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Abstract Archaeologists often interpret the physical evidence for large-scale consumption of food and beverages as the remains of feasts that successfully enhanced personal reputations, consolidated power, or ensured community solidarity. However, ethnographic accounts illustrate the potential for "feast failure": people may or may not contribute, may or may not come to the feast, may or may not be satisfied, and may or may not repay the feast-giver in labor or obeisance. Because they involve so many logistical and material components before, during, and after the event, feasts almost always exhibit some shortcomings. These failures paradoxically provide both hosts and guests the opportunity to demonstrate their managerial skills, a factor that would have been increasingly important with the development of multiple and overlapping groups at the inception of social complexity. The use of failure-prone events as testing grounds for social integration also may explain the increased amount and diversity of feasting behavior over time.

Keywords Feasting · Food · Archaeology · Solidarity · Complexity

Introduction

Archaeologists focus on feasting for a variety of practical and philosophical reasons. On a practical level, big meals often leave distinct material signatures such as very large middens, unusual food remains, or deposits perceived to have been made during a single episode of activity or comprising large numbers of durable items such as serving vessels and animal bones (for comprehensive reviews, see McNiven 2012; see also Hayden and Villeneuve 2011, p. 441). Remains indicative of feasting also may be identified on the basis of qualitative characteristics such as the presence of restorable ceramic vessels (Halstead 2012, p. 29) or "frozen" moments of activity indicative of large-scale food preparation (VanDerwarker *et al.* 2012). Archaeologists also focus on feasting because the physical remains of mass-consumption events provides proxy evidence for social and economic activities that are otherwise difficult to elicit from

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the material record, such as human-environmental dynamics (through the presence or absence of particular wild species and/or domesticates), authority and skill (the size of a kill, the labor required to prepare food), and the location of food consumption relative to other socially meaningful locations such as mortuary contexts, households, and religious structures.

As an interpretive rubric, feasting has been used to analyze some of our discipline's most significant and enduring questions: the push-pull factors in agricultural adoption and intensification; the effects of transforming necessary activities such as eating into symbolic events; and the rise of social complexity as emerging elites use food to define and emphasize status (e.g., Adams 2004; Blitz 1993; Bray 2002; Dietler 1996, 2001; Dietler and Hayden 2001a; Gremillion 2011; Hayden 2001, 2003, 2009; Helwing 2003; Klarich 2010; Koch 2003; LeCount 2001; Mills 2004, 2007; Pollock 2012; Porter 2011; Zori et al. 2013). Indeed, the vast amount of literature on feasting in archaeology might suggest that there is very little that could possibly be added to the repertoire of analysis. However, archaeologists often uncritically make one significant assumption about feasting events: that the feast was successful. This assumption is contrary to ethnographic accounts that identify the many stress points of mass meals, ranging from minor last-minute menu changes to catastrophic outcomes including loss of life. This paper examines the multiple time frames of preparation and aftermath as a way to identify the challenges that occur before, during, and after the feast. By looking at the sources and outcomes of "feast failure," we also can expand our understanding of feasts as events that are both the culmination and the projection of long-term social and economic networks, and address the paradox of why feasts as inherently failureladen events increased over time.

The Value of Feasts

A feast can be defined as a larger-than-quotidian meal that often incorporates distinctive foods, labor-intensive modes of preparation, and special-purpose serving utensils (e.g., Dietler and Hayden 2001b, p. 3; Hayden and Villeneuve 2011, p. 434; Twiss 2008, p. 419). Feasts are of variable types: those initiated by a single individual or household; those that occur when many households contribute to a community event (a phenomenon also known as potluck); and those that occur when communities impose expectations on an individual or household (the cargo).

Feasts initiated and sponsored by single individuals or households often are designed to demonstrate or enforce inequalities (Halstead 2012, p. 12; Hayden 2001) and are carried out by identifiable sponsors for political gain, prestige, ritual fulfillment, the demonstration of power and authority, and/or the elicitation of labor commitments. Such events are described in the anthropological literature as "empowering feasts" (Dietler 2001, p. 76), "patron-role feasts" (Dietler 2001, p. 82), or "promotional feasts" (Perodie 2001, p. 196). They may be years in the making with a grand display of household largesse or can be assembled on a short-term basis (such as the work-party feast, in which hosts compensate workers at the time of completing a specific task; see Dietler 1996, p. 94; Dietler and Herbich 2001; Hastorf and Johannessen 1993, p. 119; Moore 1989).



Community-participation feasts result in meals that are comprised of many individual contributions of food, beverages, and accoutrements. These events can be described as "potluck" arrangements in which participants create social solidarity and commensality through the pooling of food resources. Archaeological researchers working in the American Southwest in particular have emphasized the way in which "potluck" arrangements enable the creation of feasts even in challenging environments that do not regularly produce food surpluses (Blinman 1989; Potter 2000; Potter *et al.* 2014). Although they emanate from pooled resources, potlucks nonetheless invoke a hierarchy of management and coordination in which individuals take charge of the organization, distribution, and clean up of events (Bushnell 1997).

A third type of feast is the cargo, in which an individual is selected by others to sponsor a mass-consumption event (Cancian 1965; Monaghan 1990, 2008). Abetted by ritual calendars and peer pressure, members of the community select an individual who is essentially "first among equals" to undertake a specific office. Cargo-like feasts for the dissipation of household resources also can be voluntarily initiated by individuals who fear that an unexpected bounty will leave them exposed to malevolent spirits (da Col 2012, p. S184) or by families who find themselves hosting a curing ceremony for a sick relative (see Potter 2000, pp. 474–475). In cargos, individuals may either dispense their own household wealth or they may call in obligations from their peers in the social network, resulting in a hybridized patron-role/potluck configuration (see, e.g., Monaghan 1990; Van den Berghe 1978, p. 175). Like potluck events, cargos are "solidarity feasts" (Hayden 2001, p. 38) that serve to regulate social tensions or enhance communal cohesion.

At all types of feasts, hosts and sponsors benefit from successful events. As noted by Raymond Firth regarding chiefly feasts in Tikopia, from the host's perspective a feast

gives an opportunity to display his food resources and to assert his rank; it secures for him ceremonial expressions of thanks from his chiefly guests and of loyalty from his clanspeople; and in the later stages demonstrates his own fidelity to his gods and thereby ensures their continued interest in him (Firth 1939:222, cited in Kirch 2001, p. 171).

Similarly, Zori *et al.* (2013, p. 151) cite the medieval Icelandic sagas in which the chief "hosted a Yule-drinking feast at Helgafell, and a large number of people attended. He showed great magnificence with everyone that winter. Guðrún [his wife] did not resist this and said that this is what wealth was for—to increase prestige." Potluck events enable even the most disenfranchised individuals to acquire prestige when they transform intangibles such as organizational skills into social approval when they manage a communal feast successfully. And the oft-repeated discomfiture of cargoholders in taking on the economic burdens of sponsorship is mitigated by the social standing associated with selection.

Ethnographic and historical accounts illustrate, however, that the beneficial effects of feasts are achieved only through the acceptance of risk. If feasts are "an arena for the highly condensed symbolic representation of social relations" (Dietler 1996, p. 89), then hosts are the visible, responsible agent for the successful creation and demonstration of those relations. Feasts represent "sunk costs" for hosts who must expend resources, energy, and time in the structuring of an event for which the payoff



(reciprocal feasts, labor tribute, loyalty, and praise) may not be manifested for years afterwards. Hosts stand to lose face if the feast is inadequate or harmful, and stand to lose their investment if potential guests refuse to participate or if they participate without compensating the host through praise and labor. Hosts who are well-regarded in a community may have their social position eroded by an unsuccessful feast or destroyed by a disastrous one.

Hosts must be prepared not only to orchestrate known challenges but to be prepared for contingencies of all kinds. Although feast-givers often are assumed to be powerful agents, feast recipients are powerful too. Would-be guests can refuse to receive largesse or refuse recompense for the largesse that they do accept. They can rack up expenses and charge them to the host before the event (da Col 2012, pp. S185–86), behave inappropriately during the event, or hijack the proceedings for their own aggrandizement. Feast-takers also can be picky eaters. Appropriate foods for a feast may be judged by the presence of an abundance of staple food, but quantity in and of itself may be insufficient to render a communal eating event distinctive. Instead, guests may judge the quality of a feast by the preparation or presentation style of the comestibles (Hastorf 2003, p. 545). Hosts also may be pressured to provide labor-intensive symbolic foods or engage in a constant round of innovation in response to guest expectations (see LeCount 2001, pp. 936–937). The relationships between hosts and guests are thus not created only at the time of the feast itself but encompass long-term networks of affiliation, dependency, cooperation, and expectations. These long-term engagements mirror the often lengthy stages of feast preparation and aftermath.

The Time Frames of the Feast

A feast is a short-term event that takes place over a day or a few days, but it is preceded by distinct stages of preparation, each of which encompass material and logistical challenges.

Years in Advance

The timing of a feast can be projected many years in advance for ceremonies that have a known eventual performance date. Ritual feasts usually occur on a regular cycle, calculated according to an annual calendar or after a predictable multi-year period. Feasts associated with initiation and marriage ceremonies are implicated in the birth of each child with planning increasingly brought to the forefront as the child matures. Feasts that rotate among office holders, as in the cargo system, also enable both hosts and guests to make long-term calculations of the eventual timing and extent of their sponsorship. Preparations can thus begin years in advance with the accumulation of resources including food, serving vessels, and the identification of a location large enough to hold the expected quantity of guests. Feast preparations also implicate the storage and preservation of large quantities of food (Twiss 2008, p. 419; see also Gremillion 2011; Jennings *et al.* 2005, p. 287; Porter 2011, p. 34; Potter and Ortman 2004, p. 181).

Storage in and of itself can provide challenges. Some foods such as grain can be stored in inert form, but also are subject to spoilage as well as the risk of complete loss



from rot, insects, or vermin. In addition, planned excesses meant to be devoted to future feasts may be pressed into service for quotidian use if crops fail in the intervening year(s). The husbanding of animal resources is somewhat easier because animals can be "stored" as living entities to be dispatched exactly when needed, but animals may not be easily kept in immediate proximity to living quarters and breeding for purposes of eventual feasts can conflict with a household's other economic activities (e.g., Granada 1974; Rappaport 1968, p. 156). Hosts also may have to negotiate conditions of husbandry and delivery with other landowners and herders. Items to be presented as gifts may not be as perishable, but there are still risks associated with their accumulation such as theft and deterioration.

Another form of long-term storage that may be implicated in feast preparations is "social storage" (Ingold 1983; cf. "risk pooling" [Wiessner 1982, p. 173]) through which reciprocity in fresh foods substitutes for the physical storage of comestibles. An example of social storage put to use for commensal purposes is given in John Monaghan's (1990) discussion of Mixtec feasting in which, on the morning of a feast, representatives from other households come bearing fresh tortillas or cooked beans. The bearer of these supplies is immediately given a countergift, as well as a notation for later reciprocation at others' feasts. The cycle of prestations addresses the problem of labor bottlenecks as well as the challenges of keeping large quantities of food fresh: "by depositing several dozen baskets of tortillas in saa sa'a [exchange] with other households over the year or two before they will be needed, and calling them in on the day of the fiesta, Nuyootecos are able to ensure that they will have an adequate supply of fresh tortillas" (Monaghan 1990, p. 761).

Whether through social storage or direct acquisition and accumulation in the host's own storage areas, feast-planners continually engage in transactions of accumulation that are harbingers of further transactions of distribution. Ongoing social relationships are expressed not only in the current exchange but also in the expectation that reciprocation will occur.

A Season in Advance

On the scale of a year or season in advance, raw material supplies are planted, tended, evaluated, and stockpiled. Some preparations of the actual meal may be started, particularly fermented foods and those requiring lengthy preparation times (e.g., Firth 1967a, p. 393 for the example of taro "puddings" in Tikopia; Jennings et al. 2005 on alcohol). Hosts can solicit the production of suitable vessels and containers, including those with special shapes or decorations (cf. Jennings 2014) as well as larger-than-household vessels for cooking (see Hayden 2001, p. 48) and smaller-than-household size for serving (Sallaberger 2012, pp. 167, 170). Although archaeologists often presume that larger-than-quotidian serving vessels are an important hallmark of feasting (e.g., Blitz 1993), attention also should be paid to the serving dishes (such as bowls and drinking vessels) used by individual guests. Large serving vessels may be a risky strategy for hosts, particularly if the food runs out or is insufficient to actually fill the dishes. By contrast, small vessels might from the perspective of participants be viewed as having the promise of being filled multiple times (cf. Lean et al. 2006).



Weeks in Advance

Fuel, cooking vessels, and other equipment can stockpiled in the weeks prior to a feast. Other foods may start to be prepared, such as those that require drying, fermentation, or the final fattening of meat animals (see Jennings *et al.* 2005; Stasch 2003, p. 360). The processing of these made-in-advance foods requires the identification of appropriate sources of grain or other raw ingredients, the acquisition of containers for processing and storage, and the identification of secure locations for storage. Hosts also engage in notifications, confirmation, and reminders about the feast location, timings, and scale to entice attendance. Some hosts may also utilize this time to create or add to their stockpile of foods and gifts by raiding or coercing suppliers, a process that also entails risks that the demands will be refused or that no items will be available due to depletion (for an example of raids as a means of acquiring feast provisions, see Firth 1967b, p. 82). Households may also sequester or hide their produce if they know that a burdensome feast requisition is likely to be focused upon them, causing tensions in the social network.

Days in Advance

Feast preparations accelerate in the days before the event, with feast managers bringing together fuel, cooking vessels, and raw ingredients in a process that can be described as a "labor of coordination as much as one of muscles and fatigue" (Stasch 2003, p. 364). Accumulated supplies often are highly visible, as they may be more voluminous than the amount that can be stored in normal places of household accumulation. Hence, the sense of largesse and generosity promised in the feast is physically displayed even prior to the actual event, through which participants can evaluate the feast's potential for satisfaction.

Hosts exercise their managerial skills through the allocation of labor to the construction of facilities to be utilized in food preparation, such as roasting pits, earth ovens, and the assembly of tripods or stands for large vessels. When there are special-purpose buildings already in existence, the hosts may engage in cleaning, beautifying, or modifying those structures with temporary additions such as partition screens, dance platforms, and seating areas (cf. Stasch 2003, pp. 367–368). Alcohol, which figures prominently in many feasting events (Dietler 2006), also can be a focus of attention at this stage. Jennings *et al.* (2005, p. 286) outline the steps of fermentation of different substances, concluding that the short shelf-life of many ancient alcoholic beverages and the limited size of brewing facilities would have required that "all of the alcohol for a feast be produced in a few frenetic days preceding the event."

While orchestrating preparations, hosts also must be on the lookout for early arrivals who could place burdens on food and beverages prior to the planned start of the event. In ethnographic cases, competition among rival guests to be "first" could lead to elaborate plans for guides to monitor arrivals as Frederica de Laguna noted for the Yakutat potlatches (1972, p. 614). Planning for the feast's aftermath also is incorporated into the preparation stages, with attention to the eventual need to dispose of trash, vessels, and excess food. A historical example can be found in the ancient Indian text known as the *Arthasastra* which stipulates that "Anyone giving a large feast was asked to make special drainage arrangements for washing" (Rangarajan 1992, p. 44).



Risks for hosts in the days before the event are made more dramatic by the fact that by a certain point the costs associated with an imminent event can no longer be resorbed if the event is suddenly canceled or postponed. Hosts may suffer the catastrophic loss of years of "sunk costs" if an event must be called off at short notice due to a death in the family, an extreme weather event or other natural disaster, a sudden change in political regime, or other events that overtake the feast in importance. Rivals or central authorities also may thwart feast-giving by sowing chaos among the participants, as dramatically outlined in the ethnographic film *Ongka's Big Moka* (Granada 1974; see also Strathern 1979). Rivals also can cause disruptions by taking control of public spaces where feasts and other gatherings are planned, or commandeering infrastructure such as water supplies.

Hours in Advance

Feasts usually involve the preparation of massive quantities of fresh foods that require a coordinated labor force and expertise in processing, and these actions become an integral part of the ceremony (Goody 1982, p. 93). The need to prepare large amounts of food in a timely way introduces new challenges related to workload, labor bottlenecks, and preparation strategies. In quotidian cooking when the scale of vessels and ingredients is small, one person may complete the cooking process single-handedly by interspersing tasks such as obtaining fuel and water, managing different cooking times among foods in different vessels, and preparing ingredients in a multitasking framework (cf. Harris 1964; Salvucci and Taatgen 2008).

For a feast, however, the demands of cooking often require not only more individuals to work in the kitchen area but a scale of labor management that includes specialists in particular sub-tasks such as carrying fuel and water, chopping and preparing supplemental ingredients, and physically stirring or ladling the finished foods. Potluck arrangements in which many individuals bring food or participate in the cooking process can appear to make the burden lighter but often add other complications. As noted by Wright-St Clair *et al.* (2005, p. 337) with reference to holiday feasts, adding more cooks ideally means that "the responsibility for planning the meal can be retained while the time and energy demands on one person are reduced. While the idea seems like a good one, the loss of control over preparation methods means things don't always go as expected which adds to rather than reduces the stress for the 'event manager'."

As individuals work together to prepare a communal meal, they engage in negotiations about the quantity and availability of ingredients and about the timing and physical cadence of activities. The proportions of spices, herbs, and other flavor enhancers can be added idiosyncratically in small-scale household cooking, but scaled-up proportions may be difficult to calculate and food-preparers might be hesitant to consecrate the large amounts of rare flavorings proportionally required for large batches. Similarly, the scaling-up of alcohol production for feasts requires skills above and beyond the fermentation routines that serve household-level needs (Jennings *et al.* 2005, p. 278). Unusually large meat packages (cow/sheep/goat/pig vs. quotidian fish/chickens/lagomorphs) or infrequently eaten prey (wild ungulates or fowl) may require specialized processing knowledge held by only a few individuals in a group,



resulting in hasty or inexpert training of extra personnel that in turn risks social critique or injury (e.g., Volkman 1985, p. 97; Ahmed *et al.* 2006, p. 1014).

The Feast Day: What Could Possibly Go Wrong?

On the day(s) of a feast, managers and cooks may have successfully prepared a large quantity of food and stockpiled an appropriate amount of serving vessels and gifts to meet guests' expectations. But many aspects are still out of the host's control:

- The weather. Changes in the weather can render a pleasant event into an uncomfortable ordeal, leaving guests with memories that are predominantly about the climate rather than the generosity of the host or the quality of the meal. Unexpectedly cold weather, precipitation, or wind can damage or destroy foods and furnishings, scatter guests, and terminate the festivities earlier than planned. Unexpectedly warm weather can induce heat-related distress such as heat cramps, heat exhaustion, and heatstroke (which can be deadly; at the Hajj pilgimage of 1985 which took place in the summer, 2,000 cases of heatstroke were recorded of which more than half were fatal; Steffen et al. 2012, p. 142).
- Party crashers. Uninvited or unexpected guests can wreak havoc with a carefully planned event. They can include individuals who were deliberately snubbed of an invitation, individuals who were invited by accident (Belser 2014, p. 90), and those who unexpectedly accompany legitimate invitees. The arrival of uninvited guests can threaten the host's control and deplete the desired visible excess of provisioning, resulting in a negative experience for all of the participants including those whose favor was originally the focus of the host's investment.
- Breaches of etiquette. Status differentiations can be discerned in groups of even the smallest size and the least complex social organization (cf. Turner 1980). Individuals arriving for a feast make use of their culture's entire range of objective and subjective criteria to determine status on the basis of age, gender, skill, wealth, birth order, and genealogy, in which servings, the order of serving, the serving size, and even seating arrangements reflect a host's assessment of guests' relative rank order (cf. Logan *et al.* 2012, p. 236; Ortner 1978; Volkman 1985, p. 92). Hosts may become harried as they attempt to curry favor with the highest-ranking arrivals while assuaging slights perceived by those who have been bumped from their prior rank position in the feasting occasion's status hierarchy (see, e.g., Ortner 1978, p. 75).
- Timing of arrivals and departure. Closely related to the problem of party crashers is
 the challenge of retaining the interest of high-ranking guests. Although their
 presence may be coveted, high-ranking guests who behave badly or who leave
 the feast too soon to attend another gathering results in a loss of status for the host
 "by implicitly suggesting that the other engagement is more important" (Werner
 1997, p. 7).
- Unwanted or unexpected gifts from attendees. Oversize, unanticipated, or living gifts
 may require immediate attention, such as the camels that Cynthia Werner (1997, p. 3)
 describes as an appropriate gift at feasts in Kazakhstan although the animals are no
 longer considered a practical offering: "Even though the average family does not want



or need a camel, the sponsor of a feast is very likely to receive at least one camel as a gift." Gifts may arrive that are of an awkward shape or size requiring a quick reconfiguration of short-term display space or entail a degree of maintenance and care for which the recipient will bear significant costs of time and space.

- Distractions. As Dietler (2001, pp. 68–69) and others have noted, a feast encompasses a good deal of ancillary social activity among the guests that can result in a diversion of focus away from the host's main aims of aggrandizement and accumulation of honor. Guests may expend their energies on their own social networks through alliance-building or matchmaking for long-term benefits, "hooking up" with sexual partners for short-term benefits, catching up with old friends oblivious to the host, or settling old scores with enemies.
- Violence. Violence is another risk when large groups of people are assembled. At Yakutat potlatches, the inclusion of rival groups provided numerous opportunities for conflict, including those sparked by mistakes in singing or dancing (de Laguna 1972, p. 615). The risk of violence intensifies when alcohol is provided as part of the feast or when participants arrive bearing weapons as part of their traveling kit or as part of their festive attire:

During a feast in Kupaliyume—and any feast among the Caribs entails being drunk on the part of virtually all visitors—a conflict broke out and was subdued (as is the rule). After a short time, it flared up again, and the whole party became a milling chaos of men and women, some fighting, some trying to fight, most of them trying to suppress the fighting of husbands, brothers, sons, daughters, sisters, etc. (Kloos 1969, p. 510)

Rival groups may choose to attack during feast-times as an occasion when people let down their guard or are physically less capable of repelling an attack (in classical Greek literature, a famous example of this is the feast during which Odysseus slaughters the guests and reclaims his house after returning home from the Trojan War; examples also can be found in the ethnohistoric record as well as in recent memory [Stasch 2003]).

Accidents. Fires can break out in structures made of organic material, and constricted spaces can lead to death by smoke inhalation as well as by the flames themselves. Crowds of people also can stampede in a panic, sometimes resulting in massive casualties. Stampedes are recorded in modern times at the Hajj pilgrimage in Saudi Arabia (1,436 deaths in 1990; 270 in 1994; 119 in 1998, and 380 in 2006; Ahmed *et al.* 2006, p. 1013), the Love Parade music festival in Berlin (21 deaths, 500 injuries in 2010), the Hillsborough UK soccer match (96 deaths, 766 injured in 1989), and in numerous recent religious festivals in India (more than 50 deaths at the 1999 Sabarimala, and 104 deaths at the 2011 Sabarimala; Memish *et al.* 2012, pp. 57–59). Ancient feasts were not likely to be large enough to result in accidents of this magnitude, but competition and jostling among participants still could result in significant injuries; Steffen *et al.* (2012, p. 144) note for modern stampedes that "the density of the crowd (number of people per m²) was more relevant as a health risk than was the number of people."



• Overindulgence in narcotics and stimulants that result in guests being incapacitated, injured, or overdosed. Alcohol can provide the "blissful mood" solicited by hosts and guests (Jennings et al. 2005, p. 275) but also carries with it the danger of an increased incidence of trauma linked to intoxication (cf. Steffen et al. 2012, p. 142). Higher incidences of substance use also are linked to interpersonal violence, sexual assault, and injury. Guests who are unable to self-regulate may cause harm to themselves and embarrassment or extra stress to the host as well as incurring the wrath or exploitation of other guests. A host's social network may be pressed into service to keep the peace during feasts; for example in Oaxaca, Monaghan (1990, p. 764) notes that "Throughout the celebration the core partners should remain sober and be prepared to aid the sponsor in performing rituals, carrying water, and running errands."

• Shortfall of food. As Wiessner (2001, p. 117) notes in her study of Enga feasts in Papua New Guinea, "A party where the food does not go round or runs out is not a good party." But mere abundance may not be the only way in which guests perceive that there is "enough" food. Guests may shun some dishes in favor of others, leaving favorite foods in short supply and generating an atmosphere of insufficiency even if there is an abundance in overall calories. Guests also may be disappointed by the length of time spent waiting for the beginning of food service or the speed of the service in the course of the meal (see Volkman 1985, p. 102). By the time a feast is underway, particularly if elaborate or time-consuming dishes are involved, it is usually too late for the host to attempt to overcome a shortfall.

The Post-event Timeline of Feast Failure

As seen above, hosts can perceive feast failure instantaneously when an event is marred by adverse weather or when the celebration descends into mayhem. When the guests depart, however, a new timeline of potential failure begins.

Hours After the Feast

- Excess food. Hosts may find themselves with the awkward situation of having too much food left over at the end of a feast, a circumstance that invites criticism that the feast was poorly planned, resulted in unintentional waste, or that guests were insufficiently fed. Given the rapid deterioration of prepared foods, hosts have to act fast to rid themselves of excess provisions. Monaghan (1990, p. 767) describes one Oaxacan feast that concluded with a considerable surplus of food whereupon the sponsoring household "invited the prayermakers, musicians, and others back for another large meal on the day after the fiesta ended, thus dissipating the surplus." Excess food also can be "fed" to deities via mechanisms that make the food disappear from sight, as I have witnessed after a rural village feast in Odisha State, India, when vats of cooked rice were flung into one of the village ponds.
- Food poisoning. Food poisoning can be caused by a variety of bacteria, parasites, and viruses (e.g., Salmonella, Shigella, Brucella, Vibrio, and Rotavirus; Tajkarimia et al. 2013). Depending on the type of food poisoning, symptoms such as nausea,



vomiting, stomach cramps, fainting, diarrhea, and/or death have an onset time of 30 min to 36 h or more (Iversen *et al.* 1987; LeLoir *et al.* 2003). Food poisoning that affects dozens or even hundreds of people continues to be recorded in modern times at weddings as well as at potluck events such as church suppers and school functions (Anonymous 2010, 2011; Gaulin *et al.* 2010). One of the largest recent mass food poisoning events to be analyzed by public health officials came from the tiny island of Ebeye in the Marshall Islands after a funeral feast in 2009. Of the 187 people who attended the feast, 174 became ill (Thein *et al.* 2010). The source of the food poisoning was traced to egg sandwiches that had been prepared in the morning but not consumed until the afternoon by which time the sandwiches "had undergone severe time-temperature abuse" (Thein *et al.* 2010, p. 75).

Food poisoning can result from the rapid growth of bacteria in a short period of time, but food poisoning also can occur when novel strategies of preservation or presentation are used with inadequate knowledge of the consequences. One of the world's highest rates of botulism has been sustained in recent times among Alaska Native Americans, many cases of which could be traced to the improper preparation and storage of fermented meats including fish, beaver tail, and seal flipper that were "prized for their taste and as a symbol of native traditions"; in many cases these favored foods are consumed communally at feasting events, resulting in a high rate of morbidity and mortality (Shaffer *et al.* 1990, p. 393). Improper preparation of plant foods also can result in botulism; for example, Groves (2009) identifies the case of 13 guests who died of botulism after consuming home-canned peaches at a New Year's Eve gathering in California in 1909.

Problems of trash disposal. Physical maladies and vermin could be expected if the
larger-than-usual amounts of trash were not properly discarded. Feast-related trash
might not have been merely considered a physical nuisance but might also have
entailed the potential for spiritual pollution if left strewn about in the same manner
as household garbage (Kirch 2001, p. 169; see also Davenport 1986, p. 107, Walker
1995).

Days After the Feast

When feast-goers assemble from long distances, the event is not fully terminated until the last guests have returned home; any adverse circumstance in transit can result in negative memories that become overlain onto the recollections of the event. Houses left vacant when their owners go away to attend feasts may be vandalized or burglarized in their absence, and groups traveling through unfamiliar or hostile territory may be ambushed or killed. Guests also can take illnesses home with them, including cholera, gastroenteritis, meningitis, plague, polio, and smallpox (Abubakar *et al.* 2012; Memish *et al.* 2012, pp. 57, 60–61). The transmission of these ailments has been recorded in the aftermath of mass events even in very recent times including multiple outbreaks among summer music festivals in Europe (Botelho-Nevers and Gautret 2013), meningitis after the Hajj in 2000–2001 (Abubakar *et al.* 2012), and measles after the 2010 Winter Olympics (Memish *et al.* 2012, p. 59).

While guests may face risks and burdens on their way home, the host also faces costs in the days after a feast. The host may have ritual or financial duties to fulfill after



the main contingent of guests goes home, incurring expenditures to achieve a socially acceptable closure to the festivities (e.g., Stasch 2003, p. 374). Hosts may also need to work or delegate labor for the return of borrowed or rented items, cleaning up the feast venue, and making reparations for physical damages.

Years After the Feast

Long-term feast "failures" include non-compliance with reciprocation requests, the active manipulation of memory to inflate perceived shortcomings, and even physical violence as punishment for inadequate hosting. Fickle guests can shirk their labor or tribute duties after a feast if they perceive that the costs and benefits of their participation have subsequently shifted. Any individual guest's ancillary social events undertaken at a particular feast, such as matchmaking or alliance-building, also may color memories of the event. As Robin Law (1988) has discussed, memories are subject to manipulation and negation even in highly literate eras. Negative memories, if proclaimed forcefully enough by dissatisfied guests, may overwhelm other guests' own personal recollection of satisfaction, leading to an eventual consensus that the feast was poorly executed.

A host's social network is hence just as essential to the aftermath of a feast as to the initial creation of it. Hosts, along with kin and supporters, are obliged to use conversations sparked by memory as an opportunity to contextualize or downplay complaints while embellishing and explaining successes. As Eves has explained with regards to the sequential mortuary feasts held by the Lelet of New Ireland (Papua New Guinea):

Memories of past feasts are continually evoked as the feast undergoes a process of communal scrutinisation and comparison after its completion. In this scrutinisation, the past is made present through memory and the present evaluated in terms of the past. Questions are asked such as whether the feast was correct 'kastam' [custom, practice], whether the settlement of past debts was appropriate, and whether there was enough food for the guests. The last question is paramount in the adjudication of the feast; the abundance or lack of abundance of food is the point on which the political economy of memory revolves (1996, p. 271).

The ascription of praise or blame on the basis of the memory of a feast is not merely a matter for a host's reputation: it also can result in physical dangers. In the nineteenth century, Lorimer Fison described the actions of mercenary warriors on the island of Bau in Fiji:

Feasts are made for them, and they are paid for their services in war. When they are present at a Bau feast, and a pig is cut up, the head is given to them. If they consider themselves neglected in the portioning of the food, they may kill one of the sharers of the feast in the next fight (1881, p. 342).

People memorialize feasts in tangible ways in addition to keeping memories alive through the retelling of events. In Oaxaca, people keep physical written records of the donations that went into supporting any given feast (Monaghan 1990, p. 760). In rural India, newlyweds' names are inscribed on the exterior of



family homes. In other cases, people keep physical trophies of the animals slaughtered for the feast by publicly displaying the distinctive, inedible parts (in Sulawesi, buffalo horns [Volkman 1985, pp. 45–48]; in Papua New Guinea, pigs' jaws [Strathern 1979, p. 38]). These physical mementoes of past feasting activities are invoked for ancient peoples as well; at Catalhoyuk, Bogaard *et al.* (2009) suggest that cattle bucrania might have served as tangible social displays of past largesse (see also Halstead 2012, p. 31; Otto 2012, p. 184).

The Generative Effects of Feast Failure

There are so many complexities involved in the organization and presentation of a feast that a perfectly executed event is nearly impossible. Hosts and guests can hope for the best, but must acknowledge, act upon, and mitigate the myriad challenges that occur before, during, and after a feasting event. The longue durée of feasting memories also means that hosts and guests continue to manage the event long after the actual feast has terminated. Given the high degree of risk associated with mass-consumption events, why are such events so frequently found in the archaeological record and in the ethnographic present? And why have feasts increased over time to encompass a larger and larger proportion of the population beyond the aggrandizing big-man events of simple societies to the development of routine celebrations, work-party feasts, and cargos in complex societies? Although the concept of feast failure has significant implications for aggrandizers who thereby lose their bids for public acclaim, the remainder of this paper will focus on the effects of feast failure on individuals and households outside of the elite realm.¹

As Miracle has noted (2001, p. 179), the majority of archaeological feasting studies have focused on competitive feasting and aggrandizing behavior, with comparatively less investigation of community solidarity and other forms of non-hierarchical feasting. Moreover, the developmental sequence of social complexity often is viewed as one in which feasting becomes increasingly associated with elites over time. For example, Kirch (2001) describes the escalating importance and lavishness of feasting as incrementally indicative of greater complexity in three Polynesian societies. Halstead (2012) identifies a similar process in Greece, proposing that Neolithic equivalency feasts were the basis upon which Early Bronze Age palatial hierarchical commensality developed.

¹ The implications of feast failure for elites and aggrandizers are, however, worthy of further investigation. One of the classic examples of a big-man "feast failure" is found in the story of the Papua New Guinea bigman, Ongka, as captured in the film *Ongka's Big Moka*. The film tells the tale of a long-planned feast that is disrupted on the eve of the event by a rival, portraying the event as one of dashed hopes and lost culture (indeed, the film was made as part of Granada Television's "Disappearing World" series). But a rather different perspective is gained when viewed within the context of Ongka's long political career. In his autobiography (Strathern 1979), Ongka reveals himself to be a successful and shrewd manager whose "big moka" was only one of many events that he staged in his life. Ongka intended that the "big moka" should not only be an expression of nostalgia for cultural traditions that had already been changing for some time but also a way to increase a long-running series of debts that the would-be recipient, Parua (a member of Parliament!), had already incurred to Ongka's group. Ongka's standing thus hardly seems to have been diminished by the disruption.



Yet the observation that hierarchical feasts evolved from community feasts should not be accompanied by the assumption that the inception of hierarchical feasting *replaced* other forms of commensality. As Katheryn Twiss (2012) and Susan Pollock (2012) have noted, the study of feasting can be productively expanded to consider a variety of eating events that are larger than regular meals but smaller than the material signatures of very large community feasts. Potter (2000) and Braun (2012) both indicate circumstances where cultural practices, including feasting and tobacco use, became *less* hierarchical and more integrative over time. Their work suggests that in societies undergoing transitions to greater complexity, the functions of solidarity, relative social positioning, and the creation and demonstration of numerous crosscutting ties would have been of increasing importance to ordinary households as well as to emerging elites (cf. Smith 2012). Far from being maladaptive, feasts and their inherent failures provided essential opportunities for the demonstration of social ties through repetitive events.

The concept of ritual as a form of communal cohesion provides an analytic framework in which to address both feasts and their failures. Indeed, anthropologists often describe feasts as "ritual" events, whether they are explicitly imbued with religious symbolism (Blitz 1993, p. 81; Dietler 1996, pp. 89; 2001; Helwing 2003; LeCount 2001, p. 936; Volkman 1985) or incorporated into secular activities of community-building (Bushnell 1997). The anthropological literature on ritual is vast but can be encapsulated as follows: rituals are elaborate, programmed events that are designed to solve problems through the acknowledgment of and adherence to a prescribed sequence of activities (Ortner 1978). They also are physical manifestations of human energy that often incorporate distinctive material goods, as well as involving multiple types of activities, such as song along with dance (Tambiah 1985, p. 128). Rituals often incorporate aspects of scale that distinguish them from everyday activities (a length of time for preparation beforehand and rewards or retribution afterwards), importance (as a way to cement social networks), and risk and rewards (as desired outcomes that may not be attained by the hosts or recipients).

As complex events, rituals have many steps that can lead to the perception of "failure" of part or all of the proceedings. Serious "failures" might be pronounced upon rituals that are performed by inappropriate or unqualified officiants, that do not bring about the desired change of individual or social fortunes, or that cannot be completed due to structural or circumstantial impasses (e.g., Chao 1999; Geertz 1957). But the complexities of rituals and the potential for missteps and inadequacies of all kinds during their performance virtually ensure that no ritual will be viewed as having been perfectly enacted in the view of all of the participants. Minor inconsistencies or omissions, such as the incompletion of a particular step or a disagreement about the appropriate song, dance, or invocation for a particular stage, are likely to be seen by the participants as inevitable "gradations of imperfection" rather than outright failure (Schieffelin 2007, p. 16). Hosts and witnesses are not passive participants, but engage in constant watchfulness for and mitigation of missteps in the process; as a result, an event is the result not only of a ritual prescription that is known to everyone, but a "ritual bricolage" (Chao 1999, p. 505). We may similarly describe mass-consumption food events as "feast bricolage" in which hosts and guests improvise to mitigate unexpected events and solve problems in the course of the commensal meal.



Feasts, in spite of their costs, enable households of nearly any size or wealth category to maintain social viability because they represent limited-time engagements of wherewithal with long-term impacts in memory and social standing. Even under very challenging circumstances, individuals and households can engage in sponsoring communal meals as a way to affirm "weak ties" within the community (see Granovetter 1973) or publicly demonstrate household viability. Cynthia Werner's (1997) study of post-Soviet Kazakhstan, which was a time of extreme inflation and hardships due to economic restructuring, identifies many ways that households maintained their participation in culturally important hosting of feasts: recycling gifts, taking up petty trading to acquire cash and access to goods, and eating very basic daily meals to save resources for feast-times. Similarly, Van den Berghe (1978) notes that in the course of All Souls Day ceremonies in Peru, lower income households were more focused on the consumption of food and drinks at ancestral gravesides while higher income households had a greater focus on the placement of durable goods.

Through an investment of time and in light of cultural notions of "cuisine" (cf. Miracle 2002), households can transform modest amounts of physical wherewithal into public acclaim (see, e.g., Wright-St Clair *et al.* 2005 on the significance of home-made baked goods to affirm social standing among elderly women in New Zealand and Halstead 2012 on culinary elaboration as a marker of special-occasion meals in Greece). The use of intangibles such as family labor to enhance a limited repertoire of foodstuffs enables low-income households to engage in social signaling of the type discussed by Paul Roscoe (2009, p. 102), in which social signaling is a performance of individual prowess as well as a way of advertising "honest signals" of group commitment. Roscoe emphasizes that communities consist not of undifferentiated wholes but nested sizes of groups (2009, p. 105), a factor that would particularly affect the use of food as a form of routine, visible integration. Feasting among groups of different sizes would enable differentiations at a variety of scales, from the relatively routine larger-than-usual household meals envisioned by Twiss and Pollock, to the largest and most august intercommunity feasts.

As scalable events, feasts also enable savvy hosts to make use of materials at hand, in which food insufficiencies can be masked by enhancing other aspects of the gathering such as music, dancing, or other participatory intangibles that make for memorable occasions. Although an abundance of food is a strong focal point of feasts, skill in hosting can result in prestige beyond what simple socioeconomic calculations would predict. Monaghan (1990, p. 766) notes for Oaxaca in which "One of the largest and most successful fiestas in 1985 was sponsored by a household of only modest means, while a fiesta sponsored by a relatively wealthy household one month later was sparsely attended and judged only marginally successful." The observed association of low-income households with hosting behavior is not surprising to anthropologists, who in the course of fieldwork often are invited to share a meal in a household that could ill-afford the extra visitors. Although it is an act that requires time and wherewithal, feeding others may be the most effective mechanism through which households can visibly proclaim their social viability.

Feasts also constitute a limited-duration display of resources, enabling households to be generous, but not too generous, a factor that might be particularly important when groups adopt new and risky forms of provisioning (such as agriculture) or for societies living with volatile climate fluctuations. Michelle Hegmon's (1991) computer



simulations of ethnographic data from the Hopi region highlight the risk-reward calculations of sedentary households in a challenging arid environment. Households that were completely independent had a greater than 50 % rate of failure even if they engaged in storage and field dispersal to minimize risk, indicating that some sharing was essential to household survival. However, too much sharing was equally risky. Hegmon concluded that households are the most successful when they engage in what she identifies as "restricted sharing...[in which] households maintain private storage and share only surplus" (1991, p. 309). This observation has been bolstered by Reynolds *et al.* (2005) who calculated that a constant reallocation of resources is inefficient and actually leads to greater risk. Because feasting is only an occasional event, households can selectively identify which resources will be devoted to the event and can thereby limit their vulnerability.

Discussion

Research on the topic of sustainability has identified "social resilience" and social capital as essential complements to physical infrastructure for the mitigation of hardship and risk (Adger 2000, p. 353; Turner *et al.* 2003, p. 8077; cf. Smith 1999, p. 127 on "social subsistence" and Smith 2013 on the generative opportunities provided by crisis). Social capital can be increased not only through the expenditure of physical goods but also through the expenditure of physical labor and demonstration of managerial skills. Feasts can be hosted with relatively little economic input, if food is called in through a reciprocation network of potluck in which each attendee makes a contribution. Food sharing under straitened circumstances thus constitutes signaling that need not always be "costly," as much of what is on display to both hosts and guests is knowledge about how participants respond to challenges. The resultant knowledge has an unlimited potential for distribution and can be acquired "free" by all of the individuals present (cf. Dugger and Peach 2009, p. ix). Memory, which is selectively and strategically activated in the course of daily conversation, also is a "free" mechanism for the renewal and validation of a host's competence.

Feasts are demonstrations of individuals' and households' ability to mitigate failure, to demonstrate their resilience in the face of anxiety and stress, and to manage the memory-making of events after the fact. Despite their considerable costs to hosts and potential costs to guests, feasts can be interpreted as forestalling problems by enabling social relationships to be worked out in circumstances that have relatively low stakes. Tested by failure in the symbolic arena of feasting, households become assured of their community bonds and social standing, a factor that can help to mitigate more significant and long-term crises such as the death of an adult provider or a catastrophic crop failure. Feasts also are routine events with predictable inputs that can help to forestall the need for even more costly and risky rituals of repair and propitiation, while providing both hosts and guests with the opportunity for the "establishment of implicit contracts for support in a social security network" (Schweizer *et al.* 1993, p. 19).

Guests, who outnumber hosts, constitute a significant component of the social security network. Ethnographically documented feasts illustrate the expectations placed upon guests well in advance of the main event of eating and drinking, such as providing loans of money (e.g., Cancian 1965, p. 101), working to prepare the feast location



(Stasch 2003, p. 366), providing ingredients (e.g., Firth 1967b, pp. 62, 70), or arriving with prepared foods (e.g., Monaghan 1990). Guests who refuse to engage in the appropriate service are viewed derisively by hosts; in the case of feuding kin in Mexico, for example, the brother who served as host viewed the relationship as definitively terminated when his brother "didn't even bring a load of firewood" to his feast (Monaghan 1990, p. 764). On the feast day itself, hosts expect that guests will show up at the appropriate time, wearing the appropriate clothing and accoutrements, and conduct themselves in an appropriate way. As public events, feasts provide both hosts and guests with the opportunity to advertise new alliances, announce severed ties, heal social rifts, and claim ownership of success despite real or incipient failures.

Nor were social developments necessarily initiated by elites and merely emulated by those lower in the social hierarchy. Lower income households can be "early adopters" of new trends in social interaction or material acquisition. Margaret Beck's (2009) longitudinal study of villagers' acquisition of metal vessels in the rural Philippines provides some insights on the rapidity with which economically disadvantaged households adopt expensive items. She noted that while in 1987–1988 the presence of metal vessels was a sign of wealth, by 2001 ownership of metal vessels was widespread even among poor households. Moreover, the three poorest households had *only* metal vessels, instead of having the mix of traditional ceramic vessels and metal vessels inventoried in the better-off households. The selective investment in high-value goods is not surprising when compared with contemporary investigations of the "bottom of the pyramid" market for material objects in which low-income households participate in goods acquisition and selectivity for high-value objects among the range of potential consumer goods (see, e.g., Prahalad 2005; Silverstein and Fiske 2005).

Some innovations in feasting, such as potluck approaches, social storage, or the construction of communal suprahousehold cooking equipment, might well have first emanated when disadvantaged households sought to host feasts through creative approaches to provisioning. A parallel example can be seen in the economies of youth culture in cities of the developing world, where people share fashionable clothing as a means to demonstrate social status in public (Scheld 2007). The recently articulated concept of the "solidarity economy" emphasizes the morally satisfying and economically valid approach of pooled resources (Allard and Matthaei 2008). Although the term is so new that it is mostly circulated in the gray literature of radical not-for-profit groups and is currently being treated as an emergent economic paradigm (e.g., Miller 2006; Bauhardt 2014), anthropologists surely can demonstrate that the concept has a long existence as a form of parallel grass-roots economy that existed even at the inception of social complexity.

Archaeologists, accustomed to finding evidence for feasting through localized material remains, can expand their analysis by examining those same remains for evidence of feast bricolage. Material signatures might include differential proportions of items in some midden deposits compared to others, suggestive of substitutions; the appearance of low-value cuts in large quantities; or the appearance of famine foods in midden deposits at times that might otherwise indicate harvest or natural plenitude. A multiplicity of types of grinding stone or other cooking equipment in simultaneous use may constitute evidence for the conversion of household labor to the elaborate preparations of basic foods, while the differential use of slow-cooking technologies could signal the use of stewing as a means of "stretching" scarce ingredients such as meat to



feed a larger group (cf. Crown 2001, p. 255) or as a means of introducing deeper flavors through a lengthy cooking process.

Because performance of feasts is materialized in durable goods as well as comestibles, archaeologists should consider the ways in which the art and aesthetics of food-related tools reflect a desire to compensate for meager quantities of edibles. For the early Iron Age Levant, Benjamin Porter (2011, p. 46) has suggested that the presence of irregular streaky lines on pottery might simulate the dribbles and drips of wasteful spillage, enabling hosts to project an image of plenitude even during times of scarcity. Chemical traces of special seasonings or unusual non-local ingredients that could be gathered by household members from the wild also can be used to suggest that low-income hosts enhanced their provisions through "distance value" (cf. Cline 1999). The use of heirloom containers and serving dishes as demonstrations of retained prestige by households of modest means is another way in which attention to the presentation of food could be strategically used to enhance feasting events.

Conclusion

Feasts are complex, multilayered events in which success is far from guaranteed. The challenges of labor allocation, material acquisition, and spatial organization result in many points of potential "feast failure" in which the intent, expectations, and offerings of the hosts and guests are unequally matched. Participants are preoccupied with the mitigation of potential failure before, during, and after the actual feast, indicating the extent to which feasts and other large events are part of longer term social processes. By considering the events of provision and disposition that occurred before and after the "snapshot" of accumulation in the archaeological record or the actual events of the day in the ethnographic record, we gain a more comprehensive picture of the social dynamics and risks inherent in the planning and execution of feast events whether they are sponsored affairs of aggrandizement or communal expressions of solidarity. At all types of feasts, both guests and hosts of feasts traffic in bountiful intangibles, among which the mitigation of failure may be the most important measure of success.

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References

- Abubakar, I., Gautret, P., Brunette, G. W., Blumberg, L., Johnson, D., Poumerol, G., Memish, Z. A., Barbeschi, M., & Khan, A. S. (2012). Global perspectives for prevention of infectious diseases associated with mass gatherings. *Lancet Infectious Diseases*, 12, 66–74.
- Adams, R. L. (2004). An ethnoarchaeological study of feasting in Sulawesi, Indonesia. *Journal of Anthropological Archaeology*, 23, 56–78.



Adger, W. N. (2000). Social and ecological resilience: are they related? *Progress in Human Geography*, 24(3), 347–364.

- Ahmed, Q. A., Arabi, Y. M., & Memish, Z. A. (2006). Health risks at the Hajj. Lancet, 367, 1008–1115.
- Allard, J., & Matthaei, J. (2008). Introduction. In J. Allard, C. Davidson, & J. Matthaei (Eds.), Solidarity economy: building alternatives for people and planet, Papers and Reports from the U.S. Social Forum 2007 (pp. 1–16). Chicago: Changemaker Publications.
- Anonymous (2010). 300 suffer food poisoning at religious feast in Rajasthan. www.dnaindia.com/india/report 300-suffer-food-poisoning-at-religious-feast-in-rajasthan 1377005. Accessed 2 August 2014.
- Anonymous (2011). 92 hospitalized in Düzce with food poisoning after wedding feast. http://www.todayszaman.com/news-247837-92-hospitalized-in-duzce-with-food-poisoning-after-wedding-feast. html. Accessed 2 August 2014.
- Bauhardt, C. (2014). Solutions to the crisis? The green new deal, degrowth, and the dolidarity economy: alternatives to the capitalist growth economy from an ecofeminist economics perspective. *Ecological Economics*, 102, 60–68.
- Beck, M. E. (2009). Counting pots in Kalinga, Philippines: short- and long-term change in household assemblages. Ethnoarchaeology: Journal of Archaeological, Ethnographic, and Experimental Studies, 1(1), 79–106.
- Belser, J. W. (2014). Opulence and oblivion: Talmudic feasting, famine, and the social politics of disaster. AJS Review, 38(1), 89–107.
- Blinman, E. (1989). Potluck in the protokiva: ceramics and ceremonialism in Pueblo I villages. In W. D. Lipe & H. Michelle (Eds.), *The architecture of social integration in prehistoric Pueblos* (pp. 113–124). Cortez: Crow Canyon Archaeological Center Occasional Paper No. 1.
- Blitz, J. (1993). Big pots for big shots: feasting and storage in a mississippian community. *American Antiquity*, 58(1), 80–96.
- Bogaard, A., Charles, M., Twiss, K. C., Fairbairn, A., Yalman, N., Filipović, D., Demirergi, G. A., Ertŭg, F., Russell, N., & Henecke, J. (2009). Private pantries and celebrated surplus: storing and sharing food at Neolithic Çatalhöyük, Central Anatolia. *Antiquity*, 89, 649–668.
- Botelho-Nevers, E., & Gautret, P. (2013). Outbreaks associated to large open air festivals, including music festivals, 1980 to 2012. *Eurosurveillance*, 18(11), 1–11.
- Braun, G. V. (2012). Petrography as a technique for investigating Iroquoian ceramic production and smoking rituals. *Journal of Archaeological Science*, 39, 1–10.
- Bray, T. L. (Ed.). (2002). The archaeology and politics of food and feasting in early states and empires. New York: Kluwer.
- Bushnell, M. (1997). Small school ritual and parental involvement. The Urban Review, 29(4), 283–295.
- Cancian, F. (1965). Economics and prestige in a Maya community: the religious cargo system in Zinaantan. Stanford: Stanford University Press.
- Chao, E. (1999). The Maoist shaman and the madman: ritual bricolage, failed ritual, and failed ritual theory. Cultural Anthropology, 14(4), 505–534.
- Cline, E. H. (1999). Coals to Newcastle, wallbrackets to Tiryns: irrationality, gift exchange, and distance value. In P. B. Betancourt, V. Karageorghis, R. Laffineur, & W.-D. Niemeier (Eds.), Meletemata: studies in Aegean Archaeology presented to Malcolm H. Wiener (pp. 119–123). Belgium: Université de Liège.
- Crown, P. L. (2001). Women's role in changing cuisine. In P. L. Crown (Ed.), Women and men in the Prehispanic Southwest: labor, power, and prestige (pp. 221–266). Santa Fe: School of American Research Press.
- da Col, G. (2012). The poisoner and the parasite: cosmoeconomics, fear, and hospitality among Dechen Tibetans. *Journal of the Royal Anthropological Institute* (N.S.), 18(S1), S175-S195.
- Davenport, W. H. (1986). Two kinds of value in the Eastern Solomon Islands. In A. Appadurai (Ed.), *The social life of things* (pp. 95–109). Cambridge: Cambridge University Press.
- de Laguna, F. (1972). Under Mount Saint Elias: the history and culture of the Yakutat Tlingit, part two. Washington DC: Smithsonian Institution Press.
- Dietler, M. (1996). Feasts and commensal politics in the political economy. In P. Wiessner & W. Schiefenhövel (Eds.), Food and the status quest: an interdisciplinary perspective (pp. 87–125). Providence: Berghahn.
- Dietler, M. (2001). Theorizing the feast: rituals of consumption, commensal politics, and power in African contexts. In M. Dietler & B. Hayden (Eds.), *Feasts: archaeological and ethnographic perspectives on food, politics, and power* (pp. 65–114). Washington DC: Smithsonian Institution Press.
- Dietler, M. (2006). Alcohol: anthropological/archaeological perspectives. *Annual Review of Anthropology, 35*, 229–249.
- Dietler, M., & Hayden, B. (Eds.). (2001a). Feasts: archaeological and ethnographic perspectives on food, politics, and power. Washington DC: Smithsonian Institution Press.



Dietler, M., & Hayden, B. (2001b). Digesting the feast: good to eat, good to drink, good to think. In M. Dietler & B. Hayden (Eds.), *Feasts: archaeological and ethnographic perspectives on food, politics, and power* (pp. 1–20). Washington DC: Smithsonian Institution Press.

- Dietler, M., & Herbich, I. (2001). Feasts and labor mobilization: dissecting a fundamental economic practice. In M. Dietler & B. Hayden (Eds.), Feasts: archaeological and ethnographic perspectives on food, politics, and power (pp. 240–264). Washington DC: Smithsonian Institution Press.
- Dugger, W. M., & Peach, J. T. (2009). Economic abundance: an introduction. Armonk: M.E. Sharpe.
- Eves, R. (1996). Remembrance of things passed: memory, body and the politics of feasting in New Ireland, Papua New Guinea. *Oceania*, 66(4), 266–277.
- Firth, R. (1939). Primitive polynesian economy. London: George Routledge & Sons.
- Firth, R. (1967a). The work of the gods in Tikopia (2nd ed.). London: The Athlone Press.
- Firth, R. (1967b). Tikopia ritual and belief. Boston: Beacon.
- Fison, L. (1881). Land tenure in Fiji. *The Journal of the Anthropological Institute of Great Britain and Ireland,* 10, 332–352.
- Gaulin, C., Lê, M-L., & Kosatsky, T. (2010). Church/community suppers: what is the evidence for risk of food-borne illness? National Collaborating Centre for Environmental Health. http://www.ncceh.ca/en/ practice policy/ncceh reviews/church suppers. Accessed 2 August 2014.
- Geertz, C. (1957). Ritual and social change: a Javanese example. American Anthropologist, 59(1), 32-54.
- Goody, J. (1982). Cooking, cuisine and class: a study in comparative sociology. Cambridge: Cambridge University Press.
- Granada. (1974). Ongka's Big Moka: the Kawelka of Papua, New Guinea. Granada Television International. Granovetter, M. S. (1973). The strength of weak ties. American Journal of Sociology, 78(6), 1360–1380.
- Gremillion, K. (2011). Ancestral appetites: food in prehistory. Cambridge: Cambridge University Press.
- Groves, M. (2009). Marquez descendant hopes to restore family cemetery in Santa Monica Canyon. *Los Angeles Times* (http://www.latimes.com/news/local/la-me-marquez19-2009jan19,0,6259243.story. Accessed January 7, 2012).
- Halstead, P. (2012). Feast, food and fodder in Neolithic-Bronze age Greece: commensality and the construction of value. *eTopoi Journal for Ancient Studies special*, 2, 21–51.
- Harris, M. (1964). The nature of cultural things. New York: Random House.
- Hastorf, C. A. (2003). Andean luxury foods: special food for the ancestors, deities and the élite. Antiquity, 77, 545–554.
- Hastorf, C. A., & Johannessen, S. (1993). Pre-Hispanic political change and the role of maize in the central Andes of Peru. American Anthropologist, 95(1), 115–138.
- Hayden, B. (2001). Fabulous feasts: a prolegomenon to the importance of feasting. In M. Dietler & B. Hayden (Eds.), Feasts: archaeological and ethnographic perspectives on food, politics, and power (pp. 23–64). Washington DC: Smithsonian Institution Press.
- Hayden, B. (2003). Were luxury foods the first domesticates? Ethnoarchaeological perspectives from Southeast Asia. World Archaeology, 34(3), 458–469.
- Hayden, B. (2009). The proof is in the pudding: feasting and the origins of domestication. *Current Anthropology*, 50(5), 597–601.
- Hayden, B., & Villeneuve, S. (2011). A century of feasting studies. Annual Review of Anthropology, 40, 433–449.
 Hegmon, M. (1991). The risks of sharing and sharing as risk reduction: interhousehold food sharing in egalitarian societies. In S. A. Gregg (Ed.), Between bands and states (pp. 309–329). Carbondale: Center for Archaeolgical Investigations Occasional Paper No. 9, Southern Illinois University.
- Helwing, B. (2003). Feasts as a social dynamic in prehistoric western Asia—three case studies from Syria to Anatolia. *Paléorient*, 29(2), 63–85.
- Ingold, T. (1983). The significance of storage in hunting societies. Man, 18(3), 553-571.
- Iversen, A. M., Gill, M., Bartlett, C. L. R., Cubitt, W. D., & McSwiggan, D. A. (1987). Two outbreaks of foodborne gastroenteritis caused by a small round structured virus: evidence of prolonged infectivity in a food handler. *The Lancet*, 330, 556–558.
- Jennings, J. (2014). A glass for the gods and a gift to my neighbor: the importance of alcohol in the Pre-Columbian Andes. In G. Pierce & Á. Toxqui (Eds.), Alcohol in Latin America: a social and cultural history (pp. 25–45). Tucson: University of Arizona Press.
- Jennings, J., Antrobus, K. L., Atencio, S. J., Glavich, E., Johnson, R., Loffler, G., & Luu, C. (2005). "Drinking beer in a blissful mood": alcohol production, operational chains, and feasting in the ancient world. *Current Anthropology*, 46(2), 275–303.
- Kirch, P. V. (2001). Polynesian feasting in ethnohistoric, ethnographic, and archaeological contexts. In M. Dietler & B. Hayden (Eds.), Feasts: archaeological and ethnographic perspectives on food, politics, and power (pp. 168–184). Washington DC: Smithsonian Institution Press.



Klarich, E. A. (Ed.). (2010). *Inside ancient kitchens: new directions in the study of daily meals and feasts*. Boulder: University Press of Colorado.

- Kloos, P. (1969). Role conflicts in social fieldwork. Current Anthropology, 10(5), 509-512.
- Koch, E. (2003). Mead, chiefs and feasts in later prehistoric Europe. In M. Parker Pearson (Ed.), Food, culture and identity in the Neolithic and Early Bronze Age (pp. 125–143). Oxford: BAR International Series 1117.
- Law, R. (1988). History and legitimacy: aspects of the use of the past in precolonial Dahomey. History in Africa, 15, 431–435.
- Lean, M., Lara, J., & Hill, J. O. (2006). Strategies for preventing obesity. British Medical Journal, 333, 959–962.
- LeCount, L. J. (2001). Like water for chocolate: feasting and political ritual among the late classic Maya at Xunantunich, Belize. *American Anthropologist*, 103(4), 935–953.
- LeLoir, Y., Baron, F., & Gautier, M. (2003). Staphylococcus aureus and food poisoning. Genetics and Molecular Research, 2(1), 63–76.
- Logan, A. L., Hastorf, C. A., & Pearsall, D. M. (2012). 'Let's drink together': early ceremonial use of maize in the Titicaca Basin. Latin American Antiquity, 23(3), 235–258.
- McNiven, I. J. (2012). Ritualized middening practices. Journal of Archaeological Method and Theory, 20(4), 552–587.
- Memish, Z. A., Stephens, G. M., Steffen, R., & Ahmed, Q. A. (2012). Emergence of medicine for mass gatherings: lessons from the Hajj. *The Lancet Infectious Diseases*, 12(1), 1256–1265.
- Miller, E. (2006). Other economies are possible. *Dollars and Sense*, 266, 11–15.
- Mills, B. J. (Ed.). (2004). Identity, feasting, and the archaeology of the greater Southwest. Boulder: University Press of Colorado.
- Mills, B. J. (2007). Performing the feast: visual display and suprahousehold commensalism in the Puebloan Southwest. American Antiquity, 72(2), 210–239.
- Miracle, P. (2001). Feast or famine? Epipaleolithic subsistence in the Northern Adriatic Basin. Documenta Prehistorica, 28, 177–197.
- Miracle, P. (2002). Mesolithic meals from Mesolithic middens. In P. Miracle & N. Milner (Eds.), Consuming passions and patterns of consumption (pp. 65–88). Cambridge: McDonald Institute Monographs.
- Monaghan, J. (1990). Reciprocity, redistribution, and the transaction of value in the Mesoamerican fiesta. American Ethnologist, 17(4), 758–774.
- Monaghan, J. (2008). Liturgical forms of economic allocations. Research in Economic Anthropology, 27, 19–35.
- Moore, J. D. (1989). Pre-Hispanic beer in coastal Peru: technology and social context of prehistoric production. *American Anthropologist*, 91(3), 682–695.
- Ortner, S. B. (1978). Sherpas through their rituals. Cambridge: Cambridge University Press.
- Otto, A. (2012). Defining and transgressing the boundaries between ritual commensality and daily commensal practices: the case of late bronze age Tall Bazi. eTopoi Journal for Ancient Studies special, 2, 179–195.
- Perodie, J. R. (2001). Feasting for prosperity: a study of southern Northwest Coast feasting. In M. Dietler & B. Hayden (Eds.), Feasts: archaeological and ethnographic perspectives on food, politics, and power (pp. 185–214). Washington DC: Smithsonian Institution Press.
- Pollock, S. (2012). Towards an archaeology of commensal spaces: an introduction. eTopoi Journal for Ancient Studies special, 2, 1–20.
- Porter, B. W. (2011). Feeding the community: objects, scarcity and commensality in the early Iron Age Southern Levant. *Journal of Mediterranean Archaeology*, 24(1), 27–54.
- Potter, J. M. (2000). Pots, parties, and politics: communal feasting in the American Southwest. American Antiquity, 65(3), 471–492.
- Potter, J. M., & Ortman, S. G. (2004). Community and cuisine in the prehispanic American Southwest. In B. J. Mills (Ed.), *Identity, feasting, and the archaeology of the greater Southwest* (pp. 173–191). Boulder: University Press of Colorado.
- Potter, J. M., Varien, M. D., & Naranjo, T. (2014). Performing abundance in the North American Southwest. Paper presented at the Society for American Archaeology 79th Annual Meeting, Austin, Texas.
- Prahalad, C. K. (2005). *The fortune at the bottom of the pyramid: eradicating poverty through profits*. Upper Saddle River: N.J. Wharton School Publishing.
- Rangarajan, L. N. (1992). Kautilya: the Arthasastra. New Delhi: Penguin.
- Rappaport, R. A. (1968). Pigs for the ancestors: ritual in the ecology of a New Guinea People (enlargedth ed.). New Haven: Yale University Press.



Reynolds, R. G., Kobti, Z., Kohler, T. A., & Yap, L. Y. L. (2005). Unraveling ancient mysteries: reimagining the past using evolutionary computation in a complex gaming environment. *IEEE Transactions on Evolutionary Computation*, 9(6), 707–720.

- Roscoe, P. (2009). Social signaling and the organization of small-scale society: the case of contact-era New Guinea. *Journal of Archaeological Method and Theory, 16*(2), 69–116.
- Sallaberger, W. (2012). Home-made bread, municipal mutton, royal wine: establishing social relations during the preparation and consumption of food in religious festivals at late Bronze Age Emar. eTopoi Journal for Ancient Studies special, 2, 157–177.
- Salvucci, D. D., & Taatgen, N. A. (2008). Threaded cognition: an integrated theory of concurrent multitasking. Psychological Review, 115(1), 101–130.
- Scheld, S. (2007). Youth cosmopolitanism: clothing, the city and globalization in Dakar, Senegal. City & Society, 19, 232–253.
- Schieffelin, E. L. (2007). Introduction. In U. Hüsken (Ed.), When rituals go wrong: mistakes, failure, and the dynamics of ritual (pp. 1–23). Leiden: Brill.
- Schweizer, T., Klemm, E., & Schweizer, M. (1993). Ritual as action in a Javanese community: a network perspective on ritual and social structure. Social Networks, 15, 19–48.
- Shaffer, N., Wainwright, R. B., Middaugh, J. P., & Tauxe, R. V. (1990). Botulism among Alaska natives: the role of changing food preparation and consumption practices. *The Western Journal of Medicine*, 153(4), 390–393.
- Silverstein, M. J., & Fiske, N. (2005). Trading up: why consumers want new luxury goods—and how companies create them (revised edition). New York: Portfolio.
- Smith, M. L. (1999). The role of ordinary goods in premodern exchange. *Journal of Archaeological Method and Theory*, 6(2), 109–135.
- Smith, M. L. (2012). What it takes to get complex: food, goods, and work as shared cultural ideals from the beginning of sedentism. In M. E. Smith (Ed.), *The comparative archaeology of complex societies* (pp. 44– 61). Cambridge: Cambridge University Press.
- Smith, M. L. (2013). Caste as a cooperative economic entitlement strategy in complex societies of the Indian subcontinent and Sub-Saharan Africa. In D. M. Carballo (Ed.), Cooperation and collective action: archaeological perspectives (pp. 275–297). Boulder: University Press of Colorado.
- Stasch, R. (2003). The semiotics of world-making in Korowai feast longhouses. *Language and Communication*, 23, 359–383.
- Steffen, R., Bouchama, A., Johansson, A., Dvorak, J., Isla, N., Smallwood, C., & Memish, Z. A. (2012). Non-communicable health risks during mass gatherings. *The Lancet Infectious Diseases*, 12(2), 142–149.
- Strathern, A. (Ed.). (1979). Ongka: a self-account by a New Guinea big-man. London: Duckworth.
- Tajkarimia, M., Ibrahim, S. A., & Fraser, A. M. (2013). Food safety challenges associated with traditional foods in Arabic speaking countries of the Middle East. *Trends in Food Science and Technology*, 29, 116– 123
- Tambiah, S. J. (1985). Culture, thought, and social action: an anthropological perspective. Cambridge: Harvard University Press.
- Thein, C. C., Trinidata, R. M., & Pavlin, B. I. (2010). A large foodborne outbreak on a small Pacific island. Pacific Health Dialog, 16(1), 75–80.
- Turner, T. S. (1980). The social skin. In J. Cherfas & R. Lewin (Eds.), *Not work alone* (pp. 112–140). London: Temple Smith.
- Turner, B. L., II, Kasperson, R. E., Matson, P. A., McCarthy, J. J., Corell, R. W., Christensen, L., Eckley, N., Kasperson, J. X., Luers, A., Martello, M. L., Polsky, C., Pulsipher, A., & Schiller, A. (2003). A framework for vulnerability analysis in sustainability science. *Proceedings of the National Academy of Sciences*, 100(14), 8074–8079.
- Twiss, K. C. (2008). Transformations in an early agricultural society: feasting in the southern Levantine prepottery Neolithic. *Journal of Anthropological Archaeology*, 27, 418–442.
- Twiss, K. C. (2012). The archaeology of food and social diversity. Journal of Archaeological Research, 20, 357–395.
- Van den Berghe, P. L. (1978). El cargo de las animas: mortuary rituals and the cargo system in highland Peru. Anthropological Quarterly, 51(2), 129–136.
- VanDerwarker, A., Wilson, G., Hoppa, K., & Gusick, A. (2012). Culture contact, earth ovens, and persistent foodways: Archaeobotanical analysis of a failed corn roast from the C. W. Cooper site in the Central Illinois River Valley. Paper presented at the Society for American Archaeology Meetings, Memphis, Tennessee.
- Volkman, T.A. (1985). Feasts of honor: ritual and change in the Toraja highlands. University of Illinois, Chicago: Illinois Studies in Anthropology No. 16



Walker, W. H. (1995). Ceremonial trash? In J. M. Skibo, W. H. Walker, & A. E. Nielsen (Eds.), Expanding archaeology (pp. 67–79). Salt Lake City: University of Utah Press.

- Werner, C. A. (1997). Marketing gifts: economic change in a Kazakh village. Central Asia Monitor, 6, 1–7.Wiessner, P. (1982). Beyond willow smoke and dogs' tails: a comment on Binford's analysis of huntergatherer settlement systems. American Antiquity, 47(1), 171–178.
- Wiessner, P. (2001). Of feasting and value: Enga feasts in a historical perspective (Papua New Guinea). In M. Dietler & B. Hayden (Eds.), Feasts: archaeological and ethnographic perspectives on food, politics, and power (pp. 115–143). Washington DC: Smithsonian Institution Press.
- Wright-St Clair, V., Hocking, C., Bunrayong, W., Vittayakorn, S., & Rattakorn, P. (2005). Older New Zealand women doing the work of Christmas: a recipe for identity formation. *The Sociological Review*, 53(2), 332–350.
- Zori, D., Byock, J., Erlendsson, E., Martin, S., Wake, T., & Edwards, K. J. (2013). Feasting in Viking Age Iceland: sustaining a chiefly political economy in a marginal environment. *Antiquity*, 87, 150–165.

