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Pots, Brewers, and Hosts

Women's Power and the Limits of Central Andean Feasting

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Among their many possible functions, feasts are events that create and maintain social capital by perpetuating a durable network of relationships that link actual and potential resources (after Bourdieu 1986: 248). Social capital is important in the Andes and in other regions of the world because reciprocity forms the backbone of the economy (Dietler 1996: 92–97; Dietler 2001: 66; Earle 1991: 3; Hayden 2001: 38; Mayer 2002; Perodie 2001: 187). A host's generosity, measured in part by the amount of food and drink served at the feast, creates a network of indebted participants (social capital) that the host can later call on for labor, agricultural products, or other services. The smaller the required labor force to produce food and drink at an event, the less social capital a host needs to expend before a feast takes place.

Chicha, a fermented beverage made out of maize, manioc, molle, and/or other plants (Goldstein, Coleman Goldstein, and Williams, this volume; Hayashida, this volume) was likely fundamental to feasts in many regions of the central Andes by at least the Early Intermediate Period (200 BC–AD 750) (see, e.g., Cavero Carrasco 1986: 23–30; Gero 1990, 1992; Hastorf 1991; Hastorf and Johannessen 1993; Lau 2002; Moore 1989; Morell 2002; Shimada 1994; Stanish 1994). One of the easiest ways to increase yields per brewer is to increase the size of the brewing and fermenting vessels used (Jennings 2005; Perlov, this volume). Professional brewers (chicheras) today, for example, can produce more than double the typical household rate of chicha, because they use large brewing and fermenting vessels (170 liters or more in volume). Using bigger pots, therefore, could allow for the accumulation of more social capital by increasing production rate per brewer.

Despite the advantages of bigger pots for hosts, however, beer for feasts today is usually brewed in smaller pots that are typically found in household assemblages (80 liters or less in volume) (Chávez 1985: 163; Cleland and Shimada 1998: 116; Hildebrand and Hagstrum 1999: 33; Sillar 2000: 151–155, 177). Both small and large brewing and fermenting jars are common in the prehistoric central Andes.

This chapter examines the use of smaller pots for household-level feasting in the central Andes today in order to explore the implications for the production and use of big beer pots for state-sponsored feasts in the past. We argue that smaller pots are used today because women often produce chicha in the home. A shift in vessel size is outside the interests of these women for three reasons. First, the material, social, and technical demands of making large vessels stress the capabilities of most households. Second, significant increases in vessel size render jars increasingly less mobile, and thus cumbersome, for a single woman to use within the home. Finally, and most important, the use of smaller beer pots in the home allows women to have significant control over feasting events by serving independently produced beer. We argue that these factors restricting vessel size likely operated in the past as well.

Scholars have long noted a gendered asymmetry in central Andean feasting, as has been noted in other areas of the world (Dietler and Hayden 2001: 11). Men, especially since the Spanish Conquest (Silverblatt 1987), often hold the highest political offices, which benefit from large-scale feasts, while women frequently do much of the brewing and other culinary work that makes feasts possible (Allen 2002: 96–98; Bolin 1998: 179; D'Altroy 2002: 195–196; Hamilton 1998: 64–65). Although the relationship between the men, who tend to host the feasts, and the women, who actually rally the resources, is seemingly exploitative on the surface, women are deeply integrated into the political process through their own social networks and private (and, on rare occasions, quite public) conversations with husbands and male relatives (Allen 2002: 97; Hamilton 1998; see Bowser 2000 and 2004 for Amazonian examples).

Women's influence is based in part on their collective control over the production and distribution of the beer and other items consumed at feasts (Allen 2002: 97). Since beer often spoils in less than a week, a host cannot stockpile it over the course of several months or years (Jennings 2005, but see Hayashida, this volume). The social positions of hosts are therefore dependent upon maintaining themselves in the good graces of a large number of independent household brewers who must be called upon to

produce at one time the massive quantities of beer consumed at events. Diffused rather than centralized production of critical feasting supplies keeps political ambitions in check because of the dependency of political leaders on a number of female brewers and on household labor in general; a host's crowning feast swiftly turns into an embarrassment if beer arrives late, sour, or in insufficient quantity. Since household dynamics and goals are apt to restrict vessel size, we argue that smaller brewing and fermenting vessels are an indication of diffused production.

In central Andean prehistory, most possible brewing and fermenting vessels fit within the volume range of typical household pots used today, and these ancient pots are found in domestic contexts (see, e.g., Goldstein 1993: 35; Goldstein 2005: 235; Isbell 1977: 68–71; Julien 2004: 93–94; Miller 2004: 132–135; Moore 1989: 692; Segura Llanos 2001: 72–96; Silverman 1993: 245–250). If these smaller pots are the result of similar production and feasting patterns, then women may have held significant collective political power through their control over the production and distribution of beer.

Yet there are also very large pots found in the ancient Andes. These pots, employed, for example, in the Moche, Wari, and Inca states, rival in size the 170-liter pots used by chicheras today (Perlov, this volume) and are often found in contexts that suggest specialized mass production of alcohol (Chapdelaine 1997: 32; D'Altroy and Hastorf 1992: 265; Goldstein, Coleman Goldstein, and Williams, this volume; Isbell and Grouleau, i.p.; Miller 2004: 133; Morris 1979: 28, 32; Shimada 1994: 144, 169, 208, 222). Although some women in a community undoubtedly benefited from specialized production, a host with access to big pots would no longer need to lean as heavily on community participation to prepare a feast; he or, more rarely, she could depend instead on fewer people to produce a lot of beer in one place. The use of big pots for centralized production, therefore, could have undercut women's collective political power by making dispersed household chicha production less critical to feasting preparations.

The dynamics of ceramic production, brewing, and feasting discussed in this chapter are relevant only to stratified communities in the central Andes where domestic production occurs in peasant households that are composed primarily of members of a nuclear family. Life in these communities is rapidly changing through market penetration, urban migration, state intervention, and other factors. Moreover, there is considerable regional variability in central Andean lifeways, which affects the way that

pots are made, beer is produced, and feasts are held (Goldstein, Coleman Goldstein, and Williams, this volume; Hayashida, this volume; Orlove and Schmidt 1995; Ravines and Villiger 1989). Nonetheless, there are broadly similar ways that people carry out these activities within the constraints of the domestic mode of production in the central Andes, and some evidence suggests that these customs have deep roots (see Jennings and Bowser, this volume, for a discussion of continuities and changes).

We generalize across a region in this chapter, and then we project these generalizations into the past. While we are aware of the dangers of interpreting the past based on ethnographic examples (Hayashida, this volume; Isbell 1995; Quilter 1996: 308), we feel that an understanding of the full implications of the relationship between feasting and domestic production is possible only when we have "households with faces" (see Tringham 1991). We tentatively draw these faces through ethnographic analogies that are buttressed by archaeological evidence.

Making Pots, Brewing Beer, and Throwing Feasts in the Domestic Mode

In the central Andes, the peasant, or campesino, household has long been the fundamental unit of production (Mayer 2002; Murra 1985). Although families are largely self-sufficient, some degree of specialization often occurs. One household, for example, might regularly produce chicha to be exchanged with other families, while another might specialize in ceramics production. Nonetheless, their activities are constrained within a domestic mode of production. In order to understand the relationship between vessel size, feasting, and political power, we need to understand how pots are made, beer is brewed, and feasts are thrown within this mode of production practiced by different campesino households that is in this region. In this section, we describe the traditional methods used in the central Andes today and argue that similar methods likely were used in the region by those earlier societies that lacked specialized brewing facilities.

Making Pots

By definition, traditional pottery production in the central Andes is organized at the household level (see, e.g., Litto 1976; Sillar 2000). Although molds or the paddle-and-anvil finishing technique are used in some places (see, e.g., Cleland and Shimada 1998; Ravines and Villiger 1989; Sabogal

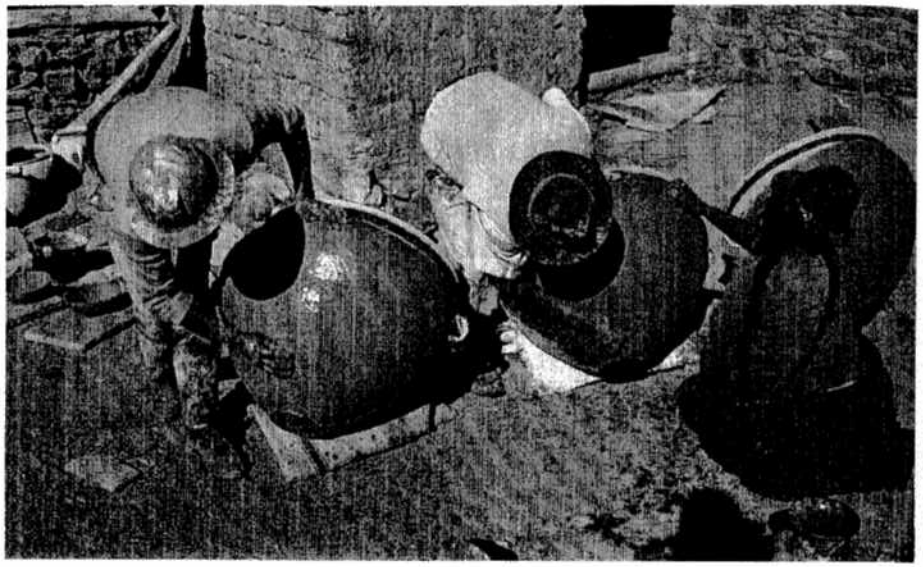

Figure 8.1. Itinerant potters from the community of Pumpuri, Bolivia, burnishing wide-mouth jars. Photo courtesy of Bill Sillar.

Weisse 1980), most domestic potters of the central Andes use a coil method of vessel formation followed by a scraping finishing technique (Sillar 2000: 55–58). Households produce a wide variety of vessel forms, with the pots finished, dried, and decorated in and around the home, and then fired in an open fire nearby (Fig. 8.1).

Ceramic production tends to be gendered in the central Andes (Arnold 1993; Camino 1985; Chávez 1985; Sillar 2000; Spahni 1966; Tschopik 1946: 537). In general, men mine clay and temper, mix clay, and form vessels (especially larger vessels); women are often in charge of finishing and decorating most vessels; and all family members participate in the firing (Arnold 1993; Camino 1985; Chávez 1985; Sillar 2000). It is not uncommon for men and women, however, to perform tasks that transgress gender roles or for all family members to work together during labor crunches (Hagstrum 1989: 32; Sillar 2000: 67).

The ceramics used in chicha production are among the largest vessels fabricated in the domestic context. There are two basic forms used in the central Andes to make beer—open, and constricted-orifice jars (often called *rakis* and *urpus*, respectively).[1] Karen Mohr Chávez details how these vessels are made in the Cuzco region (1985: 188–192), and her description gives a sense of the basic steps usually taken to make these types of vessels. In order to construct a half-meter-tall raki, a potter collects locally available clay and temper and mixes them with water inside his home (men make rakis in Chávez' study area). The clay is placed into a potter's plate, which serves as a mold for the base of the vessel, and a thick coil is added around the top. The potter widens and flattens the coil using his hands and then joins the coil and base using a triangle-shaped stone tool. Next, the potter adds four more rings using a similar process and then takes the pot outside to dry for two hours. After this initial drying, the potter adds seven additional rings to the pot, finishes the raki's interior with a stone, and then takes the vessel outside to dry for three hours. He then brings the vessel back inside to scrape, smooth, and polish the exterior and to add both the handles and the neck of the vessel. The vessel is then dried inside for seven to fourteen days before final drying occurs outside for about a week.

After the vessel is slipped and painted, it is fired in the open patio of the house. A circular firing area is covered with dung to a depth of thirty centimeters. Household members place rakis, urpus, and other large vessels on a bed of sherds above the dung and then stack smaller vessels on top. A wall of stone and adobe (thirty to fifty centimeters high) is constructed around the vessels, and the space between the wall and the pots is filled with dung or firewood. The mound is then covered in grass, and the grass is finally covered in dung. After a few stones are removed for ventilation, a household member lights the pile, and the pottery is fired from two to five hours, depending on the size of the batch.[2]

Chávez' description differs in some details from potting techniques elsewhere in the central Andes, but the basic steps and rhythm of the domestic production of beer vessels are similar (see, e.g., Arnold 1993; Camino 1985; Litto 1976; Ravines and Villiger 1989). We know that most possible brewing and fermenting jars were formed in the prehistoric Andes by coiling using similar tools and then fired in open-fire settings (Anders et al. 1998: 243; Hayashida 1999: 344; Lunt 1988: 493; Pozzi-Escott et al. 1998: 263; Shimada 1998a). Therefore, we suggest that many of today's constraints on domestic ceramic production of these vessels, in terms of material procurement, fabricating techniques, drying time, and other factors, are broadly similar to those faced by potters in the past.

Brewing Beer

Chicha is an umbrella Spanish term for any indigenously brewed alcoholic beverage in the Americas, and there are a wide variety of plants, such as manioc, molle, and peanuts, that can be used to brew it (Gómez Huamán

1966: 49–50; Nicholson 1960: 290–291; Vázquez 1967: 266–270). In the central Andes today, chicha is commonly produced using maize, and, as a result, most of the comparative ethnographic information published on feast preparation describes maize beer production. We therefore consider the details of domestic maize chicha brewing in this section. Steps for making other kinds of chicha are, of course, different, but all of the brews need to be heated, cooled, and then fermented (Goldstein and Coleman 2004; La Barre 1938). Similar functional needs often lead to similar designs, and the pots used in alcohol production share similar forms across the central Andes (Cutler and Cárdenas 1947; Hayashida, this volume; Jennings 2005; Nicholson 1960; Perlov, this volume)

Chicha brewing is primarily a female activity (Allen 2002: 152; Camino 1987: 39–42; Cutler and Cárdenas 1947: 37; Gómez Huamán 1966: 35; Holmberg 1971: 200; Orlove and Schmidt 1995: 276; Perlov, this volume;

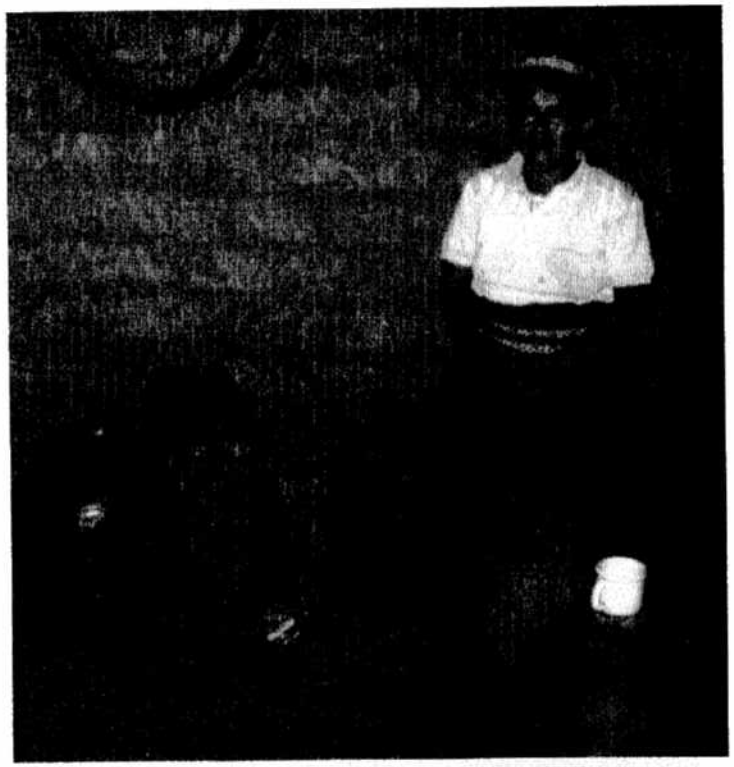

Figure 8.2. A woman with a set of typical household *chicha* storage vessels in the Cotahuasi Valley of southern Peru. Photo by the author.

Rodríguez O. and Solares S. 1990: 31; Skar 1993: 41; but see Hayashida, this volume).

Men and children help in the brewing process—for example, they often harvest the maize or other ingredients, gather firewood, or help in some of the other tasks throughout the brewing process—but women zealously maintain their control over all aspects of the production process (Allen 2002: 151–153; Condori Mamani and Quispe Huamán 1996: 55; Perlov, this volume). Beer is generally made in and around the home, and fermentation occurs inside or in shaded areas. Since beer was consumed on a daily basis until recently, all households owned beer vessels that were constantly in use (Allen 2002: 114–126; Holmberg 1971; Simmons 1962) (Fig. 8.2).

Maize beer is made by masticating maize flour or by allowing the maize to germinate and then grinding the grains into flour. For the remainder of the brewing process, the recipe is largely the same. The flour is placed into a raki and then hot water is added, or the flour and water are boiled at a low temperature over the fire. Depending on the recipe, this mixture is alternatively heated and cooled over the course of one to three days (Cutler and Cárdenas 1947: 45–47; Gillin 1947; Manrique Chávez 1997: 308–309; Mújica Lengua and Godós Alcázar 2004: 50; Nicholson 1960: 296). Water is constantly added to the raki during this period, as evaporation readily occurs from the open-mouthed vessel, and certain parts of the mixture, such as the sediment and the caramel-like upper layer, are removed to make other products (Cutler and Cárdenas 1947: 45–46). The mixture is then transferred to an urpu, where it cools and ferments.

Fermentation is initiated from the yeasts in the unwashed jar or by throwing previously brewed chicha in with the new batch. The liquid begins to ferment quickly and may begin to bubble violently after a few hours. The fermentation occurs in one to six days, depending on elevation and environment (Cutler and Cárdenas 1947: 47), although three to four days is typical. Maize beer sours rapidly and usually spoils in under seven days.

Chicha brewing has been a female activity since at least the fifteenth century (Hastorf 1991; Marcoy 1873: 57; Morris 1979: 28; but see Rostworowski 1977: 241, and Hayashida, this volume), and maize beer is prepared today using methods similar to those described in detailed accounts from the eighteenth to the early twentieth centuries (Anonymous 1961: 13; Camino 1987: 39–42; Gómez Huamán 1966: 43–44; Hocquenghem and Monzón 1995: 112; Llano Restrepo and Campuzano Cifuentes 1994: 24–25; Ruiz 1998: 81; Tschiffely 1933: 48–49; Wiener 1993: 731–732). Although we have no recipes for maize beer before the Spanish Conquest, production

technologies recovered in archaeological excavations strongly suggest that maize beer has been made in a similar fashion since at least the Early Intermediate Period (200 BC–AD 750) (Gero 1990, 1992; Moore 1989; but see Hayashida, this volume). Emerging information about chicha made from molle (Goldstein, Coleman Goldstein, and Williams, this volume) suggests that recipes for this beverage also may have changed little over time.

Throwing Parties

Major feasts occur throughout the year in the Andes during holidays, funerals, work projects, and other occasions (Bolin 1998). The events are important means of defining social hierarchies and obligatory relationships (Isbell 1974: 112) and are essential to acquiring the means for performing tasks that require the labor and resources of large segments of a community (Martel 1974). There are often customary guidelines for what should be served, when it should be presented to guests, and to whom items should be given (Martel 1974: 100–101), but in general, a good feast needs to fill bellies and make people "stumbling drunk" (Gelles 2000: 103). If the hosts are perceived as stingy, then they risk losing prestige and access to the labor from guests (Isbell 1978: 177; Martell 1974: 88, 104). Households might once in a generation be responsible for a major feast, and the occasion is an opportunity to generate considerable prestige in the community if carried out successfully (Allen 2002: 151; Meyerson 1990: 123). Although males tend to publicly sponsor feasting events (Gose 1994: 138; Isbell 1978: 170; Martel 1974), the success or failure of a feast is at least equally dependent upon a wife's ability to solicit sufficient beer and food through her social network (Hamilton 1998: 169).

The relationships between the hosts and chicha producers are often quite complicated (Isbell 1974: 113), but are guided in large part by the reciprocal bonds of *ayni* or *minka* exchanges. The most common form of exchange, ayni, is a delayed reciprocal labor exchange between members of a community. The sponsors will return this labor, in this case, chicha brewing, at a later time (Isbell 1978: 167; Mayer 2002: 109), and a "strict accordance is kept of debts and credits" (Isbell 1978: 168). In terms of social capital, gains from hosting the feast are tempered by subsequent ayni obligations (Mayer 2002: 116).

Minka is the second form of labor exchange. Minka laborers are often recompensed for their work with rights and gifts, but there is no obligation for the sponsors to return their labor at a later time (Allen 2002: 72–74; Isbell 1978: 167–177; Mayer 1974, 2002: 108–112). Minka exchanges are asymmetrical transactions between people of different social or economic groups (Mayer 2002: 110; Trawick 2003: 100–108). The food, drink, and gifts received by the laborer never fully recompense her work, and the host's generosity at the feast asserts power over minka partners (Gose 1994: 11; Mayer 2002: 110). Minka exchanges, therefore, allow hosts to more easily extend their social capital. Pots, maize, and other materials can also be brokered in community feasting events through ayni and minka partners, resulting in the same social debt (Sillar 2000: 106–110; Weismantel 1988: 176).

The food and drink consumed at a feast may be prepared on-site or in the home. In most cases, soup, stew, or other items are initially prepared in the home and then brought to the event (Allen 2002: 152; Bastien 1978: 177). At the feast, food may be reheated, arranged, and served. Since beer takes at least a week to prepare and ferment, chicha is almost always prepared in the home and then transported to the event by a household (Meyerson 1990: 130). For example, women carried 120 liters of chicha to the festival of Yarqa Aspiy in the Ayacucho region of central Peru (Isbell 1978: 171). For particularly large events, women will nonetheless gather to produce alcohol on-site (Sillar 2000: 115). Women, however, tend to resist attempts to move feast preparation out of the home for long periods of time. Their schedules are already busy, and they can better control the timing, pace, and organization of affairs within their own household (Hamilton 1998: 139–141; Weismantel 1988: 175–179). Feast sponsors therefore must elicit promises of food and drink from many households and then wait for these goods to be assembled on the day of the event.

Dispersed preparation for feasts through the pooling of domestic production has not been extensively discussed for the prehistoric central Andes. As researchers have done in other regions (Bray 2003; Dietler and Hayden 2001), Andean archaeologists have focused on feasting events or on specialized facilities that were dedicated to feast preparation. Nonetheless, Peruvian data from Joan Gero's research in the Callejón de Huaylas (1990, 1992) and Christine Hastorf's work in the Mantaro Valley (1991) suggest that women's household labor was likely pooled for feasts, and the wide distribution of probable beer vessels across early sites indicates that pooling labor could have been a production strategy in the past (see, e.g., Goldstein 1993: 35; Goldstein 2005: 235; Isbell 1977: 68–71; Julien 2004: 93–94; Miller 2004: 132–135; Moore 1989: 692; Segura Llanos 2001: 72–96;

Silverman 1993: 245–250). The long-standing importance of reciprocity in the Andes (Mayer 2002) and reciprocity's ubiquity in organizing feasts around the world (Hayden 1996, 2001) also make it likely that feasts in the ancient Andes were organized at least in part through reciprocal bonds.

The Limitations of Domestic Production and Its Impact on Feasting Patterns

Today and in the past, large-scale feasts could be underwritten through the domestic production of pots and beer from households scattered across a region. Although some families in communities can produce more chicha than others because they have more pots, more family members, or more maize, there are limits to the productive capacities of households. Among other constraints, vessel weight, vessel production costs, household beer demands, and women's self-interest act to keep the size of the brewing and fermenting jars down. With access limited to smaller vessels, the host of a large feast must expend more and more social capital prior to the event to acquire the products of more and more households. This section explores a few of the factors that keep vessel size down.

Weight

Perhaps the most important limiting factor is weight. In the production sequence of making a beer pot, at least two adults are needed to move the pot back and forth as the vessel is dried and later fired (Chávez 1985: 188–192). The most difficult task is likely transporting the vessel outside to dry while the clay is still wet and then returning it to the home in order to apply the neck and handles to the body. A completed raki, for example, weighs at least 11.4–13.4 kilograms after firing (Chávez 1985: 188–192), and the vessel, although neckless, would likely weigh a bit more than this when wet. Although one person could carry the weight, the awkwardness of the shape and the plasticity of the vessel make it necessary for two people to carry it, with each person having one hand on the mold underneath the vessel and the second hand on the neck opening to balance the load (Chávez 1985: 190).

As vessel size increases, weight more than doubles, as does wall thickness. An 80-liter vessel, for example, might weigh as much as 20 kilograms and would become more cumbersome to handle. Larger vessels would likely become increasingly difficult for two people to carry reliably and might require the assistance of non-household members. Moreover, larger vessels would have a greater chance of cracking, breaking, or becoming deformed because of the difficulties associated with moving them during manufacture (Arnold 1985: 70).

A lone woman, perhaps with the help of her children, must also be able to manipulate the pots after they are fired, because men and adolescents are frequently away from the home throughout the day in the central Andes (Allen 2002: 60; Weismantel 1988: 175). During the brewing process, the rakis need to be tipped over and picked up several times. While an adult woman would have no problem lifting a 40 liter–capacity pot, she would likely struggle with the same pot while straining the liquid and transferring the chicha into fermenting jars. Since a liter of water weighs one kilogram, the woman would have to be able to tilt a vessel weighing more than 50 kilograms (not including the weight of the maize). An 80 liter–capacity vessel containing chicha would weigh more than 100 kilograms, and manipulating the vessel might necessitate help from other family members. Chicheras require the help of at least one to two other people to use their larger vessels (Nicholson 1960: 296; Perlov, this volume). A woman and her small children, however, must be able to handle chicha brewing alone, along with all other household tasks (Fig. 8.3).

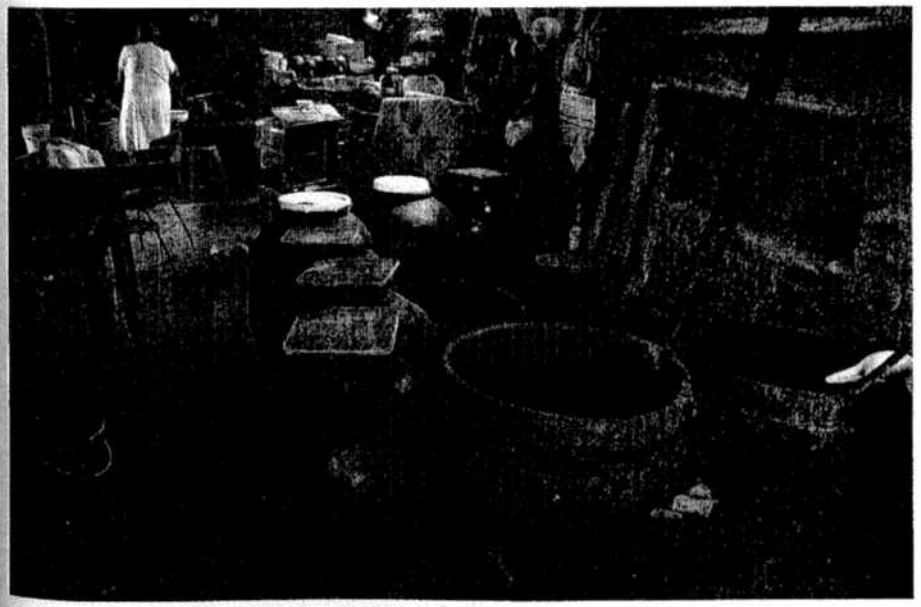

Figure 8.3. Fermenting jars used by a *chichera* on the north coast of Peru to brew a total batch of about 600 liters. Photo courtesy of Frances Hayashida.

Weight would also be an issue in transporting vessels. Since the pack limit of llamas is quite low, humans traditionally carry heavy loads in the Andes (Rowe 1946: 237). In the Inca Empire, pottery jars were carried on the back with a rope that passed through the handles or underneath knobs on the jar (Rowe 1946: 237), and chicha jars continue to be carried in similar ways to this day (Julien 2004: 111; Tschopik 1950: 208). People can carry the largest vessels in this manner, since an empty 120-liter vessel might weigh as little as 45 kilograms. This vessel, however, could not be carried full of chicha.

While the ability of people to carry heavy loads over distances has been consistently underestimated by archaeologists (Malville 2001), 150 percent of body mass seems to be an average for experienced bearers (Malville 2001: 238). If Peruvian adults on average weigh about 56 kilograms (Frisancho 1976: 201), then 84 kilograms would be around the maximum that each individual could carry. A 120-liter vessel filled with chicha would weigh around 165 kilograms, an 80-liter vessel, about 108 kilograms, and a 40-liter vessel would weigh in at 53 kilograms. Most of the chicha vessels carried today do not exceed 40 liters in capacity (Litto 1976: frontispiece, 23), and Guaman Poma de Ayala's depictions also show smaller vessels being used at the time of the Inca Empire (1992: 204, 220, 262, 268).

Production Costs

The costs of increasing vessel size also would be an important factor limiting their production by households. As vessel size and wall thickness increase, the most obvious increase in cost is for materials. More clay, temper, and water must be collected to form the vessels. Additional wood, grass, and dung are needed to fully cover the vessels while firing them for a longer period of time (Rice 1987; Rye 1981; Shepard 1956). At least in the highlands, where raw materials are often found kilometers away from each other over rugged and steep terrain, the added time and labor to collect more of this material could necessitate an extra day of work and overtax household energy budgets (Arnold 1993: 65–66; Condori Mamani and Quispe Huamán 1996).

A large pot also requires significant increases in labor and time in order to mix the raw materials. Potters usually use foot trampling to mix extremely large batches of clay (Rice 1987: 119), and this also seems to be the case in the Andes (Chávez 1985: 168). The process is labor-intensive—one ethnographer reports that the process is over when the clay is smooth and the person sweats (Chávez 1985: 168)—and larger batches require more

trampling time to mix thoroughly. Additional investment would be needed to roll thicker coils, and more coils would be needed to make the pot. Finishing and polishing the vessel would also be more work, and the potter's access to the interior of the vessel would become more difficult as size increased.

Finally, increased drying time would be perhaps one of the greatest increased stresses on household labor. Family members must routinely check on vessels and rotate them for even drying (Chávez 1985: 192; Rice 1987: 152). Moreover, the longer a vessel dries, the longer it will be exposed to potential damage by inclement weather, animals, or household members. Drying time varies according to climate and manufacturing technique (Arnold 1985), but in the same production context, bigger pots take significantly longer to dry than smaller pots (DeBoer and Lathrap 1979: 120, table 4.2; Specht 1972: 128). In the central Andes, drying times may differ by a week or more (Chávez 1985: 192; Litto 1976: 21).

Firing is the most critical stage of pottery production, since vessels are often broken, cracked, or deformed at this stage. Mórropan potters on the north coast of Peru, for example, must normally discard 4–8 percent of their vessels after firing, and losses of up to 90 percent are not uncommon (Cleland and Shimada 1998: 120). There are a wide variety of reasons for vessel damage, but undesired inclusions, incomplete mixing, improper joining, uneven drying, and variable firing temperatures are among the most common (Rice 1987; Shepard 1956).

The potential for damage increases with vessel size, because the chances of something going wrong in each step rises. The likelihood of faulty inclusions or incomplete mixing intensifies as more clay, temper, and water are mixed together at once. Potters have more difficulty joining one coil to the next in the interior of larger pots, and, of course, there is a larger surface area in which an error can be made. Larger vessels also have a greater chance of damage from some areas drying more slowly than others and are more likely to be left outside too long in the sun or to get wet. Finally, bigger vessels must be fired longer, which extends the riskiest part of production and endangers the results (Arnold 1985: 70; DeBoer and Lathrap 1979: 120, table 4.2; Rice 1987: 118, 128, 153; Vlade and Druc 1999: 107).

The lifespan of a ceramic vessel is dependent on its wall thickness, curing, transportability, as well as the amount and type of use it sees (Longacre 1981). In the Mantaro Valley of highland Peru, for example, a ceramic olla in daily use lasts an average of 1.77 years (Hildebrand and Hagstrum 1999: 36). Large jars (20–40 liters, called *fiestas grandes* in the Mantaro Valley)

can last much longer, but this is only because they are so infrequently used (Hildebrand and Hagstrum 1999: 38). In general, larger pots last longer than smaller ones because they are heavier and more difficult to move (and thus used less often and kept in storage) (DeBoer and Lathrap 1979: 121, fig. 4.5; Nelson 1991: 174). Although the use-life of a large vessel, as an expensive piece of equipment in terms of the cost of energy required to produce it, might be extended with careful curing, beer pots are handled during brewing, transporting, and serving beer, and this movement exposes them to a greater risk of damage and breakage (Arnold 1985: 152–154). Although one can mend a cracked beer pot (B. Bowser, personal communication, 2006), many of the vessels used for dry storage in Andean households are damaged chicha jars that can no longer be used to brew and ferment beer (Sillar 2000: 108). Regardless of the length of the use-life, bigger vessels take more time, energy, and risk to make, and thus accidents are much more costly when they occur (Sillar 2000: 108).

Household Demand

Households typically own a wide array of ceramic forms that are used during the daily round of food preparation (Chávez 1985: 163–164; Hildebrand and Hagstrum 1999: 34; Sillar 2000: 104–105). Some of these vessels are traditionally dedicated to chicha production and used to create weekly or biweekly batches of beer. A constant supply of chicha is necessary because it is still an essential part of mobilizing labor (Mayer 2002), and, at least until recently (see Orlove and Schmidt 1995), it was consumed daily in the household. Potential household production rates therefore must match not only household consumption rates but also the common labor exchanges that occur throughout the year. In the first half of the twentieth century, adults typically consumed between two and three liters of chicha daily (Jennings 2005: 247). If the average household contains 2.2 adults (Figueroa 1984: 14), then the maximum amount of chicha needed in a week until recently would be forty-six liters (consumption rates for children are not discussed in the literature but appear to be minimal [Allen 2002: 5]).

A family also calls upon labor partners, often a handful of kin or close neighbors, throughout the year to manage certain household tasks. Generally, the number of participants is limited by the scale of the task to be completed—only so many people are required to roof a house or till a field—and conducted as an ayni exchange. The sponsors of the event are responsible for reciprocating labor at a later date and offering food and drink to invited laborers (Isbell 1978: 167; Mayer 2002: 109). Unlike larger feasts designed

to gain social capital through excessive generosity, these small feasts act to maintain the status quo of an intimate group of exchange partners. The food and chicha provided are therefore a meal that matches typical daily consumption rates (Martel 1974; Mayer 2002: 109). A typical event might involve as many as eight individuals from outside the household over the course of two days (Allen 2002: 56; Mayer 2002: 113; Meyerson 1990: 39). If this two-day event were the largest event to occur during a normal year for a household, then the woman would have to produce 48 liters of chicha for an event, and a maximum of 94 liters for the week to cover both daily and event consumption.

On rarer occasions, a household would need to produce more chicha for a labor project. For example, Isbell (1978: 168) describes how fourteen men came together over four days to construct a house. If our calculations are correct, then a batch of up to 168 liters of chicha needed to be brewed by the household (or acquired from elsewhere).

If 94 liters per week is the maximum production rate needed for a household during a typical year, then it would make sense for women to possess culinary equipment to meet these demands. In the Mantaro Valley of central Peru, Hildebrand and Hagstrum (1999) found that an average household's cooking assemblage contained four or five small to medium-sized ollas (3.5–13.5 liters) and two larger ollas (21.1 liters). These assemblages of pots (fermenting jars were not included in their analysis) are similar to those noted elsewhere (Condori Mamani and Quispe Huamán 1996: 88; Sillar 2000: 107). The larger pots could be used to brew weekly batches of chicha, especially since home-brewed beer consumption has dropped significantly since the 1950s (Allen, this volume; Orlove and Schmidt 1995). Moreover, the family may own a couple of larger brewing and fermenting jars (approximately 40–50 liters each), which may be used a few times a year to support larger labor exchanges (Sillar 2000: 108). A woman's kitchen, therefore, is equipped to meet the annual needs of the household, and a few small jars (less than 100 liters in total capacity) meet these needs.

Women's Self-Interest

Women's interests might be the most important factor limiting vessel size. If men are the public face of the household, then women are the private power (Núñez del Prado Béjar 1975a). Although mutable, men and women have traditionally been assigned roles in the household, such as weaving, cooking, child rearing, seed planting, and, most important for our pur-

poses, brewing (Núñez del Prado Béjar 1975a). Women tend to control the administration and distribution of household resources (Hamilton 1998: 169; Hastorf 1991: 134; Núñez del Prado Béjar 1975b: 624–626; Silverblatt 1987: 14). This resource control is perhaps most readily expressed when food and drink are served (Allen 2002: 59; Weismantel 1988: 179–180). A woman serving from the pot has a "veritable arsenal of tools for expressing her opinion of those she serves" by deciding who should be served first, how much he or she should be served, and what spoons, bowls, and/or cups each guest will be provided (Weismantel 1988: 179–180; see Bowser 2000 and 2004 for Amazonian examples). Women therefore take brewing and serving beer quite seriously. Brewing, like cooking, is traditionally central to their ethnic and gender identity (Weismantel 1988), and women's roles as brewers and servers of beer appear to go back at least to the Inca period (Murra 1980; Rowe 1946).

Men, of course, recognize the essential complementary contributions that women make to the household (Bolin 1998: 120–123; Hamilton 1998). A man therefore rarely forgets to thank his wife for his food (Allen 2002: 59), and he almost always, albeit often quietly, consults his wife before making important decisions regarding both the household and the community (Bolin 1998: 121). Males are most commonly the public sponsors of feasts and the loudest participants at these events, and women are often quiet and deferential to men at assemblies and other public events (Allen 2002: 98; Gose 1994: 138; Isbell 1978: 170; Martel 1974). Women collectively exert their influence over proceedings, however, and this power manifests itself through supplying and serving beer and food at the event (see, e.g., Allen 2002: 96–98; Colloredo-Mansfeld 1999: 150–159).

Because their power tends to be collectively implemented and hidden within the private sphere, women engage in the political process in ways that are closed to men (Allen 2002: 98; Núñez del Prado Béjar 1975a). In public, for example, husbands may be unable to refuse a request from a host for beer, but wives, in consultation with each other, determine the amount of beer that will be given and when the beer will arrive (Bolin 1998: 121). Since production is veiled behind the walls of dozens of homes, a host is dependent upon a process that is difficult to monitor. If not enough palatable beer arrives on the day of the feast, the host cannot solicit production of another batch of beer to cover the last-minute shortfall because of preparation and fermentation time. Women, therefore, influence public affairs, in part, by producing, transporting, and serving beer that has been made in the home (Fig. 8.4).

Figure 8.4. Guaman Poma's depiction of sowing in the Inca Empire. Note the woman in the rear serving *chicha* (1992: 250).

In sum, vessel weight, vessel production costs, production demands, and women's self-interest act to keep the size and number of vessels small. Smaller pots reflect the lifestyles and interests of nuclear families pursuing an agro-pastoral lifestyle. Forty-liter vessels are common in most households, and larger vessels, perhaps up to ninety liters, can be successfully made and used in a domestic context with little to no assistance from non-family members.

Nonetheless, size matters. Beyond eighty to ninety liters, households would find it riskier and, in some cases, beyond their abilities to produce

and use these larger pots. The pots are more difficult and time-consuming to make, and they are more likely to break during drying and firing. The fired pots are clumsy to use, heavy to maneuver, and onerous, if not impossible, to transport. More important, smaller pots are an important means of ensuring women's influence over political activities by making feasts dependent upon the efforts of household labor across the entire community.

Big Pots and Big Shots in the Ancient Andes

Feasting has long been an important means by which social capital is gained and maintained within many societies (Hayden 1995, 1996, 2001). A feast is often the culmination of months of work by many people. The story of how food and drink arrived *to* the table is just as critical to our understanding of the past as the story of social behaviors *at* the table (Jennings et al. 2005). As in some other areas of the world (see, e.g., Arthur 2003; Holtzman 2001; Kahn 1986), feasting in the Andes has long been based on a seemingly asymmetrical relationship between largely male hosts and female laborers. It is in the very serving of food produced by their own hands, however, that women's power is collectively expressed in the home and at feasts.

There is sufficient evidence to suggest that past domestic production in many regions of the ancient Andes was broadly similar to traditional arrangements found in the region today. Pots tended to fit within the modern household ranges in terms of size and number, the bulk of culinary equipment was manufactured in domestic settings, and brewing often occurred in the home (Cobo 1990: 194; Goldstein 2005: 209; Moore 1989: 691; Shimada 1998b). Smaller beer pots were likely used because of pragmatic production and consumption limitations that were similar to those faced by households today, and also because small vessel size ensured that a host was dependent upon the collective will of the community for a feast's success.

Yet, examples of large pots that were part of specialized brewing facilities appear with the development of the first states (Chapdelaine 1997: 32; D'Altroy and Hastorf 1992: 265; Goldstein 2005: 207; Morris 1979: 28–32; Moseley et al. 2005: 17267; Shimada 1994: 144, 169, 208) (Fig. 8.5). Patrick Ryan Williams and his colleagues, for example, have uncovered a brewing facility at the Wari site of Cerro Baúl that boasts twelve 150-liter fermenting jars and a production capacity of approximately 1,800 liters (Moseley et al. 2005: 17267), and the cloistered women, or *mamacuna*, of the Inca Empire used similarly sized jars to produce the thousands of liters of chicha

Figure 8.5. An excavator carries an Inca-period *raki* from the site of Choquepuqio in southern Peru. The vessel's volume is approximately 120 liters. Photo courtesy of Gordon McEwan.

consumed at Inca feasts (Costin 2001: 235; Morris and Thompson 1985: 90).[3] Since chicha spoils quickly, production at these specialized facilities was probably episodic (Goldstein 2003: 162; Shimada 1994: 244), and labor was pooled only in the weeks preceding a feast. Nonetheless, we suggest that the presence of these facilities signals a sharp departure in feasting patterns. With larger pots, less community involvement was needed (see Fig. 8.3).

The emergence of specialized facilities in Andean states does not indicate the end of household brewing. All homes likely continued to make

chicha for daily consumption and other household needs (Cobo 1990: 194; Goldstein 2005: 209; Moore 1989: 691), and homes could pool their resources to underwrite larger community events (Jennings 2005). Specialized facilities, however, freed hosts in a number of ways from some of the reciprocal ties that might have limited their gains in social capital. First, a host and his household with access to a specialized facility would need to call upon the labor of fewer individuals, and thus would accumulate fewer future obligations while collecting the same amount of beer. Second, the shrunken labor pool means that feasts would have become less like potlucks, because fewer guests contributed to each event. In fact, a gift that cannot be reciprocated puts a person in an inferior position (Mauss 1990: 65), and as the chicha output of specialized facilities increased, more and more people would have participated in events for which they had prepared little or no food and drink (Mayer 2002: 116). Finally, resistance to labor demands is most effective when it is disguised, low profile, diffuse, and undisclosed (Scott 1985, 1990). In a centralized production facility, the host could monitor and control brewers more easily than if household producers were dispersed throughout a community.

The full or partial exclusion of domestically produced food and beer would have been particularly crippling to women, whose participation in the political process was underwritten by their household production. "Flattened" by her overwhelming inability to reciprocate at the household level for a feast (Mauss 1990: 41), a woman's ability to influence extrahousehold politics in the community was seriously compromised as chicha brought to a feast became more of a token of allegiance than a viable contribution to the affair.

The disenfranchisement of women could explain isotopic evidence for lower maize consumption by women than men in the Tiwanaku and Inca states (Goldstein 2003: 164; Hastorf 1991: 152; Williams 2005). Once feasting was incorporated into these states, women apparently participated less actively in them, both as part of the hosting apparatus and as guests, and thus drank less beer (see, e.g., Hastorf 1991: 152). Today's campesino communities recognize their dependence on household production, and hosts make a strong effort to ingratiate themselves with the female and male participants who underwrite a feast (Isbell 1978: 168–170).

The idiom of reciprocity likely has deep roots in the Andes (Mayer 2002: 105), and at least the Inca Empire couched its rule within an "idealized system of reciprocity and redistribution" (Ramírez 2005: 225; also see Weismantel 1991: 874–875). In reality, the Incas, and earlier Andean states, strove to break aspects of production free from the more balanced reciprocal bonds that limited the accumulation of social capital by moving the production of some items out of the household (Mayer 2002: 116–118). While scholars have widely recognized the importance of feasting in the rise of social inequality, there has been considerably less emphasis on the leveling mechanisms embedded within feasting that may minimize status gains (see, e.g., Wiessner 1996). Diffused household production ensures that the social capital gained through the event is shared across a wide range of producers because of the commensurate social debt that the host accrues in order to assemble the food and drink for the feast. Moreover, hosts who are dependent upon a scattered workforce that lies outside of their direct control must act within accepted cultural patterns of behavior that likely lessen status differences between households. The use of larger pots in specialized facilities undermines this leveling mechanism and thus frees hosts from some of their reciprocal obligations. When this happens, a woman's political influence is significantly eroded in those cultures where her power flows from control over domestic production.

Notes

1. There are many different terms for vessel forms across the Andes. *Raki* and *urpu* are some of the most common Quechua terms for wide-mouthed and narrow-mouthed jars, respectively, and are often used in the central Andes. For the sake of convenience, we use these vessel form terms throughout the chapter.

2. We do not suggest that all beer pots are or were made by coiling and fired in open-fire settings. There is evidence in ethnographic and archaeological contexts for a formation technique combining molds and the paddle-anvil method on Peru's north coast (Cleland and Shimada 1998: 117–118; Hayashida 1999: 346), and kiln firing is also known archaeologically from the region (although it seems to have been used for firing smaller vessels) (Shimada 1998a).

3. Exact volume measurements for Inca vessels remain unpublished (but see Bray, this volume), but archaeological evidence from the Inca site of Choquepuquio yields a maximum vessel size of 180 liters (Gordon McEwan, personal communication, 2005).

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