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The Journey of an Ancestral Seed: The Case of the *Lupino Paisano* Food Network in Cotopaxi, Ecuador

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Abstract

"Lupino paisano" refers not only to an Andean seed (Lupinus mutabilis Sweet), but also to a nature-culture food network. We argue that this network is based not on a modern ontology separating culture and nature but on what we refer to as a "rhizomatic association of actants." Informed by Bruno Latour's actor network theory (ANT) and Tim Ingold's relational model of thinking, we follow the seed's path from the highland community of Guayama San Pedro (place of production) to the valleys of Cotopaxi (places of processing and consumption) and its subsequent return to the Guayama San Pedro, analyzing this as a series of actant transitions. We conclude that the lupino paisano network comprises a group of entities and the dynamic relationships among them; it is not centrally organized or an "organizing memory." The geographies, the actants, and their relationships are defined during the work processes and dependent on the translation processes generated. [alternative food networks, actor network theory, Andes, Ecuador, indigenous people, food networks, lupin]

Introduction

While climbing up the Quilotoa volcano in Cotopaxi Province of Ecuador, one can see that crops such as potatoes (*Solanum tuberosum*), broad beans (*Vicia faba*), oca (*Oxalis tuberosa*), ulloco (*Ullucus tuberosus*), and barley are cultivated in the good soils of the lower vegetation zones at 2,500–2,800 meters above sea level

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(masl). At elevations above this, between 2,300 and 3,800 masl, lupin (*Lupinus mutabilis* Sweet), an edible legume, is widely planted, both intercropped in indigenous farmers' fields and sown in the wild mountain scrubland (*páramos*) among hardy grass species.

Until the late 1980s, lupin was the subject of racial and social prejudice. It had been domesticated sometime before the Inca civilization, and there is certainly evidence of its use in Ecuador during the early colonial period and throughout the three centuries of Spanish domination of the Andean region (Martínez Flores 2015). Because of its indigenous, Andean origins and its rare use in urban areas, however, it was regarded by urban middle-class consumers as a food fit only for indigenous people and the poor. That has changed somewhat in recent times, as it has been modified, commercially produced and promoted, and culturally adopted by eco- and health-oriented consumers as a gastronomic specialty and health food.

"Lupino paisano" is not just the name of a plant, however, but also a food network. To explain what we understand by a "food network," we may contrast it with a commodity chain. According to Murdoch (2000, 409–10) and drawing on a political economic perspective, commodity chains tend to be orchestrated by multinational corporations and to severely marginalize peasants; food networks, on the other hand, operate outside of formal structures and are not owned. Whatmore and Thorne (2003) suggest that a greater understanding of agro-food networks can be gained if we move away from a one-dimensional, political economic perspective, and instead examine their socio-natural constituents and their capacity to consume as well as produce local and regional food. They propose replacing a politico-economic perspective with actor network theory (ANT), in which human and nonhuman constituents can both be integrated into the analysis.

Very little research has been carried out into the dynamics of food products from a food network

perspective in the Andes.¹ Nevertheless, there have been several important ethnographic and historical studies on the provisioning of food and agriculture in the region. Early studies by Alberti and Mayer (1974) and Orlove (1977, 1986), and the more recent work of Meyer (2002), provide examples of how agricultural production and foraging are regarded there as practices resulting from a mutual involvement of plants, animals, and people. With respect to local and regional peasant production, authors such as Larson and Harris (1995) and Weismantel (2001) for the Andean region generally, and Hugo Burgos (1970) for Ecuador, show that indigenous people—especially women—have been actively linked with the processing and trade of foods throughout the centuries of Spanish domination and then the Republic.

However, these studies do not show the production, processing, and commercialization of food in the Andes as a diachronic and interrelated process, in which entities such as the indigenous market as well as the environment contribute to the production and also consumption of local and regional food. We believe that these studies have two characteristics that have limited their analysis of Andean food networks: (1) The object of the study is that of domestic units or communities, into which outsiders rarely integrate; and (2) an analytical focus on established dichotomies, such as viewing markets in terms of either precarious capitalism or resistance forms of trading. There are two further reasons why we concentrate on the lupin food network: the nutritional value of lupin as a plant protein; and because of the role such networks can play in contributing to food sovereignty and/or operate as alternatives to food chains.

We have identified three lupin food networks in Ecuador: the *lupino paisano*,² the *lupino chawcha*, and the Peruvian lupin. The *lupino paisano* food network stretches from the Andean highlands, the main area of *lupino paisano* landrace production by indigenous farmers, to settlements in the city-valley markets, where indigenous farmers and women processors play a key role in its production and processing. The *lupino chawcha* network is based on a cultivar of lupin, a new variety generated by the National Agriculture and Livestock Research Institute (*Instituto Nacional de Investigación Agropecuaria*, INIAP). Primarily located in the valleys of the Andean region, this is composed of mostly nonindigenous (*mestizo*) farmers, and links the small enterprises that process the lupin in the valleys with supermarket chains and middle-class

consumption in the city. The Peruvian lupin network is based on illegal imports of lupin that come into Ecuador from the Peruvian Andes.

Our analysis here focuses on the *lupino paisano* network because this network functions differently, primarily due to its cultural and ecological origins. These involve the production by indigenous people of a lupin landrace (the *lupino paisano*) as a cash crop in the highlands, where it is typically identified by its Kichwa language name, “*tawri*”).³ Our research takes us on a journey, starting in Guayama San Pedro, a village in the highlands of Cotapaxi Province, where lupin is grown and harvested. We then follow *tawri* route, as it is sold, via intermediaries, in small highland market-towns (Zumbahua, Chugchilán) and larger valley urban centers (Latacunga and Saquisilí). There it is processed and transformed into edible form, mainly by *mestizo* women, and sold for consumption, now typically identified by the Spanish name “*chocho*.” Then, some lupin returns back to the highlands, to its place of origin, as indigenous people purchase the *chocho*, occasionally for consumption, but especially for use as a gift, now called “*wanlla*,” where it carries a particular cultural meaning. Thus, our journey takes us through the territory of the network, from highland center, to city margin, and back again, both literally, in a geographical sense, and also figuratively, in terms of its range of sociocultural and ecological environments.

The Cotapaxi province was selected for this research because it is one of the three provinces with a relatively large production of lupin in Ecuador (Junovich 2003). Several intermediaries from the urban centers identified the area studied as a place where the landrace is produced. This food network is taken as representative, therefore, of others operating in Cotapaxi and the other two high lupin production provinces of Imbabura and Chimborazo.

In this article, we use ethnographic research informed by Bruno Latour’s (2007) ANT and Tim Ingold’s (2000) relational model of thinking to trace the ways in which the *lupino paisano* operates as a nature-culture food network. Thus, we analyze the network as featuring diverse actants (human and nonhuman), organized by horizontal relations (nonhierarchical) and characterized by its own regeneration (self-sustaining). During its descent from (and return to) the highlands, *lupino paisano* makes associations in a rhizomatic manner (Deleuze and Guattari 1987, 7), combining with various entities along the way. We show this, first, by tracing two key sets of interactions or “alliances”

among actants that generate horizontality, those between farmers and seed and those between producers and traders; then, we look at how changes of meanings among actors and spaces allow for recreations of the network; and finally, we discuss what understanding agro-food networks in this way implies for the study of the local culture and its relation with Andean food.

Methods

The ethnographic work on which this article is based involved following and mapping the various linkages of the lupino paisano network. Carried out between 2007 and 2008 by Alexandra Martínez (A.M.), this began in Guayama San Pedro, a small, indigenous community (mostly Kichwa-speaking with some Spanish) of about 150 families in the highlands of Cotopaxi province (3,500 masl). It ended some 80 km away, in the market town of Saquisilí (2,943 masl) and the city of Latacunga (2,784 masl), both located in an Ecuadorian inter-Andean valley where lupin is processed and consumed.

A.M. arrived at Guayama through contacts with a community leader and on the promise that her study would focus only on agricultural topics and the lupin. The first long stay in Guayama was between December 2007 and February 2008, during the sowing season. A.M. returned for the harvest season in July (2008), when she stayed for 2 months, living with a family that was mainly engaged in agriculture. There, she was able to become involved in the family's agricultural labor, which is mainly women's work in that community. It was this participation in the daily life of the community that showed her that in order to understand the pathway taken by the lupin, she needed to accompany those making the journey, on foot and by bus, to sell the seed in Zumbahua and Chugchilán towns and Latacunga city.⁴ This family was key to finding other links in the network, which included several lupin producers and older people who did not produce anymore but were considered "good farmers." Our conversations—in Spanish, usually at their work or at home—were always about agriculture, especially agronomic aspects of the lupin, its preservation and lucrativeness, and about nutrition, crops, and animal upkeep.

During harvest time, A.M. went to the indigenous markets in Zumbahua and Chugchilán. These trips were particularly important, because Guayamans had long-standing contacts with people from other

communities and intermediaries and, on truck trips back to Guayama, A.M. was able to take the role of participant observer in informal conversations.

At the end of 2008, A.M. did fieldwork in the larger, valley urban centers. She initiated conversations with store owners, or *graneros*, aided by one of the producers of Guayama. These informants gave concrete answers to direct questions, keeping our conversations to details about where the seed they purchased came from, the prices and the types. The information gained from this group was useful but limited.

A.M. then followed the lupin seed from the producers and traders to the women who processed it into edible chocho in the El Salto market at Latacunga and the weekly market at Saquisilí. In addition, contact with a family in Latacunga allowed her to establish a more personal link with a housewife who had spent years processing the lupin and selling food in the various markets, and to accompany her to sell food at a Saturday fair.

The Peasant and Lupino Paisano: A First Network Alliance

Producers in the indigenous community of Guayama and the lupino paisano plant are actants that share an ecological and historical space: the páramo wildland. The relationship established between these two actants is the result of the Guayama peasants' response to the history and growth of the plant and the history of hacienda landowners' conceptions of agriculture.

Strikingly, Guayama people give high priority in seed selection to knowledge of the origin and behavior of the plants from which it comes. The seed that is ordinarily sown is recognized as seed of the "ancestors" (*antepasados*), of the "grandparents" (*abuelos*), and can be called "*chocho paisano*" or simply "*tawri*." Just as a whole family and its past are assessed as potential relatives in the case of a proposed marriage, plants also are evaluated according to their histories. Indeed, there is a clear parallel between the care given to selecting and sowing the seed and the strict rules of traditional marriage practice, observed until a generation ago in the region of Chugchilán and Zumbahua; in both cases, people/seeds from the community are preferred, where their family origin and behavior are known.⁵ Indeed, most of the farmers prefer to use their own lupin seed or that of close neighbors, precisely because they can be certain of its origin and sure of its behavior in the extreme climate of Guayama. Showing me the

seed he was going to sow in February, Don Daniel Iracunga said that he had bought it 2 years ago from a neighbor who lived opposite his house, as he knew that this variety would resist the winds and be more productive.

According to the farmers, the seed should be *acostumbrada* or *enseñada*, which means that it has to be habituated to growing and bearing fruit in the conditions of Guayama. To illustrate, two of the younger farmers who sowed seed they had acquired in Angamarca—a rural parish near Zumbahua, with similar ecological characteristics to Guayama—explained that this seed was *acostumbrada*. One of them said that he had traveled to Angamarca to make sure that the plants were “strong” (*fuertes*)—implying, that is, that the seed to be selected and sown should feature certain qualities located in the plant’s morphology. Being strong, he explained, meant that the branches would not be broken by the wind or the flowers easily fall; the seed also had to be *acostumbrada* to the local diseases, pests, and adverse environmental factors, such as frost, as well. Indeed, it survives in the tough environmental conditions of the páramo; it is a true *paisano*.

Both younger, larger-scale producers from Guayama as well as older people value the lupin because of its resistance to the cold and to the winds, and because its growth requires little labor: “Chocho doesn’t topple over with the summer [winds],” said one farmer, Osorio. “It’s tough, the strong winds knock off the flowers, but not all of them.” Another farmer, Pucha, said contemptuously, “Some down there [pointing to Guayama] use the new one [the new variety, *chawcha*], but I don’t like it; with the wind, the flowers fall off, they can’t take the wind, they look nice, but then they’re lost.”

In general, *lupino paisano* is sown either in the páramo grasslands, or in lower elevation fields along with subsistence food crops. *Lupino paisano* planted high, in the wild, is expected to grow successfully alongside the páramo grass (*Calamagrostis intermedia*). It generally reaches a height of up to 150 cm, and its branches are indeed robust. Plants—just like the people—are strong, able to resist and grow and thrive in the harsh environment. One day, for example, during a *minga*,⁶ a community leader saw me freezing in the cold, wind, and rain, and joked, “We’re like the *tawri*; here, we live with the wind and rain.”

In agricultural fields, *lupino paisano* is sown either together or in rotation with other crops. The rotation cycle is barley, broad beans, lupin, which is sown in

the stubble of the broad beans. When intercropped, the lupin is planted alongside corn, oca, ulloco, or potatoes. As these crops are attacked by pests and diseases or may be sensitive to abrupt temperature changes (such as frost), they are weeded regularly and punctually, organic fertilizers are used to improve the soil, and a pesticide is applied. When the farmers consider that these crops are able to survive, the lupin is sown; after that, no more weeding takes place and no more attention is paid to the crops.

This lack of attention reveals that the aim of those who cultivate the lupin is only to establish the initial conditions for growth. The cultivation of the lupin is seen as a simple task, as Don Manuel Iracunga indicated: “Eating [lupin] is a little difficult because you have to cook it, then wash and rinse it; but sowing it, you know it starts and it then grows and grows all by itself, afterwards the flowers [appear] and [then] they produce beans, and when they’re dry, we pick them.” Don José Miguel Pucha, who grows lupin in the páramo, concurred, summarizing very well the position that many Guayama farmers take: “God, nature, and work is all the *tawri* needs.”⁷

Nevertheless, sowing lupin does generate an active cooperation between humans and nonhumans. It is not about imposing mechanical force, but rather implies the handling of knowledge as an art or a craft. People need to know about the quality of the seeds, the appropriate moment for sowing, the number of seeds that should be placed in each hole, and the quality and dampness of the earth to determine the pressure that should be applied at the moment of tamping down. Agronomic tasks with the lupin are characterized by a particular rhythm and noticeable gentleness, with the people taking care to avoid destroying the other plants and enabling the lupin to grow.

Lupin harvesting could be considered as a “collecting or assembling activity” (Ingold 2000). The lupin harvest in Guayama does not bring together large groups of relatives, friends, or workers, as is the case with potatoes, nor does it require rituals, such as those surrounding corn cultivation, practiced in Andean valleys (Gose 2004, 146–64). Instead, there is just the picking and collecting of the beans. As lupin pods do not all ripen at the same time, they are not picked all at once, and their collection only requires the labor of a few family members. These few members, usually women, go to the fields or the páramo alone or accompanied by children. The harvest is perfunctory, with associated social activities minimal and nonceremonial,

and no special food eaten. Everyone just selects a line of plants, takes what needs to be harvested, and returns home.

Farmers in Guayama do not regard lupin as a principal food source. In contrast to foods like *máchica*⁸ or potatoes, lupin is identified as a cash crop and little eaten. “We eat it once or twice a year; chocho is not like *máchica*, which we eat every day,” said Doña Elisa. She was also able to confirm that in Guayama, crops like potatoes or barley, central to the diet, receive far more investment in time and resources, an observation that coincides with that reported by Meyer (2002, 206) for other places in the Andean region. Weismantel (1988, 92–95) also explains that potatoes in Zumbahua are the most important food, “the king of Zumbahua foods,” in fact; other tubers are part of the diet but do not have the status of potatoes, while barley, too, is important, especially for poor families—as confirmed by the popularity of *máchica*.

In conversations about crops with Guayama people, the most knowledgeable farmers would refer to lupin as a generator of money. When they talked about potatoes, they referenced varieties and classifications, past production levels, and the amounts of fertilizers and pesticides that should be used. When they talked about lupin, however, they focused on market prices, the low investment required, the little care that the plants needed, and the low production levels caused by diseases. Asked whether it was eaten, for example, Chaluísa, a famer replied, “We prefer to sell the chocho. Yes, we eat it, but not much; when we want it, we buy it.”

In Guayama, the association of lupin seed with income has enabled some farmers, especially the younger ones, to change to an earlier-maturing variety. They argue that the poor quality of their lupino paisano makes it difficult to position it in the market, and that growing the new variety allows them to sell to additional markets. According to one, “The lupin does make a profit, but it has to be treated before it is sown; otherwise, it gets attacked by late blight.” In fact, the two largest lupin producers in Guayama are young farmers who have incorporated modern technology (the new variety, fertilizers, pesticides, and a tractor) into its sowing and cultivation.

A significant, historical element that can help to explain the particular relationship of farmers with lupin is the fact that while the development of agricultural technologies originated within the haciendas, lupin cultivation developed outside of them.⁹ In his

turn-of-the-century book on Ecuadorian agriculture, Martínez (1903, 243) described lupin cultivation practices similar to those described here. He suggested that hacienda owners use the crop to fix nitrogen in sandy soils, recommending its use as a natural fertilizer as well as a “very appetizing cold food for the Indians, mixed with salt and chili.”

Elderly people from Guayama San Pedro recall that during the hacienda era (roughly from the 18th century until the agrarian reform of 1964), families living on the haciendas could not grow lupin, whereas relatives living in nearby free communities could and did.¹⁰ The result was that growing lupin remained external to the logic of the haciendas and the modern technical and economic development of farming, meaning also that it was not included in institutionalized breeding practices.

The lupino paisano in the communities was grown in a completely different context, as Don Joselino Auz attests, recollecting the hacienda period:

In that hacienda [pointing], we never planted chocho. I remember my dad then. He would plant chocho. There was no work to sowing; you just dug a hole and planted it.

If, as the farmers in Guayama declare, lupino paisano seed is “the ancestors’ seed” and does not differ greatly from its wild counterparts, then this is not a coincidence: It is the result of a specific relationship between two actants as fellow participants in the world. Thus, the particular performance of lupino paisano is a direct result of the current paisano seed morphology (which resides in its ability to live in the páramos and survive various diseases) and indigenous peoples’ general practice of nonintervention in the domestication process (Ingold 2000, 87; Rival 2004, 99).

Conocidos: A Second Network Alliance

The second alliance analyzed here is that among indigenous farmers and traders, or *conocidos*. The Spanish word “*conocido*” is similar to the English “acquaintance,” specifying a person with whom one has contact or communication, but not friendship. In the case of the relationship between farmers and traders, they become *conocidos* to each other over time. These *conocidos* are small- and large-scale traders in different varieties of barley, wheat, lupin, peas, and lentils. They constitute a heterogeneous mestizo population.¹¹ In fact, by marketing the products of the

highlands, indigenous people working in neighboring towns and cities often gain prestige and income, and as a result, begin to identify themselves as mestizo (Harris 1995, 375). According to Ferraro (2006, 27) the mestizo category has historically been linked to commerce, because it was assumed that indigenous people were not able to be merchants. Thus, grain traders, farmers, and lupin are intertwined not only within the context of contemporary market mechanisms focused on commercial transactions, but also through their social class relationships linked to the history of the hacienda (Guerrero 1991, 273; Ferraro 2004, 90).

State policies and nongovernmental organizations (NGOs) have often seen middlemen as the source of economic exploitation of peasants, reasoning that because they control the trade of products, they are in the dominant power position. This view is assumed by "fair trade" initiatives, which have proposed avoiding intermediaries in order to undermine their exploitative role. We argue, however, that in the case of lupino paisano, intermediaries do not really control trade transactions, due to two features of the dynamics of the network. First, peasants are able to change the course of the network, which prevents complete control of marketing by the intermediaries; and second, mutual transformations by producers and intermediaries to the status and ties of *conocidos* bind them to one another in relationships of reciprocity.

After the lupin has been harvested in Guayama, the people typically try to sell it immediately, wherever it is easiest and the best price obtained. There is no single way of linking to any one market place, and the producers work to establish a range of connections and sales options, and thereby obtain improved returns for their crops. They sometimes sell lupin in their own village, but more usually outside, either in the city of Latacunga or in nearby towns of Zumbahua or Chugchilán.

The decision of where to sell is made by older members of the family, and is based not only on the price and amount of lupin, but also on how quickly the money can be obtained. In Guayama itself, the presence of traders is seasonal; they typically appear in their pickups at the height of the harvest, and buy lupin at a lower price than that offered in valley urban markets or nearby towns.

Trade outside the village is carried out by the male members of the family; few women do this work. The marketing of lupin in Latacunga is generally conducted by the men with sufficient Spanish to sell their product.

This occurs either when the price offered in the valley markets is high relative to that in the small highland towns, or else when the farmers face economic adversity and need money immediately. When the price difference is not very great, the Guayaman farmers generally prefer to sell in Chugchilán and Zumbahua, because the traders who come to these markets do not refuse bad quality lupino paisano and they buy any amount, however small.

Generally, the lower the quality or the smaller the quantity, the lower the price, with the price of lupino chawcha (the new variety developed by INIAP) in Latacunga or in the nearby market town of Saquisilí used as a reference. Apparently, this practice benefits both traders and producers. According to the Guayama producers, these transactions secure the sale of lupino paisano, the quality of which has deteriorated in recent years. And as *conocidos* accept any amount of lupin, poor and elderly people can sell quantities of <5 kg. By contrast, in Latacunga or Saquisilí, lupin sales begin at 13 kg. According to the farmers, therefore, selling lupin in the small highland towns offers both economic and social rewards. Indeed, during the research for this study, they were observed to be continually trying to make new contacts to sell their lupin.

Both the producers and the intermediaries work to deepen their relationships with one another during negotiations at the Zumbahua and Chugchilán markets, and at the same time try to increase the number of people they can count as *conocidos*. If the *conocido* relationship deepens, indigenous producers may seek to establish a relationship of ritual kinship through *compadrazgo*.¹² Both type of relationships, that of *conocido* and of *compadrazgo*, imply a reciprocity in which rights and duties are assumed and performed according to the gender, age, and kinship status of each party (Ferraro 2006, 31). Thus, a person can work with more merchants and be more independent, not only if they have more links, but also if they have deeper ones.

In Zumbahua and Chugchilán, the farmers feel compelled to sell their lupin to *conocidos*, who, in turn, offer new contacts with people linked to various NGOs, medical institutions, or (other) state institutions. Often, due to the poor public transportation system in the Guayama area, traders give rides to people living in the surrounding area. This offers neither security nor comfort and is a service for which people have to pay, yet, traders feel that they are acting with reciprocity and expect that the producers will sell lupin to them in return.¹³

Summarizing, we argue that traders do not control the lupino paisano network, first, because the producers can create other networks, and second, because alliances established with *conocidos* work to guarantee that the actants obtain mutual benefits. Also, there is a constant drive to form new alliances and encourage others to become *conocidos*, which reinforces the autonomous or nonhierarchical (horizontal) nature of the network.

Translations and the Role of Space

Transformed into a commodity, lupin travels from the highland páramo and farming plots to the markets located in the valleys. Once it arrives there, it is taken to the mestizo women's homes and kitchens, where it undergoes a new process of translation. From ANT, the notion of "translation" is introduced as a process that generates a certain kind of order, certain types of associations, and that transforms some entities into others (Latour 2007, 108; Law 1992, 386).

The change of location, from the páramo to the valleys, and the technical process of debittering developed by the valley women, we argue, combine geographic and biophysical transformations that lead to semiotic changes in certain actants. In other words, the arrival of the lupin in the valleys and its entry into the women's kitchens sets off a process of translation. Lupin seed is translated into a high-value food product, *chocho*; housewives are translated into food vendors, and *chocho* is translated into *wanlla*, which is more than just a food.

From Tawri (Lupin) to Chocho

After processing, the hard and bitter *tawri* becomes the commodity *chocho*, a kind of soft, ivory-white bean with a mild smell and a taste that some people find sweet. It is not only that the taste is improved and the financial worth increased, however: The cultural value is similarly transformed.

MacKenzie and Wajcman (2006, 3) present a comprehensive notion of technology when they say "all of our lives are intertwined with technologies, from simple tools to large technical systems." This insight helps us to understand the relevance of women's work in the process of creating edible lupin. In this case we distinguish the two ways in which the lupin is transformed: by the skills and capabilities of particular subjects (technique) in the lupino paisano network, versus a corpus of

generalized knowledge (technology) in the lupino *chawcha* context.¹⁴

The *tawri*-to-*chocho* transformation takes place through the interaction of techniques that are "constituted by the presence of the artisan in his or her environment" (Ingold 2000, 291). These, clearly, are very different from those of laboratory-based selective breeding for specified traits, a technology used to change the plant itself. The former, obviously operative in respect of the product (*chocho*) rather than raw material (a genetically differentiated variety), occurs within the lupino paisano network, while the latter acts upon the network—in fact, because the new lupin cultivar is unsuited to the highlands, its adoption undermines the lupino paisano network.

Here, when focusing on the women processors, we concentrate on technique rather than technology. Research has shown how, in the context of everyday life, food processing techniques and the market are interrelated and effect changes in the constitution of different entities (Seligman 1989, 2001; Sikkiink 2001). In this case, the work of women processors begins with soaking the seeds (now beans) for 2 days in a large pot of water, in the corridor by the kitchen. Doña Margarita, a woman processor in the El Salto neighborhood, explained that when the debittering is done with running water, the beans are usually ready in 3 or 4 days, but when running water is not used and the water is changed once a day, the process takes a week.

The second step begins when the lupin enters the kitchen, where the pot is placed on the fire and the beans boiled for 1–2 hours. In the kitchen, the processing of *chocho* accompanies the preparation of other foods destined also for the market. For instance, hominy, a type of processed white corn, called *mote* in Ecuador, is used to supplement dishes prepared for sale at the market.

Through conversations with women processors like Doña Margarita, it became clear that knowledge about lupin processing is not confined to its cooking. The women easily recognize various local varieties of lupin, the cooking times needed for each of these varieties, and, from the color, the length of time that the lupin has been stored. They also know about the lupin's nutritional properties. Most of the women say that eating *chocho* helps to strengthen the bones, and so it is good for children and old people.

At the moment the prepared lupin leaves the processing kitchens for the market, it changes into a

highly valued mestizo food. In order to further explain this process of translation, we refer to the discussion of de la Cadena (1995, 338–42) regarding how valorizations of women's work are expressed in terms of gender and ethnic hierarchies. In her work in Chitapampa (Perú), de la Cadena shows how indigenous women are regarded by urbanites as people without much knowledge about cooking, while mestizo women are valued as "very good cooks" and appreciated at community parties. Following this, we argue that lupin acquires prestige as a tasty mestizo food because it enters the kitchens of the valleys, where it can be prepared by mestizo women and served together with other prestigious foods, including hominy, corn, and sometimes pork, a combination which, in the diet of the Andean region, is a highly valued meal.

From Housewives to Food Vendors

The entrance of women into the marketplace generates new alliances between the lupin and people and also modifies the women's identities from housewives to vendors and providers (Seligman 1989, 2001; Sikkinink 2001). This constitutes a second way in which network actants are transformed.

Doña Mariana, who identifies herself as mestizo, is 65 years old and has worked for more than 50 years preparing food for sale in the markets, working with her grandmother and mother who lived in Latagunga. Doña Mariana herself married very young (when she had finished primary school) and moved to her husband's indigenous community. She realized that it was important to her maternal family that she continues their work, so, despite the fact that there was no tradition of preparing and marketing chocho in the new community, she kept up the women's work and family trade, which suited her new (marital) family. Her husband's agricultural and carpentry income was not sufficient to support all the family needs, but with Doña Mariana's work, they were able to provide a good education for their children. Doña Mariana said that she still goes to the market with chocho, mote, and toasted corn three times a week; the other days, she prepares her family's food and deals with the housework.

Like Doña Mariana, many women food processors and vendors appreciate their work because it provides an important income, especially for the education of their children. The women vendors in Latacunga also value their marketing work because they are firmly

convinced that they supply a food, particularly the lupin, which contributes to the health of their customers, and because marketing these products gains them social connections.

From Commodity to Wanlla

As the lupin reaches the market, it is opened to new relations with other actants. One of these is when, now as chocho, a food commodity, lupin is purchased by indigenous people from the highlands and returns to its birthplace in the form of a wanlla, a gift. According to Weismantel (1994, 170, 211) wanlla is a gift that has two meanings: It is both a snack (alternatives are candy or empanadas¹⁵ or any sweet food) and a food, which, in addition to its nutritional value, has emotional, social, and political significance.

What takes place here, therefore, is a second process of translation of the lupin. Having been commodified, it is now transformed from commodity (chocho) to gift (wanlla), or, one might say, it is decommoditized, taken out of the cycle of trade and trading relations by the action of peasants returning to the highlands; now transformed into wanlla, it also has the capacity to recreate links in the indigenous communities.

The change of the lupin from chocho to wanlla is a gradual process that starts at daybreak, when mestizo women in the market sell high-value food to truck drivers and loaders, wholesalers, and other people there. They serve coffee and sometimes empanadas. In some places, they offer combinations of chochos, ullocos, beans, mote, and pieces of pork to accompany meals with broad beans. During the day, other consumers, including indigenous men from the highlands, come in search of chocho. Sometimes they buy small portions of the various combinations of dishes, not only for themselves but also to eat later or take back home. On one occasion, A.M. was accompanying an indigenous man around the Saquisilí market, when there occurred an opportunity to talk with a grain merchant. The conversation was sensitive, however, so the man pulled out a mixed dish of food that he had bought previously and offered it to the trader as wanlla. So wanlla as a food gift can be used creatively to facilitate social interactions in towns and cities.

A.M. was thus able to observe, as Weismantel (1994) reported for Zumbahua, that the practice of gifting wanlla is still common in communities such as Guayama. On the trips from Latacunga to Guayama, for example, passengers had the bus drivers make

special stops at two small bakeries, where many of the passengers, especially older men and young women, got off, made their purchases, and returned to the bus laden with bags full of bread. Very little of what they purchased was eaten during the trip. Later, in Guayama, the bags were given as gifts to spouses or mothers. Indeed, they did not just contain bread, but wanlla.

When parents or elder brothers and sisters return from the valleys, children come to meet them and ask for wanlla. It is then that the chocho, accompanied by other special foods, is transformed into a gift. In one conversation, a man commented that when he returns from Latacunga or Chugchilán he always buys chocho and mote to give to his little children. Similarly, when the sister of A.M.'s host returned from Latacunga one time, her children appeared at the door of the room offering chocho, mote, and pork.

On some occasions, the offering of wanlla is more solemn, for example, when traveling to see a parent, where the wanlla is given with love and offered formally by a lower to a higher status person. This thus constitutes a display of respect and recognition of an established relationship (Weismantel 1994, 212), expressing in ritualized form the nature of the social bond.

Conclusion

Following the journey of production, processing, and trading of the indigenous lupin plant, we have shown that lupino paisano is a nonhierarchical, nature-culture food network. In this network, the entities that comprise it, as actants, are defined through their relationships established with other entities, or actants. In contrast to modern forms of production, processing, and consumption, in which foods are considered to be objects that enable actors (humans) to realize their objectives, chocho and wanlla are the results of a continually negotiated coproduction of humans and nonhumans situated in different geographical and social—or cosmological—locations that establish the territorial positioning of the network.

Food networks (Goodman 1999) are regarded as alternative forms of social organization to global food chains, in that they emphasize the capacity of people to produce and consume their own food at a local level. This growing interest in an alternative social organization of food production is exemplified by the emergence of “regional initiatives,” also referred to as

“alternative food networks” (AFNs). AFNs have been seen as an interesting, empowering option in relation to the constraints imposed by the global food system (McMichael 2009), and thus as examples of resistance and struggles for autonomy.

The lupino paisano network comprises a group of entities and the relationships among them in constant formation or destruction (Latour 2007a, 35), with links that generate translations, new identities, and new spaces. Tawri, a seed from the highland páramo and farmers' fields, is transformed through women's work in the valleys into chocho. Producers and traders become *conocidos*; indigenous traders become *mestizos*; and housewives are transformed into food vendors when they arrive at the marketplace. Mestizo chocho produced in the valley returns to the highlands as a gift, now decommodified and transformed into wanlla, a special food with the capacity to intensify affective links.

What characterizes such a food network is its rhizomatic nature, the absence of a centralized or previously implanted organization informed by the characteristic of an “organizing memory” (Deleuze and Guattari 1987). The relationships established are not the product of a state institutional or communal administration; the geographies, the actants, and their (inter) relationships are defined during the work processes and dependent on the translation processes generated. Notably, both the development of the network space and the creation of novel spatial dynamics emerge from the actants' capacity of association during the work done. In other words, a multiplicity of actants guarantees flexibility in the operation, recreation, and adaptation of the lupino paisano network.

In a nature-culture food network, the development of knowledge and technology is part of everyday practice. As such, it is not based on the separation of subject and object as in modern science. In a nature-culture network such as the lupino paisano, the labors of sowing, harvesting, and processing and the development of knowledge and technology are part of everyday practice. In this presentation of the operation of an AFN, it becomes clear that such food production involves a situated knowledge. This practice, especially in cultures where relational thinking exists, entails particular links between culture, society, and environment. As Dean (2013, 109) states, “situated knowledge is not only partial but fluid, responsive to and responsible for changing contexts and contestations.”

Finally, by showing the validity and complexity of an existing food network, we have demonstrated here the need to investigate how production, processing, exchange, and consumption in food networks function before creating new, developmental AFN projects. This has already been suggested by Freidberg and Goldstein in Kenya (2011, 25). In this sense, it is not possible to characterize—even less to plan—an improvement in the function of an AFN without prior research on the types of actor network performances and links they establish. This type of approach cannot be conceived simply as a global alternative; rather, each AFN may be viewed, supported, and developed as an alternative.

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Notes

1. Exceptions include Whatmore and Thorne (2003).
2. “Paisano” is the name used by the indigenous people to refer to the lupin landrace, taking it to mean “peasant, [one] who lives and works in the countryside” (*Real Academia de la Lengua Española* dictionary); “lupino paisano” is reasonably translated as “lupino del campo” or “lupino campesino,” “country lupin” or “peasant lupin.”
3. Kichwa: a highland dialect of Quechua, a pre-Columbian language used in parts of modern-day Ecuador and Columbia.
4. Latacunga: pop. c.51,000, Zumbahua: pop. c.12,000 and Chugchilán: pop. c.6,000 (2001 census).
5. Conversations with elderly residents confirmed that the traditionally preferred marriage is endogamic (within the community).
6. Pre-Columbian tradition of community social service.
7. “Dios, naturaleza y trabajo es todo lo que el tawri necesita.”
8. *Máchica*: barley flour, from which a sweet porridge is prepared; just as in Zumbahua (Weismantel 1994, 208–9), in Guayama it is served in the morning or at night.
9. In Latin America the haciendas were large family properties (many occupying more than one ecological zone), intended for agriculture and grazing, where the land was exploited through a captive labor force (indigenous and African-American). See Crain’s (2009) study of an Ecuadorian Andean Community for the role of the

haciendas in the introduction of modern agriculture (and the resistance of indigenous women to such changes).

10. These historically free settlements outside a hacienda featured indigenous ownership and management of individual or collective assets, especially land; see Emilia Ferraro (2004, 62).
11. In the racial binary of white European–indigenous Andean that naturalizes economic inequalities and establishes social hierarchies (Weismantel 2001, xxx–xxxi), people like bus drivers and store owners who acquire wealth enter a middle category and become “mestizos”.
12. Literally “co-parenting,” the social institution of *compadrazgo* in the Andean zone is a “mechanism through which individuals and groups create social relationships sealed by a ritual ceremony” (Ferraro 2004, 65).
13. In analyzing redistribution communality in hacienda communities, Guerrero (1991, 179) specifically indicates that reciprocity is a “duty,” understood in terms of recognition and return.
14. The technology used in the processing of *lupino chawcha* is described in a manual (INIAP 2001).
15. *Empanada*: a stuffed and fried pastry.

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