

THE SIXTH TOE: THE MODERN CULINARY ROLE OF THE GUINEA PIG IN SOUTHERN PERU

SUSAN D. DeFRANCE

Department of Anthropology, University of Florida, Gainesville, FL, USA

In Peru modern perceptions of class, ethnicity, and social identity dictate whether the domesticated guinea pig (cuy) is considered a delicacy or an unpalatable indigenous food item. In the southern Peruvian city of Moquegua the breeding of cuyes, including the occurrence of many polydactyl individuals, the location of restaurants that serve cuy, meal costs, and behavior associated with cuy consumption attest to the animal's value beyond its dietary role. Partaking of a restaurant-prepared cuy reinforces social bonds and low sierra cultural identity. However, for some upper-class residents in Moquegua and for the majority of residents in the nearby industrial port city of Ilo, the cuy is considered an anomalous food item associated with indigenous culture and is not consumed. Food trends involving either the popularity or the rejection of a traditional Andean meat source reflect ongoing cultural change within sierra and coastal societies in Peru and have implications for other geographic areas.

Keywords: Peru, guinea pig, cuisine, identity, food habits

Perceptions regarding the culinary appropriateness of various types of animal flesh produce some of the strongest cultural reactions. In the Central Andes the domesticated guinea pig (*Cavia porcellus*) or *cuy* (Spanish language word derived from the Quechua term *quwe*; Archetti 1997: 30) is either revered or reviled as a food source. Although the *cuy* is one of the oldest domesticated mammals in the Central Andes (Wing 1986) and it has an ancient history in indigenous diet and ritual (Garcilaso de la Vega 1966 [1609]; Gilmore 1950; Rofes 2000; Sandweiss and Wing 1997), modern consumption of guinea pigs by some people and its rejection by others reflects the complex interaction between ethnogenesis, geography, and history in the region. Many studies of food habits in various geographic regions focus on the role of food in promoting

Address correspondence to Susan D. deFrance, Department of Anthropology, P.O. Box 117305, University of Florida, Gainesville, FL 32611, USA. E-mail: sdef@anthro.ufl.edu

group identity and distinguishing group members from nonmembers or outsiders (e.g., Brown and Mussell 1984; Gutierrez 1984; Moore 1984; Wilk 1999). Anthropological analyses of foodways frequently employ dichotomous paradigms that are either ideological (Douglas 1966, 1997; Lévi-Strauss 1970, 1997; Meigs 1997; Simoons 1961; Soler 1997; Tambiah 1969) or materialist (Harris 1985; White 1992) to explain why specific foods, particularly types of animal flesh, are excluded or prohibited from the diet of populations whose members share a common history and modern identity in the sense of ethnicity and socioeconomic level. Within cultural groups with shared ethnic identity and class it is uncommon to find instances in which some members reject a familiar type of animal flesh while others relish it.

This article examines the patterns of consumption and rejection of the guinea pig among residents of two cities in southern Peru (Figure 1). In the city of Moquegua adherence to traditional methods of social interaction occurs in conjunction with both geographic conditions conducive to the production of cuyes and expertise in preparation. The local population of cuyes includes many individuals that exhibit polydactylism (e.g. six toes on the forefoot rather than the normal four toes). Animals with six toes are not otherwise physically distinguishable from cuyes with four toes; however, polydactyl cuyes are considered more delectable. The abundance of six-toed cuyes contributes to the reputation of Moquegua as a culinary center for great cuyes. The combined forces of commercial production and restaurant preparation have transformed the cuy from a familial food to a prestigious restaurant main dish while in the coastal city of Ilo located 90 km away, the cuy is not an element of local cuisine. In Ilo cuy is viewed as an unacceptable food flesh associated with indigenous highland culture.

The perceptions of the guinea pig within the Andean region of South America range from favorable to stigmatized and unacceptable. Positive views of the guinea pig include the perception that they are a rapidly reproducing commodity, a delectable meat source, and an animal of supra-culinary ritual and medicinal value (Andrews 1975; Archietti 1997; Bolton 1979; Bolton and Calvin 1981; Escobar and Escobar 1972; Gade 1967; Koeslag 1989; Morales 1994, 1995). Unfavorable views are that the guinea pig is an inedible, stigmatized rodent consumed only by *campesinos* (peasant

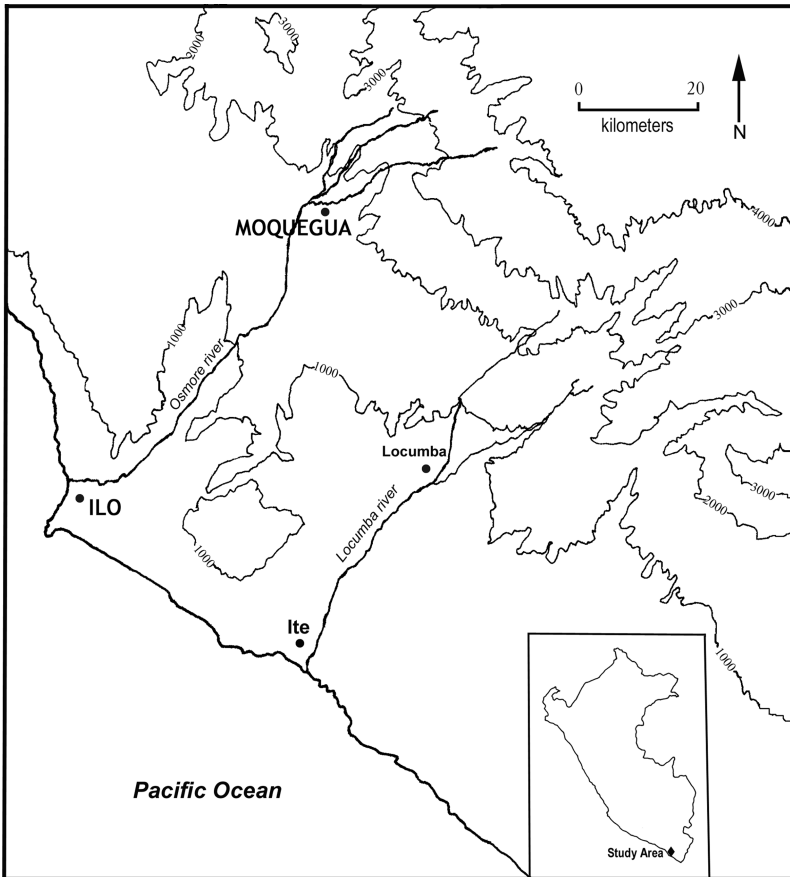


FIGURE 1 Location map of Moquegua and Ilo in Southern Peru.

farmers who are either Indian or *mestizo*) and *cholos* (derogatory racial slur for *mestizos* and Indians) (see discussion by Archetti 1997 concerning Ecuadorian cookbooks and the exclusive association of the guinea pig with “traditional” cuisine; also Weismantel 1988). The variables of ethnic and racial background, socioeconomic status, and geographic location dictate whether the guinea pig is viewed as an appetizing food item or whether it is considered an inedible rodent.

In this article I examine the culinary and economic roles of the guinea pig in the regional culture of Moquegua and Ilo, Peru to understand how variables of identity and socioeconomic status influence the acceptance or rejection of the guinea pig in local

diet. Prior to discussing modern dietary practices, I briefly describe the social and economic history of southern Peru. I examine the physical setting of restaurants as well as variation in methods preparation. I also compare the patterns of consumption in Moquegua to those of Ilo, the large coastal port city of the department where guinea pigs are not prepared on a commercial basis and domestic use is rare. Ilo is an industrial city where the dominant mentality favors contemporaneity over tradition in social behavior. The popularity of the guinea pig in Moquegua is also a result of the cultural predilection for traditional forms of social interaction over extended periods of time. Ultimately, meals and patterns of food consumption are affected by the amount of time that is prescribed for social events as well as by the cognitive view of the foods themselves.

Beyond the specifics of the study area, this analysis has relevance for researchers interested in cultural patterns of the use, adoption, or rejection of specific meat sources. Decisions regarding the dietary acceptance and rejection of food items, such as the cuy, also have implications for researchers who are addressing the maintenance and improvement of traditional cuisines as well as the introduction of new foods to improve nutrition.

Methodology: History and Modern Ethnography

Race, Geography, and History in the Central Andes

I use demographic, historical, and ethnographic studies of the Central Andes to interpret the social relations of modern food habits in southern Peru.¹ Peru is inhabited by a hybrid society where there exists a phenomenon of flexible self-definition of race (de la Cadena 2000). The flexibility of racial categories (Indians, *mestizos*, whites) is tied to both social class mobility and the historical political trajectory of Peru in combination with an Andean geography that is both physically and physiologically challenging. The consequences of Spanish colonial economy and settlement resulted in an enduring social discord that parallels the natural elevational gradient. Early Spanish commercial interests were greatest along the coastal plain.² Building on this infrastructure, industry (and prosperity) emerged first on the coast, expanded during the 20th century, and persists today primarily under “white” control. Along

the southern Peruvian coastal plain the main economic activities today are fishing, fishmeal production, copper ore smelting and refining, and maritime trade. As one travels from the Pacific coast to the highlands, the population becomes increasingly indigenous, ethnically either Aymara or Quechua. At elevations above 2000 m the economic activities are primarily artisanal agropastoralism, some industrial mining (also see Orlove 1977), and tourism. The relationship of geography to these structural processes is thus summarized:

This Andean history of “Indian” and “white” is a process that has been in constant dialectic with geography: the relations between the highlands, coast, and interior; within the highlands, the variation in topography, altitude, and climate that create production zones; and the relations of core to periphery, urban center to rural hinterland (Weismantel 1988: 39).

In the south Central Andes racial identity, economy, and geography influence culinary choices.

Methodology of Modern Culinary Habits in Southern Peru

I resided in Moquegua, Ilo, and the mining community of Cuajone for periods of one to three months over the last seventeen years as a result of my participation in several archaeological projects. As a resident of these communities working with professional Peruvians, Peruvian laborers, and resident foreigners, I participated in various social events (e.g., baptisms, birthday parties, farewell parties) and observed cultural trends in food habits. During June and July 2003 I collected data on cuy husbandry and the distribution of cuy restaurants in Moquegua. I also collected data on the costs of both prepared meals and live animals available in the Moquegua and Ilo markets. In 2003 I held informal conversations with various long-time residents of Moquegua concerning food preference, particularly regarding cuyes. My familiarity with food preferences and restaurant types in Ilo was derived from a ten-week period in 2001 and brief visits from 2002–2004. In Ilo I primarily conversed with professional workers associated with Southern Peru Copper Corporation (SPCC) and with a crew of fifteen male field workers whom I employed, most of whom are lifelong residents of Ilo. The analysis I present results from my personal interactions, my observations of cuy consumption, conversations, and the empirical

data, particularly on cuy husbandry, meal cost, and restaurant location. My interpretation of the food habits and social identity of people in Ilo and Moquegua is based on these data in conjunction with my critique of secondary historical sources and published ethnographies.

Race and Economy in Southern Peru: Moquegua and Ilo

In the department of Moquegua, Ilo and Moquegua have experienced similar political histories, but distinct social and economic trajectories resulting from montane agrarian versus maritime and industrial enterprises. The racial background of each city is similar, but there are modern distinctions in the patterns of immigration, enterprise, and familial interactions. In both cities prejudice is directed toward *mestizo* (*cholo*) and *campesino* culture that is associated with the social traits of laziness, drunkenness, and the inefficient use of time as well as the general association of *campesinos* with poor personal hygiene. For middle and upper class residents, regardless of racial background, animosity is strongest for recent highland immigrants who are often from the department of Puno and locally identified as ethnically Aymara.

MOQUEGUA: TRADITION IN THE SIERRA

Founded in 1541 by Spanish landowners (Kuon Cabello 1981) Moquegua and its surrounding communities represent a medium-sized Peruvian city with a largely agricultural economy. Although located at approximately 1410 m asl (4625 feet) above sea level, the city is considered "coastal" or low sierra in Peruvian geographic taxonomy (Compendio Estadístico 1995–1996: 17). The modern population of the city and surrounding rural communities is slightly greater than 45,000 inhabitants (Censos Nacionales 2002).

Moquegua is located in the mid-section of a rich agricultural valley that runs approximately 29 kilometers along the main channel of the Osmore or Moquegua River. Arable valley land is planted in a combination of grape stock, various fruits and vegetables, and, most predominantly, alfalfa that is used to pasture dairy cattle (Moquegua Ministry of Agriculture IX Agrarian Reform 1983). Also grown are corn, potatoes, and avocados in descending order. There is little other industry in Moquegua with the exception of some services (e.g., market, restaurants, nightclubs) for workers

associated with SPCC and the recent increase in international truck traffic from Bolivia. The local perception of geography is that it is a halcyon location, a land of eternal sunshine, particularly in contrast to fog-shrouded Ilo in winter or the extreme cold of the high plains around Lake Titicaca. City leaders capitalize on these sentiments by articulating them at the city gateway where a large placard proclaims Moquegua as the “*Tierra del Sol y Tradición*.” (Land of Sun and Tradition).

Today, there are many individuals with multi-generational ties to the city that are mestizo (i.e. mixed ancestry) while others are phenotypically “white”; however, the majority self-identify themselves as white and non-indigenous. They strongly distinguish themselves in dress, language, and behavior from both local *campesinos* (poor farmers) and the recent highland indigenous immigrants from the department of Puno. The socio-economic stratification within “white” society relates to familial history, education level, occupation, and land ownership.

In light of local perceptions of identity and geography, I interpret the acceptance or rejection of the guinea pig as food in Moquegua not in relation to either strict racial or socioeconomic lines, but rather to cultural perceptions concerning appropriate Andean cuisine versus modern cuisine. For many Moqueguanos cuy consumption has shifted from the domestic realm and the cuy is now a commodity prepared by others and eaten outside of the home in public restaurant settings. The regional reputation of Moquegua as a locale specializing in guinea pig preparation is unsurpassed.

ILO: THE INDUSTRIAL PORT CITY

In contrast to Moquegua an unfavorable view of the guinea pig is found in the coastal city of Ilo where demography, geography, and industry foster a distinct pattern of cuisine. Today, the city at the mouth of the Osmore River on the hyperarid Pacific coast has a population of over 60,000 inhabitants. Although established in the sixteenth century (Kuon Cabello 1981: 486), most population growth occurred within the last 40 years. Consequently, few people have multigeneration family ties within Ilo. Most residents are also of mestizo ancestry, but they too identify themselves as white and non-indigenous. There is less modern immigration of highland indigenous populations to Ilo than in Moquegua.

The economy of Ilo is focused on fishmeal processing plants ($n = 5$), the copper smelter and refinery operated by the Southern Peru Copper Corporation (SPCC)³, a deep-water port, and a coal-burning electric plant south of the city; artisanal fishing is also an important economic activity. According to Lopéz Follegatti (1999) the environmental and social consequences accompanying this high level of coastal industry include significant air and water pollution, respiratory ailments, the destruction of coastal olive groves, and the displacement of small-scale coastal settlement. The port city has a reputation as a polluted, modern coastal city that lacks a historical appreciation for tradition (López Follegatti 1999); however, the city boasts higher employment rates than many regions of southern Peru.

Although industrial in character, residents of Ilo describe their lifestyle as progressive and modern in contrast to the slow, rural life of Moquegua. There are a greater variety and types of restaurants, nightclubs, recreational facilities, and services (e.g., travel agents, computerized auto repair facilities, construction companies) than in Moquegua. Cuisine and foodways have favored foods that are viewed as cosmopolitan rather than either indigenous or traditional. There is also great variety of imported and packaged foodstuffs for sale in the Ilo market.

In Ilo social time, including the time devoted to the consumption of meals outside of the home, parallels that of work time. Time allotted to social interactions is compartmentalized (similar to shift work at industrial locales) and participants have expectations of finite obligations for “spending” time. My participation in and observation of social behavior is qualitatively different in Ilo from that in Moquegua. In Ilo time spent in social interactions (e.g., meals, parties, ceremonies, sporting events) is more segmented and involves less obligation of one’s time. This is a modern rather than a traditional view and contrasts with Moquegua where it is not unusual for similar social events to have no discernable expectation for a termination point. It is not unusual to participate in a “Moquegua lunch” that lasts over ten hours; early departure can be considered rude. The longevity of social interactions is an indication of hospitality and serves to foster social bonds. People in Ilo distinguish themselves from their counterparts in Moquegua who are thought of as relatively lazy sierra inhabitants with poor concepts of time and, therefore, a lack of discipline and industriousness.⁴

In Ilo the “consumption of food” particularly outside of the home is consistent with this modern view on the “consumption of time.” Meals and food should be contemporary and efficient rather than requiring an excessive amount of one’s time. In light of this world-view, the cuy is an anomalous, inappropriate food item for Ileños. There are no restaurants devoted to the preparation of cuy in Ilo while in Moquegua the *cuyeria* (restaurant serving cuy) is a very popular establishment.

Guinea Pig Consumption in Moquegua

Cuy as Symbol of Tradition

The rearing, preparation, and consumption of cuyes in Moquegua demonstrate the transformation of this animal from the household realm to a culinary specialty, *cuy frito* (fried guinea pig) consumed in the public realm. The availability of restaurants specializing in cuy preparation (*cuyerías*), the social circumstances in which they are eaten, as well as the behavior associated with partaking of a guinea pig meal signify that the cuy is a symbol of low sierra identity; the dish is esteemed beyond its nutritional value. In comparison to other food options, a guinea pig constitutes a relatively high priced meal that requires time. The location and setting of *cuyerías* as well as the meal costs make a restaurant served cuy inaccessible to both poor campesinos and recent highland immigrants; therefore, middle class residents are the primary customers. Dining on cuy promotes group, familial, and interpersonal solidarity for many Moqueguanos while at the same time it distinguishes them from residents (e.g., upper class whites of high status or recent immigrants from large coastal cities such as Lima or Tacna) who maintain that their kind view the cuy exclusively as an inedible indigenous food. The Moquegua residents who informed me that they do not eat cuyes were professionals (hotel managers, commercial business owners, owners of non-*cuyeria* restaurants), most of whom had lived, worked, or been educated outside of Moquegua for some part of their lives. Their reaction to the prospect of a cuy meal was one of disgust (*sensu* Rozin 1987). The cuy was identified as inappropriate food for their kind. I interpret the refusal to participate in meals or activities where cuy was served as more than simply a personal aversion. In Moquegua refusal to be seen in

a *cuyeria* distinguishes you from other residents in terms of both racial self-identity and socioeconomic status.

Beyond Moquegua *cuy frito* has transcended the informal local community and is now a regional marketing phenomenon. Donning the walls of many commercial establishments throughout the city is an advertising poster by the national beverage company that produces Inca Kola. The poster features the combination of a fried guinea pig accompanied by a bottle of Inca Kola (Figure 2). The caption “*En Moquegua nada combina mejor*” (In Moquegua nothing goes better together) is an obvious spin-off of a famous Coca-cola slogan. Although the guinea pig is prominent in the poster, a



FIGURE 2 Inca Kola paired with *cuy frito*.

popular soup made of pig's feet is also featured as is a salad (onion, tomato, cilantro) as well as a fried corn dish (*canchita*) that is served typically with cuy. Moqueguanos are quick to point out that advertising liberties show the salad, potatoes, and canchita in a manner inconsistent with local presentation (i.e. the cuy is stomach-side down, rather than, on its back, the potatoes are peeled, the salad contains lettuce, and the canchita is on top of the cuy); however, all of the essential "grammatical" elements of the meal (*sensu* Douglas 1997), including main meat source, accompanying side dishes, and garnish, are present.

Raising Guinea Pigs in Moquegua

The popular perception of the guinea pig is that they are reared for family use within individual households. This practice continues for many local and highland families, especially poorer households. Yet, one feature in the transformation of the cuy to a restaurant commodity is that individuals consuming guinea pigs no longer raise them. Guinea pigs are propagated in large numbers by specialists and sold to restaurants that maintain a population of live individuals that are the appropriate size and age for cuy frito.

In July 2003, I visited one of the largest local producers of cuyes at the Gherisi farmstead in the Moquegua valley approximately 14 km south of the city center (Figure 3). The Gheris are successful landowners who have resided in Moquegua for several generations. The Gherisi family has a diverse farmstead with mixed animal husbandry and agricultural production. They raise dairy cattle, pigs, and guinea pigs for sale as well as small fowl that are for family use only. Their land is primarily planted in alfalfa and various fruit crops, especially avocados.

The Gheris sought to diversify their farmstead in early 1990s by adding cuy husbandry. The Gheris are still in the process of rebuilding their cuy stock following the powerful June 23, 2001 earthquake that collapsed the adobe walls of the breeding area killing approximately 300 animals. When I visited, the population had rebounded to approximately 150 individuals of various ages including several pregnant females. Although production is artisanal, they follow professional guidelines described in an undated pamphlet entitled "*Mejore su producción de cuyes*" (Improve your

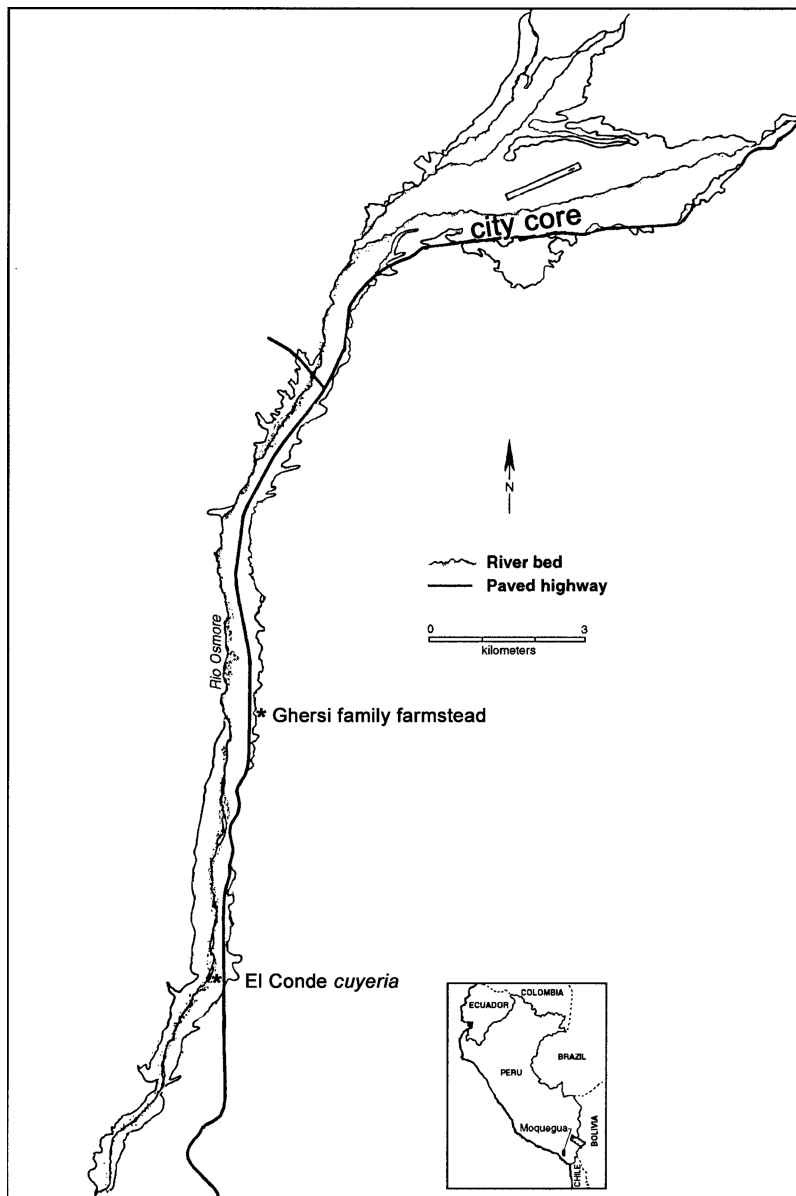


FIGURE 3 Location of Gheri farmstead in relation to city core and *cuyerias* in the valley.

production of guinea pigs) published by the Instituto Nacional de Investigación Agraria y Agroindustrial (INIAA).⁵

The breeding, feeding, vending, and care demonstrate knowledge of established professional guidelines outlined in the INIAA publication as well as their pride in the husbanding of these animals. Sr. Gheresi designates one small adobe building for the breeding of cuyes. The room consists of adobe walls (approximately 2.5 meters in height) with cane matting for roofing material. The room is divided into sixteen adobe, open-roof pens with walls approximately $3/4$ of a meter in height. The cuyes are segregated by sex, age, and reproductive status. According to Gheresi each pen ideally holds 11 individuals; although, I observed one pen with 32 individuals (females with offspring of various ages). Overcrowding produces excess heat, poor airflow, and increases mortality rates. The cane mat roofing for the building prohibits predators (e.g., foxes, birds of prey) from entering and decreases direct sunlight, but allows airflow.

The Gheri's cuyes are "shorthaired" and range in coat color from solid white to solid black with variegated brown and white individuals being most common. One characteristic of Moquegua guinea pigs is that many breeding individuals exhibit the genetically dominant trait of polydactylism (see Festing 1976 for discussion of the genetic inheritance of this trait). The Gheresi's cuy population includes a large number of individuals with six toes on the forefoot (Figure 4). The Gheresi informed me that within Moquegua six-toed cuyes are thought to be more flavorful and have more meat than those with the normal four toes. Although local residents did not select restaurants based on whether the cuyes served were polydactyl, they acknowledged that six-toed cuyes were more delectable. No one expressed fear, disdain, or repulsion for consuming cuyes with additional toes. Seven-toed individuals are also viewed favorably. The rarest combination, a black-coated cuy with seven toes, is particularly desirable for curative uses; they are sold at higher prices and not eaten.⁶

According to Sr. Gheresi, reproduction rates are very high with females fertile at approximately three months and gestation, thereafter, every 67 days. Females produce litters with four to five offspring. The young will nurse, but are extremely precocious and can take solid food almost immediately. The offspring are separated from their mothers at twenty days. They are fattened for another



FIGURE 4 Polydactyl six-toed guinea pig from local inbreeding at Gheresi farm.

25 days and sold at approximately 45 days of age. Breeding animals are kept for approximately a year and a half. At that age they are no longer appropriate for frying (i.e. too tough); therefore, they are often sold for use in making *cuy picante* (guinea pig stew). Gheresi considers cuyes very old at two years of age and no animals beyond that age are kept.

In order to raise animals that are appropriate for the specialty of *cuy frito* good nutrition and health are imperative. The cuyes are fed a combination of alfalfa and corn. Alfalfa is used to make the meat “sweet” while corn increases body size. Small quantities of alfalfa are placed in each pen roughly every three hours. If excessive amounts are given at one time, the animals urinate and defecate on the remaining alfalfa and they will not eat it. Ground corn is provided to them once in the morning. Too much corn produces young animals with excess fat. Control for fleas and other ectoparasites is achieved by bathing the cuyes once of month with a locally purchased insecticide (e.g., Sevin). The animals are bathed at mid-morning when the air temperature is warmest. They are also examined for eye infections. The animals are apparently relatively resistant to disease. According to the INIAA pamphlet on cuyes, the animals are prone to skin rashes (e.g., dermatitis) and salmonella.

A variety of other ectoparasites, bacteria, and viral infections can also affect cuyes (various chapters in Wagner and Manning 1976). Sr. Gherisi did not report the presence of other ailments.

The sale of guinea pigs occurs at their farmstead. Restaurateurs purchase live cuyes at the wholesale cost of S/5.00 (approximately \$1.44 U.S.) each (by comparison live cuyes in the market are sold for 6 or 7 soles depending on size). The Gheris are currently selling approximately eightdozen cuyes a month with a monthly income of S/480.00/month (\$137.00). There is no apparent seasonal variability in either the reproduction or the sale of cuyes; therefore, the income rate is apparently stable. The Gherisi farm is representative of other areas where cuyes are raised in both the Moquegua and Torata Valleys (river valley north of Moquegua). Restaurants acquire many cuyes and keep them alive, but they are not responsible for reproduction. The restaurants in the urban core keep the animals in pens that may be either on exterior patios or on rooftops. They are also fed alfalfa.

The Cuyeria in Moquegua

The cuyeria, a restaurant specializing in the preparation of fried cuy is one of the most popular types of eateries in the city. At least fifteen restaurants feature the cuy frito as either their singular meal or they promote it as a specialty (Figure 5 and see Figure 3). The location of most cuyerías outside of the urban core in the surrounding communities of Samegua, Estuquina, and Los Angeles promotes both a physical and a psychological separation from the mundane activities of daily life. Cuyerías are found in “out of the ordinary” settings where “out of the ordinary” food is served. Located on the northern rim of the city, above the arable valley land, are the communities of Estuquina and Los Angeles. The pastoral setting of the road leading to Los Angeles has impressive vistas of the surrounding mountains and valley; one of the restaurants in Samegua features open air dining with an extraordinary view of the agricultural sector. Although these locations are only a little more than 5 km from the urban core, the settings are bucolic. Arrival at these restaurants requires effort (i.e. time and access to transportation) on the part of diners. One of the most popular restaurants (Cuyeria Los Angeles) features curbside security guards dressed in

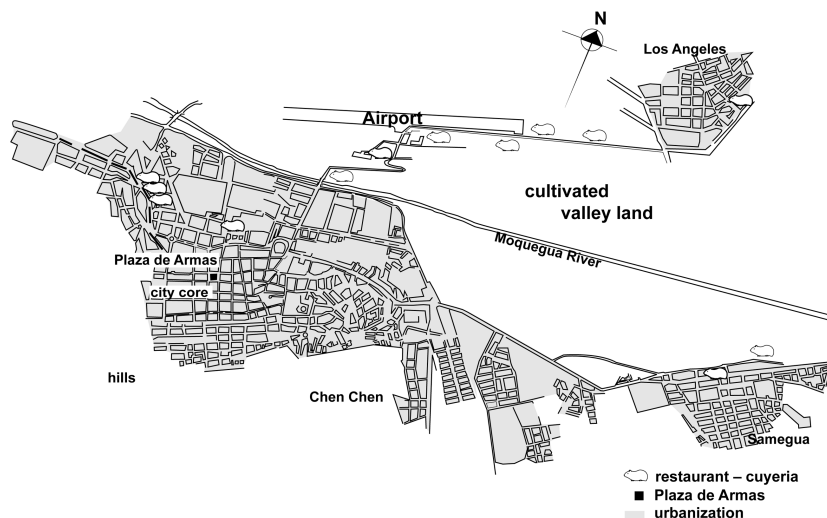


FIGURE 5 Location of *cuyorias* in city core and surrounding suburbs.

blue vested imprinted with the restaurant name. For a small tip, they protect your car against vandalism.

The layout and facilities present in cuyorias are designed to foster sociability. The most uniform feature in the décor of a cuyoría is open dining space that can accommodate large parties. Some restaurants feature live musicians on the weekends that, most commonly, perform either Creole music (Spanish-influenced guitar and vocals) or Andean folkloric music. Recreational areas for children such as swings, or in one case a swimming pool, are present. For adults, many cuyorias will have a “*sapo*” (frog) game, which is a nonmechanized game consisting of a large wooden box in which players earn points by tossing brass disks into slots of varying values; the mouth of small brass frog mounted on the box surface is equivalent to the bull’s-eye. People at individual tables sometimes play a dice game called *tortuga* (turtle). Since imbibing alcoholic beverages is a common activity while waiting for *cuy*, particularly in parties of adults, some restaurateurs seek to have alternative forms of entertainment to decrease the number of inebriated customers. One restaurateur indicated that she preferred families because drinking did not become excessive.

Meals and the Custom of Cuy Consumption in Moquegua

In Moquegua folk rules concerning digestion dictate meal habits. Breakfast is relatively simple typically consisting of bread, avocados, and coffee or tea. The mid-day meal is the most elaborate and bountiful; soups served at midday are denser with greater quantities of meat, vegetables, and starches. Partaking of the mid-day meal outside of the home is very common in the city core. The nighttime repast is both less diverse and less plentiful than the mid-day meal; soups, if consumed, are thinner and lighter, for example, quinoa or cream soups. However, dinner meals at restaurants may include options unavailable at lunch, such as spit roasted chicken, grilled meats, pizza, and pasta.

Cuy frito is considered “heavy” and, therefore, it should be eaten only as a mid-day meal. Many cuyerías are closed at night. It is believed that cuy is too difficult to digest if consumed at night. In one restaurant that serves cuy into the early evening (5–6 pm), red wine is served to aid in digestion. Following an afternoon meal of cuy by several Americans, we presented leftovers to our Peruvian cook who later ate them for dinner. She reported to us that the fried cuy had nauseated her and she became ill. The perception that cuy is a meal requiring a period for digestion enforces habits that allow for a dedicated segment of time.

Meals with cuy as the main course are common in two circumstances: 1) on weekends as the mid-day repast and 2) on special social occasions and holidays. Most working Peruvians work a half-day on Saturday; therefore, Saturday afternoon is the start of the weekend and it is acceptable to engage in an atypical meal during the afternoon. The social occasions in which cuy is often served include baptisms, farewell parties (*despedidas*), birthday meals (especially the 15th birthday for girls or *quinceañería*), Peruvian days of Independence (*Días de Patria* July 28 and 29), and special banquet meals (i.e. the office party banquet). Both weekend leisure time and these social occasions are not unique to Moquegua; yet, the perception that the cuy is an appropriate entrée is strongly promoted in the low sierra setting.

If cuyes are raised at the household level, they are inexpensive, rapidly reproducing animals that are capable of digesting a variety of vegetable matter that humans normally discard. As a food prepared and served by others in a restaurant setting, the guinea pig

TABLE 1 Price comparison of Fried Guinea Pig, *Cuy Frito*, Among Restaurants and with Other Prepared Foods; All Price Estimates are Individual Meals.

	Price in soles	U.S. equivalent
Cuyeria		
Don Pablo (edge of city core)	S/15.00	\$4.31
El Bosque (near city)	S/16.00	4.60
El Conde (southernmost end of valley)	S/16.00	4.60
Cruz Verde (mid-valley)	S/13.00	3.73
Las Estrellitas/Doña Peta (Samegua)	S/15.00	4.31
Cuyeria Los Angeles (Los Angeles)	S/16.00 ^a	4.60
Other Restaurant-Prepared Food		
Rotisserie chicken (with French fries and salad)		
1/4 chicken	3.50	1.00
Whole chicken	14.00	4.02
Peruvian Chinese daily lunch special (soup, entrée with rice, and beverage)	6.00	1.72
Seafood special with ceviche, soup, and fish entrée	7.00	2.01
Daily menu of Peruvian Creole meal (appetizer or soup, entrée with rice, dessert, beverage)	6.00	1.72
Pizza (personal 6" pizza with toppings)	14.00	4.02
Pizza (family 14" with toppings)	27.00	7.76

Cuyeria Prices—includes 1 whole fried guinea pig, 2–3 boiled potatoes, a salad consisting of onion and tomato, and aji sauce; roasted, whole corn (*canchita*) is provided as an appetizer while the cuy is being prepared.

is an expensive repast, particularly in comparison to other meal options (Table 1). The meal cost demonstrates that cuy is not an everyday food, but rather, that one partakes of it on special occasions or when one is willing to spend additional money to experience local culinary fare.

A meal consisting of a complete fried cuy with potatoes, salad, and *aji* sauce averages S/15.00 (see Table 1); some restaurants serve half cuy portions. A whole cuy is typically eaten by one person rather than shared. In contrast, an entire roasted chicken served with a large plate of French fried potatoes and salad is S/14.00. An entire chicken has considerably more meat than a cuy and can be shared by a family of two adults and two to three children. Similarly, three-course, mid-day meals at restaurants are S/6.00 or 7.00 while street vendors and market stalls sell a variety

of very inexpensive prepared food. Cuy is similar in cost to a 6" personal pizza (S/14.00) which is commonly shared by two diners as a light nighttime meal. A restaurant prepared cuy is beyond the means of many Moqueguanos. And although recent highland immigrants may consume cuyes at home, they do not frequent the cuyerías.

The preparation, presentation, and behavior during a meal of cuy frito are consistent across the city. Although restaurants use slight variations in the flavorings during preparation, the outcome and individual elements of the meal are relatively uniform across the city. A Peruvian colleague and I visited one of the more established cuyerías, *Don Pablo*, located on the main road that leads into the valley. The proprietress and second-generation restaurateur, Sofia, invited us to observe the preparation of cuy frito.

The preparation of cuy frito is done to order; cuyes are never fried in advance. Partaking of a cuy meal indicates that the diner has time "to spend"; one would never anticipate eating a cuy as a mid-day hurried lunch nor would one ask for "cuy to go." The total preparation requires a minimum of twenty-five minutes and may be considerably longer if the restaurant is crowded. The initiation of the process consists of the selection of an appropriate live animal by the cook. Cuyes less than three and a half months old are best. If the animal is older, it may be larger, but the skin will be tough and the meat may have a stronger flavor (i.e. not as "sweet") as a young animal. The live cuy is placed on a flat surface and the throat is slit. Shaking the animal to drain the blood is often done to make the meat less dark. Sofia told me she started this practice after diners complained that the dark colored meat from cuyes that had not been bled was unappetizing. The animal is dipped in water that is just below boiling temperature in order to loosen the hair. The hair is removed by rubbing the skin to reveal a soft, white flesh. The cuy is eviscerated removing only the stomach and intestines, but leaving the other organs (liver, heart, kidneys, lungs) in place. Once the cavity is rinsed, the ventral side of the cleaned carcass is split along the midline from the mandibles to pelvis. The cranium is left intact, as are both the fore and hind feet. The cleaned cuy is placed on an open surface. Seasoning consists of salting the gutted side. The cuy is then dredged in mildly seasoned ground corn. Slight variations in seasoning (e.g., salt, pepper, ground cumin, aji

molido [monosodium glutamate mixture]) are found among the cuyerías, but overall the preparation is similar.

To fry the cuy, vegetable oil is heated in a skillet on an open pit fire. Large skillets can hold up to three whole cuyes. The firewood (*leña*) is said to burn at a higher temperature than gas (butane), and therefore, results in a better dish. The cuy is placed in the hot oil organ-side down. A large, heavy iron lid with a wooden handle is placed directly on top of the cuy to prevent it from “curling” while cooking (rocks were used in the past and today *campesinos* cover lighter iron or aluminum lids with rocks to achieve the same effect; Robyn Coleman, personal communication 2003). Vegetable oil is added to the fire during cooking to increase the flame. The cuy is flipped to cook the other side. Testing for doneness is achieved by “tapping” the cuy with a set of tongs. If it does not spatter and it feels “dense” when touched, it is done. The total cooking time once in oil is approximately 15 minutes. The cuy is removed from the skillet and placed in an upright position (head up) in another pan to drain.

Once the cuy has drained it is placed on a plate, organ side up. Two or three whole boiled potatoes (variety *carumeña*) are placed on the plate. The potatoes are a very dense, nonwatery variety with a pale yellow flesh. Although they are not peeled prior to serving; the skins are discarded by the diners and never consumed. Accompanying the dish is a salad made of shredded onion and tomato. *Ají* sauce (a ubiquitous chili sauce made from the *ají* pepper) is served to accompany the potatoes (Figure 6). Either beer or wine is served commonly as a beverage. Drinking hard liquor with the dish is said to make digestion difficult; however, people often consume *pisco sours* (a national beverage) prior to consuming their meal, especially at social occasions. While waiting to be served, diners are provided with an appetizer of whole roasted corn (*canchita*) served on small plates or in bowls.

The behavior associated with consuming a cuy is also unique. In contrast to other types of meals, one rarely sees diners eating alone; group dining is the norm. Cuy is also one of the few foods that Peruvians eat with their hands rather than using cutlery. Individuals have distinct preferences for parts of the carcass. Among the preferred body parts are the liver, brain, cheek meat on the mandibles, skin—especially on the back—and even the eyes. The hind haunches have the greatest quantity of meat, but no part of



FIGURE 6 Evelyn with traditional serving and presentation of *cuy frito*.

the carcass is uneaten. Peruvians accustomed to eating cuy often eat some of the exposed organs first, they then remove the limb quarters, followed by consumption of the skin on the back and the ribs. The cranium is often eaten last. All of the meat from the skeletal elements is removed; none of the bone elements is crushed with the exception of the cranium and some of the cartilaginous epiphyses at the ends of the long bones. I observed on several occasions the meticulous removal of meat from individual cuy ribs. Experienced diners often pile the cleaned complete bones on the edge of their plate or on a smaller plate. The inexperienced diner tends to pick at the cuy and leave a large quantity of meat on the carcass. The most significant variable in regard to how much of the cuy is eaten concerns the age of the animal. Some restaurants (e.g., Cuyeria Los Angeles) prefer to serve older large-sized animals that have slightly more meat, but the skin has a tough, leathery texture. In contrast, the skin of younger cuyes is very tender and many people, myself included, find the fried skin delectable.

The consumption of the cranium involves a series of distinct behaviors reflecting Andean beliefs. The cranium is intact when the cuy is served. The skull consists of the braincase and two bulbous auditory bullae on the ventral surface (Figure 7). Within each

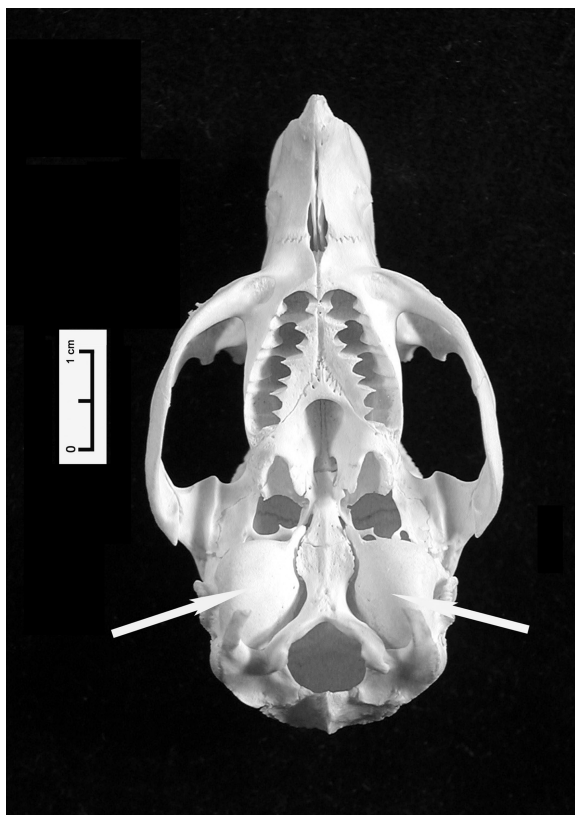


FIGURE 7 Ventral side of guinea pig cranium showing location of auditory bullae that each contains a “zorro.”

bulla is a hard, stonelike structure of the inner ear known as the petrous portion or petrosal. Throughout the Andes this structure is called the *zorro* (fox) because it resembles a four-legged animal (Figure 8). After much of the cuy has been eaten, the diner uses their molars to crack open either one or both of the bullae in order to extract the petrosal or zorro, usually with their tongue. Peruvians are very skilled in recognizing this extremely small element and distinguishing it from other cranial fragments. One or both of the zorros are placed in a glass of either wine or beer where it sinks to the bottom. The individual drinks the beverage in a rapid fashion. If the zorro is swallowed or it sticks to the tongue, it is good luck. If it remains in the glass, bad luck is not prognosticated, but the diner must consume additional servings of beverage until the zorro



FIGURE 8 The *zorro*, inner ear element of guinea pig cranium.

is swallowed. Some in Moquegua say that the *zorro* represents the intelligence of the cuy and that you gain some of the characteristics of the fox (e.g., quickness, stealth, and intelligence) when you consume it. In other areas of the Central Andes variations on the power of the *zorro* including the granting of good luck or predicting the strength of a relationship between a man and a woman (e.g., the two *zorros* representing a male and a female are placed in a glass and if they stay close when consumed the relationship is strong, but if they separate, the relationship may be weak) (Morales 1995:127–128). The origin and antiquity of this custom is unknown.

Once the meal is completed, people do not tend to linger in the restaurants. Relatively heavy drinking may have continued through the *zorro* ritual, but people usually do not continue to drink once the meal is over. Depending on the nature of a special social occasion (e.g., baptism or farewell party) people may have dessert, but the *cuyerias* generally do not serve other after-dinner food or drinks.

Discussion and Conclusions

Throughout the south Central Andes there are variations in the method of cuy preparation and consumption. The transformation of this animal from a common household food item to a restaurant dish that is symbolic of sierra life in Moquegua is unparalleled in the south Central Andes. Local geography, history, and demography contributed to the emergence and

maintenance of cuy frito as a signature meal of the city that is recognized throughout the region and used in a national advertising campaign for Inca Kola. A restaurant-prepared cuy is a reified symbol of sierra “tradition.”

In recent years, the climate of the region has favored a shift in the valley from grape cultivation for the production of pisco to the diversification of agricultural production including substantial production of alfalfa, primarily for dairy cattle, but highly appropriate for cuy feed. The raising of cuyes on large-scale is relatively inexpensive and results in a ready local supply of animals for the restaurant business. The social and demographic background of Moquegua favors the proliferation of the cuyeria, a restaurant dedicated to cuy frito. For the size of the city, cuyerias are abundant, located in aesthetic areas, and often run by second-generation restaurateurs who learned the technique locally. Primarily middle class customers consume the expensive restaurant-prepared cuyes. Since the year 2000, the number of cuyerias has grown and the most popular cuyeria expanded into a larger space in 2004. Unless Moquegua experiences significant changes in the demographic composition of the city, the role of the cuy in local cuisine is secure.

Despite local popularity, some higher status residents of Moquegua consider the cuy an inedible food item. Cuy is a rodent that does not qualify as food. A similar view can be found in the port city of Ilo where a distinct, industrial history characterizes that city. Although both the origins of the populations in Moquegua and Ilo and their demographic backgrounds are similar, Ilo did not develop the cuyeria as a focal point of social interaction. Undoubtedly, some households raise cuyes for domestic use; however, cuy consumption is inconspicuous. Former American managers with SPCC told me that their staff conducted “cuy raids” of laborer housing that was under company managed to remove guinea pigs and small animals being raised on worker’s porches. Even so, the cuyeria restaurant does not exist and no one indicated to me that cuyerias were once present in Ilo. Instead, restaurants promote food that is viewed as cosmopolitan and appealing to the small number of seasonal tourists who visit the Ilo beaches during the austral summer. The variety of food choices in Ilo is greater than in Moquegua and includes restaurants specializing in seafood, Chinese cuisine, *parrilladas* (grilled meats), pizzerias, and late-night snack

bars. With the availability of other food choices in Ilo and in an effort to further distinguish themselves from their mestizo and indigenous heritage, many residents in Ilo have adopted the food habits of individuals who identify themselves as white, educated, and belonging to a higher socioeconomic group. My interactions with residents in Ilo indicate that the cuy is considered "sierra" food. In Ilo the majority of Peruvians I talked with scoffed and make light of the idea of eating cuy much in the way that urban dwellers make jokes about rural food habits in the United States (e.g., eating squirrels and opossums as an indication of backwardness). The reaction by some in Ilo is similar to findings reported by Weismantel (1988:132–133) concerning the inappropriateness of cuy as food by some Ecuadorians who are viewed as both wealthy and "white" (i.e., cuy is food for some, but not for me). Repulsion at the idea of eating cuyes in Ilo was found among Peruvian professionals, especially people from large Peruvian cities such as Lima, and North Americans who worked for SPCC.

One could argue that the geographic conditions of the Moquegua valley favoring the raising of cuyes are responsible alone for the contrast between Moquegua and Ilo. Alfalfa is very inexpensive (S/0.50 *centimos* per bunch; one bunch feeds several cuyes for a week); therefore, cuyes can be reared economically in mid-valley. In contrast, the arable land in Ilo is planted primarily in olive groves and the marine coastal habitat provides a great variety of both shellfish and finfish at low cost. Yet, the Ilo market offers a variety of fruit and vegetable grown outside of the coastal plain. Therefore, alfalfa and corn could easily be obtained if the *desire* to raise cuyes existed. In Ilo the *cevicheria* (a restaurant specializing in marinated seafood "cooked" in lime juice) may be the coastal equivalent of a cuyeria; however, Moqueguanos do not disdain seafood dishes—seafood is common on many menus. Also, service in *cevicherias* is rapid because ceviche is prepared ahead of time and marinated, rather than made to order as is the case with cuyes. The observation that cuy is not available commercially in Ilo is not explained solely by the environmental contrast between mid-valley and the coastal plain, but rather, by perceptions of what is an appropriate food versus what is "sierra" cuisine.

The data from the city of Moquegua would suggest that much of the Andean world is poised to embrace efforts to improve the reproduction and distribution of the cuy (see Archetti 1997;

Economist 2004; Morales 1994, 1995; NRC 1991). For members of the Andean population who already eat cuyes larger meatier animals will be accepted as an excellent protein source. Yet, for a large portion of the Andean world a larger-sized cuy cannot become an acceptable meat source. It is a stigmatized symbol of traditional Andean culture, their beliefs, and behavior.

As many people in the Central Andes attempt to improve their economic situation they may choose to reject various aspects of their culture, particularly food items that are not viewed as modern and "white" (see Weismantel 1988). The structure of social interactions, meals, and the items selected for a meal may also change. In the Andes historical and ethnographic studies suggest that people seeking to improve their social standing adopt the behavior and habits of individuals who are seen as racially superior and socio-economically successful (see de la Cadena 2000; Poole 1997; Weismantel 1988). In Peru if individuals want to be perceived of as upwardly socially mobile, I predict that they will emulate the behaviors and food choices of those who are viewed as successful and prosperous. These choices will work in tandem with social changes in the nature of work and leisure time. Considering the history and location of industry versus agrarian economic enterprises, it is probable that the elevational discord will continue to divide the population with more modern foodways and food choices characterizing the coastal elevations while greater conservatism will be observed in the sierra and highlands. The future role of the cuy as a food item is dependent on the cognitive association of the animal.

While the cultural, geographic, and historical circumstances of the south Central Andes are unique, the processes related to food consumption observed in Moquegua and Ilo have implications for other societies. Food habits, particularly in restaurants, are a very powerful and visible means of both self and group identity. The milieu of food consumption and the behavior associated with public meals provide a fabric for social interaction that transcends both the meal and the individual food elements. In Moquegua cuy consumption has moved beyond the private domestic realm and is a component of the public sphere of interaction. The ascendancy of cuy frito as an expensive restaurant meal that is often consumed for special occasions symbolizes the creation of a low sierra regional symbol of hospitality and social cohesion.

Acknowledgements

I thank all of the individuals in Moquegua and Ilo who shared with me their ideas on local cuisine and culture and those who invited me to social events where cuy was served. Ana Miranda provided information on variation in cuy preparation in Arequipa. Evelyn López Sosa showed me how to extract a *zorro* and introduced me to Sofia Mamani who shared her recipe and technique of cuy preparation at restaurant Don Pablo. Maria Condori and others discussed home raising of cuyes. The Gheresi family was very hospitable in discussing commercial cuy husbandry and allowing me to photograph their cuy operation. J. R. Hermsdorfer photographed the inner ear element. Claire Tingling completed additional digital production of that image as well as the Inca Kola poster. Susan Duser drafted the map of the city core. The following individuals provided helpful comments on versions of this paper: Sharyn Jones O'Day, Maria Lozada, Michael Moseley, Anthony Oliver-Smith, Prudence Rice, two anonymous reviewers, and the editors. All omissions and errors are my own.

Notes

1. I use three different analytical approaches to understand the historical and social processes of how people categorize themselves in the south Central Andes. First, I examined statistical compendiums of demographic variables such census data and tax registers (e.g., Censos Nacional 2002; Gootenberg 1991; Instituto Nacional de Estadística e Informática 1996; Kubler 1952). Race or racial categories are not recorded in contemporary census data; however, ethnic identity as Aymara or Quechua (i.e. an Indian racial identity) can be gleaned from census data through the self-identification of first language. Second, I analyzed how historical and political events affect modern and historical racial classifications and ethnogenesis (Albó 1999; Kapsoli 1977; Larson 1999; Mariátegui 1971; Morner 1970; Orlove 1993; Poole 1997; Schwartz and Salomon 1999; Silverblatt 1995; Stern 1987). Third, I use modern ethnographic studies of racial identity (de la Cadena 2000; Weismantel 1988) to understand aspects of racial self-identity.
2. The historical circumstances of colonial settlement and the physiological requirements of people, plants, and animals resulted in Spanish colonial settlement being concentrated along the coastal plain where introduced plants and animals could thrive (Cushner 1980; Davies 1984; deFrance 1993, 1996, 2003; Rice 1996a, 1996b; Rice and Ruhl 1989; Rice and Smith 1989; Smith 1991, 1997); few Spaniards resided in high-elevation settings.

3. Southern Peru Copper Corporation (SPCC) was a U.S.-controlled business until 1999. Under U.S. management, the mining operation supported a large number of North American (American and Canadian) workers and their families, most of which resided in mining communities constructed and maintained by SPCC in either Cuajone or Toquepala in the highlands northeast of Moquegua or in coastal Ilo. Following the acquisition of SPCC by Grupo México in 1999 and the reorganization of the company neither Americans nor Canadians now work for the mining company.
4. The lazy Moqueguano is both the focal point of many jokes and both regional and national repute. For example, one joke concerns a gentleman sitting on a park bench in the Plaza de Armas. A friend of his walks up and asks: "What are you doing?" The first responds "Nothing." And the second gentleman responds "May I help you?" and takes a seat next to him. Moquegua's reputation as a land of the indolent reached a national level during a series of antiprivatization strikes in June 2002. In two southern cities, Arequipa and Tacna, all-night strikers had become violent with looting and retaliation by military police. A national journalist conducting a radio interview in the early morning of the second day of strikes inquired of a local official what was the status of strike activity in Moquegua. At roughly 8 a.m., the local Moqueguano reported to the national radio program that the situation was relatively calm because all of the strikers were still asleep.
5. The Instituto Nacional de Investigación Agraria y Agroindustrial (INIAA) is now the Instituto Nacional de Investigación Agroindustrial (INIA).
6. Curing with guinea pigs is still practiced in Moquegua; however, I was unable to observe this practice. In casual conversations I have never encountered any one who visited a cuy curer for treatment; but I was told that second generation curers practiced in Samegua.

References

- Andrews, D. 1975. "On the Ethnozoology of the Guinea Pig." *Ñawpa Pacha*, 10(12):129–34.
- Albó, X. 1999. "Andean People in the Twentieth Century." In *The Cambridge History of the Native Peoples of the Americas, Volume III, South America, Part 2*. Eds. Frank Salomon and Stuart B. Schwartz. Cambridge: Cambridge University Press, pp. 765–871.
- Archetti, E. P. 1997. *Guinea Pigs: Food, Symbol and Conflict of Knowledge in Ecuador*. Oxford: Berg.
- Bolton, R. 1979. "Guinea Pigs, Protein, and Ritual." *Ethnology*, 18(3):229–252.
- Bolton, R. and Calvin, L. 1981. "El Cuy en la Cultura Peruana Contemporánea." In *La Tecnología en el Mundo Andino*. Eds. Heather Lechtman and A. Soldi. Mexico City: Universidad Nacional Autónoma de México, pp. 261–326.
- Brown, L. K. and Mussell, K. 1984. "Introduction." In *Ethnic and Regional Foodways in the United States: The Performance of Group Identity*. Eds. Linda K. Brown and Kay Mussell. Knoxville: University of Tennessee Press, pp. 3–15.

- Censos Nacional <http://www.inei.gob.pe/> 2002 census data for Ilo and Moquegua.
- Cushman, N. P. 1980. *Lords of the Land: Sugar, Wine, and Jesuit Estates of Coastal Peru, 1600–1767*. Albany: State University of New York Press.
- Davies, K. A. 1984. *Landowners in Colonial Peru*. Austin: University of Texas Press.
- de la Cadena, M. 2000. *Indigenous Mestizos: The Politics of Race and Culture in Cuzco, Peru, 1919–1991*. Durham: Duke University Press.
- deFrance, S. D. 1993. "Ecological Imperialism in the South-Central Andes: Faunal Data from Spanish Colonial Settlements in the Moquegua and Torata Valleys." Ph.D. Dissertation, Department of Anthropology, University of Florida, Gainesville.
- . 1996. "Iberian Foodways in the Moquegua and Torata Valleys of Southern Peru." *Historical Archaeology*, 30(3):20–48.
- . 2003. "Diet and Provisioning in the High Andes: A Spanish Colonial Settlement on the Outskirts of Potosí, Bolivia." *International Journal of Historical Archaeology*, 7(2):99–125.
- Douglas, M. 1966. *Purity and Danger: An Analysis of Concepts of Pollution and Taboo*. London: Routledge.
- . 1997. "Deciphering a Meal." In *Food and Culture: A Reader*. Eds. Carole Counihan and Penny Van Esterik. New York: Routledge, pp. 36–54.
- Escobar, G. and Escobar, G. 1972. "Observaciones Etnográficas sobre la Crianza y los Usos del Cuye en la Region de Cuzco." *Anthropología Andina* (1–2):34–49.
- Festing, M. F. W. 1976. "Genetics." In *The Biology of The Guinea Pig*. Eds. Joseph E. Wagner and Patrick J. Manning. New York: Academic Press, pp. 99–120.
- Gade, D. W. 1967. The Guinea Pig in Andean Folk Culture. *Geographical Review*, 57(2):213–224.
- Garcilaso de la Vega, E. I. 1966 [1609]. *Royal Commentaries of the Incas and General History of Peru*. Austin: University of Texas Press.
- Gilmore, R. 1950. "Fauna and Ethnozoology of South America." In *Handbook of South American Indians*, Vol. 6. Ed. Julian Steward. Washington: Smithsonian Institution, pp. 345–464.
- Gootenberg, P. 1991. "Population and Ethnicity in Early Republican Peru: Some Revisions." *Latin American Research Review*, 26(3):109–157.
- "A Guinea Pig for all Tastes and Seasons." *Economist* 15 July 2004. www.economist.com
- Gutierrez, C. P. 1984. "The Social and Symbolic Uses of Ethnic/Regional Foodways: Cajuns and Crawfish in South Louisiana." In *Ethnic and Regional Foodways in the United States: the Performance of Group Identity*. Eds. Linda K. Brown and Kay Mussell. Knoxville: University of Tennessee Press, pp. 169–182.
- Harris, M. 1985. *Good to Eat: Riddles of Food and Culture*. New York: Simon and Schuster.
- Instituto Nacional de Estadística e Informática, 1996. *Compendio Estadístico: 1995–1996 Departamento de Moquegua*. Lima: Instituto Nacional de Estadística e Informática.

- Instituto Nacional de Investigacion Agraria y Agroindustrial. 1992. *Mejore su Producción de Cuyes*. Instituto Nacional de Investigacion Agraria y Agroindustrial. Lima: Proyecto Transformación de la Tecnología Agropecuaria.
- Kapsoli, W. 1977. *Los Movimientos Campesinos en el Perú, 1879–1965*. Lima: Delva.
- Koeslag, J. H. 1989. "The Guinea Pig as Meat Producer." *Information Centre for Low External Input and Sustained Agriculture (ILEA) Newsletter* (5):22–23.
- Kubler, G. 1952. "The Indian Caste of Peru, 1795–1940: A Population Study Based Upon Tax Records and Census Reports." *Smithsonian Institution Institute of Social Anthropology* Publication No. 14. Washington: Smithsonian Institution.
- Kuon Cabello, L. E. 1981. *Retazos de la Historia de Moquegua*. Moquegua, Peru: Familias de Kuon Cabello and Kuon Montalvo.
- Larson, B. 1999. "Andean Highland Peasants and the Trials of Nation Making during the Nineteenth Century." In *The Cambridge History of the Native Peoples of the Americas*, Volume III, South America, Part 2. Eds. Frank Salomon and Stuart B. Schwartz. Cambridge: Cambridge University Press, pp. 558–703.
- Lévi-Strauss, C. 1970. *The Raw and the Cooked: Introduction to a Science of Mythology*. London: Jonathan Cape.
- . 1997. "The Culinary Triangle." In *Food and Culture: A Reader*. Eds. Carole Counihan and Penny Van Esterik. New York: Routledge, pp. 28–35.
- López Follegatti, J. L. 1999. "Ilo: A City in Transformation." *Environment and Urbanization*, 11 (2):181–202.
- Mariátegui, J. C. 1971. *Seven Interpretive Essays on Peruvian Reality*. Translated by Marjory Urquidí. Austin: University of Texas Press.
- Meigs, A. 1997. "Food as a Cultural Construction." In *Food and Culture: A Reader*. Eds. Carole Counihan and Penny Van Esterik. New York: Routledge, pp. 95–106.
- Moquegua Ministry of Agriculture IX Agrarian Region. 1983. "Diagnostico del Distrito de Riego Moquegua y Sector de Riego Carumas." Ministerio de Agricultura, Convenio Direccion General de Aguas Suelo e Irrigaciones, Program Sectorial Agropecuario.
- Moore, W. B. 1984. "Metaphor and Changing Reality: The Foodways and Beliefs of the Russian Molokans in the United States." In *Ethnic and Regional Foodways in the United States: the Performance of Group Identity*. Eds. Linda K. Brown and Kay Mussell. Knoxville: University of Tennessee Press, pp. 91–112.
- Morales, E. 1994. "The Guinea Pig in Andean Economy: From Household Animal to Market Commodity." *Latin American Research Review*, (3):129–143.
- . 1995. *The Guinea Pig: Healing, Food, and Ritual in the Andes*. Tucson: University of Arizona Press.
- Morner, Magnus (ed.). 1970. *Race and Class in Latin America*. New York: Columbia University Press.
- NRC (National Research Council). 1991. *Microlivestock: Little Known Animals with a Promising Economic Future*. Washington: National Academy Press.
- Orlove, B. S. 1977. *Alpacas, Sheep, and Men: The Wool Export Economy and Regional Society in Southern Peru*. New York: Academic Press.
- . 1993. "Putting Race in its Place: Order in Colonial and Postcolonial Peruvian Geography." *Social Research*, 60(2):301–336.

- Poole, D. 1997. *Vision, Race, and Modernity: A Visual Economy of the Andean Image World*. Princeton, New Jersey: Princeton University Press.
- Rice, Prudence. M., 1996a. "The Archaeology of Wine: The Wine and Brandy Haciendas of Moquegua, Peru." *Journal of Field Archaeology* 23(2):187–204.
- 1996b "Wine and Brandy Production in Late Colonial Moquegua, Peru: A Historical and Archaeological Investigation." *Journal of Interdisciplinary History* 27(3):455–479.
- Rice, P. M. and Ruhl D. L. 1989 "Archaeological Survey of the Moquegua Bodegas." In *Ecology, Settlement, and History in the Osmore Drainage*. Eds. Don S. Rice, Charles Stanish, and Peter Scarr. Oxford: British Archaeological Reports, International Series 545(ii), pp. 479–502.
- Rice, P. M. and Smith, G. C. 1989. "The Spanish Colonial Wineries of Moquegua." *Historical Archaeology*, 23:41–49.
- Rofes, J. 2000. "Sacrificio de Cuyes en El Yaral, Comunidad Prehispánica del Extremo Sur Peruano." *Bulletin Inst. Fr. Études Andines*, 29(1):1–12.
- Rozin, P. 1987. "Psychobiological Perspectives on Food Preferences and Avoidance." In (eds.). *Food and Evolution: Toward a Theory of Human Food Habits*. Philadelphia, Pennsylvania: Temple University Press, pp. 181–206.
- Sandweiss, D. S. and Wing, E. S. 1997. "Ritual Rodents: The Guinea Pigs of Chincha, Peru." *Journal of Field Archaeology*, 24:47–58.
- Schwartz, S. B. and Salomon, F. 1999. "New Peoples and New Kinds of People: Adaptation, Readjustment, and Ethnogenesis in South American Indigenous Societies." In *The Cambridge History of the Native Peoples of the Americas*. Volume III, South America, Part 2. Eds. Frank Salomon and Stuart B. Schwartz. Cambridge: Cambridge University Press, pp. 443–501.
- Silverblatt, I. 1995. "Becoming Indian in the Central Andes of Seventeenth Century Peru." In *After Colonialism*. Ed. A. Prakash. Princeton, New Jersey: Princeton University Press, pp. 279–298.
- Simoons, F. J. 1961. *Eat Not This Flesh: Food Avoidances in the Old World*. Madison, Wisconsin: University of Wisconsin Press.
- Smith, G. C. 1991. "Heard it Through the Grapevine: Andean and European Contributions to Spanish Colonial Culture and Viticulture in Moquegua, Peru." Ph.D. Dissertation. Department of Anthropology, University of Florida.
- . 1997. "Hispanic, Andean, and African Influences in the Moquegua Valley of Southern Peru." *Historical Archaeology*, 31: 74–83.
- Soler, J. 1997. "The Semiotics of Food in the Bible." In *Food and Culture: A Reader*. Eds. Carole Counihan and Penny Van Esterik. New York: Routledge, pp. 55–66.
- Stern, Steve J. (ed.) 1987. *Resistance, Rebellion and Consciousness in the Andean Peasant World*. Madison, Wisconsin: University of Wisconsin Press.
- Tambiah, S.J. 1969. "Animals are Good to Think and Good to Prohibit." *Ethnology*, 7:423–459.
- Wagner, Joseph E. and Patrick J. Manning (eds.) 1976. *The Biology of The Guinea Pig*. New York: Academic Press.
- Weismantel, M. J. 1988. *Food, Gender, and Poverty in the Ecuadorian Andes*. Philadelphia: University of Pennsylvania Press.

- White, T. 1992. *Prehistoric Cannibalism at Mancos 5MTUMR-2346*. Princeton, New Jersey: Princeton University Press.
- Wilk, R. R. 1999. "Real Belizean Food: Building Local Identity in the Transnational Caribbean." *American Anthropologist*, 101 (2):244–255.
- Wing, E. S. 1986. "Domestication of the Andean Mammals." In *High Altitude Tropical Biogeography*. Eds. F. Vuilleunier and M. Monasterio. New York: Oxford University Press, pp. 246–264.