rely on the market, even though it may end up costing them more. Although many indigenous people from Paucartambo, Peru, have adopted modern agricultural practices and produce for the market, they still maintain crop diversity and rely on practices that are not guided by the goal of economic growth (Zimmerer 1996).

Throughout the Andes, many farmers continue to grow crops on terraces and raise beds with hand tools rather than tractors; they eat guinea pig instead of chicken; they plant quinoa rather than flowers or broccoli; and they raise llamas instead of sheep. Rather than produce for a market economy, many indigenous farmers maintain traditional agricultural strategies because they are more resilient and ensure food sovereignty. They also still prefer communal, rather than private, ownership of the land.

There have been recent changes as well. Ecotourism and agroecological production have grown in rural and wild areas. In both the city and the countryside, new social movements have emerged, many of them a fusion of mestizo, indigenous, and some global-movement worldviews. By focusing on urban agriculture, food sovereignty, clean industrial production, and environmental justice, they propose new ways of living harmoniously with nature. Similarly, the ideas of *suma qamaña* and *sumak kawsay* (“good living”) have been incorporated into the constitutions of Bolivia and Ecuador as a result of the growing political influence of their indigenous movements, the recognition of multiculturalism, and the search for alternatives to the negative consequences of living on the margins of global capitalism. These ideas encourage ways of living beyond the logic of contemporary capitalism. By fostering greater connection with the earth and its rhythms, and focusing on community life, they promote the reproduction of life over the reproduction of capital. In accord with a worldview inspired by a belief in the *Pacha Mama*, these constitutions have also recognized the “Rights of Nature,” transforming nature from an object into a subject. Such efforts recover ancestral wisdom and assimilate it with contemporary knowledge as an alternative to development paradigms based on economic growth. In a decade or more, we will be able to see whether such efforts have moved beyond proclamations to reconcile the worldviews that coexist in the Tropical Andes.

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