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VERTEBRATE CONSUMPTION AND FEASTING AT LA BLANCA, GUATEMALA

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By

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ABSTRACT

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Feasting is a cross-cultural phenomenon. Feasting behaviors affect multiple facets of life including resource intensification, socio-political relations, and mechanisms of social and labor organization. In small-scale societies, in which the household represents the main source of economic production, the domestic economy is particularly affected by feasting behaviors. Feasting can be recognized archaeologically through an analysis of archeological evidence, such as ceramic vessels and faunal remains. At La Blanca, Guatemala, the patterns of feasting behavior are not yet well understood. Through an analysis of the faunal assemblage from an elite residence, coupled with the faunal components of neighboring households, patterning reflecting the feasting behaviors may begin to emerge. The faunal remains from La Blanca can provide insight into the feasting behavior at the site, as well as the feasting behaviors of the Mesoamerican Pacific Coast Formative Period.

INTRODUCTION

Feasting can be an invaluable resource to a place where politics are changing and elites with tenuous power are searching for ways to strengthen their control. Elites may attempt to gain wealth and power through feasts. Feasts provide a backdrop against which economics, politics, and social interactions take place. As feasting behavior increases, the demand for food, drink, and crafts also increases. Economic intensification must occur in order to fulfill these new demands. Thus, feasts greatly affect economic production. Feasting is not simply used by elites to gain wealth and power; it demonstrates the effects that the quest for power has on the economy.

In this thesis, I will examine the impact of feasting through an analysis of the faunal remains from La Blanca, Guatemala. La Blanca was a Middle Formative (1000 B.C. to 600 B.C.) site located on the Pacific Coast of Guatemala (Love 2002). The Formative period (1900 B.C. to 400 B.C.) saw dramatic changes in settlement patterns, political structure, and economic practices (Love and Guernsey 2011). From results of research at nearby Formative sites Paso de la Amada, Canton Corralito, and Ojo de Agua, in addition to La Blanca, a pattern is beginning to emerge that reveals an increasing dynamic of power through the period (Love and Guernsey 2011). At the time La Blanca (1000 B.C. to 600 B.C.) was constructed as a major city, these dynamics were still unstable (Love and Guernsey 2011). Elite control and centralized rulership were tenuous at best. By looking at feasting during this time, the dynamics of power may become clearer. However, one cannot look at feasting and power alone. Feasting has an enormous effect on the economy. Any investigation into feasting must address the economic ramifications

of feasting. Likewise, politics and the economy have a cyclical link, and feasting can become one way in which this link is maintained.

Evidence from previous investigations at La Blanca suggests feasting was being practiced, likely at every household (Fauvelle 2010). If feasting was occurring in every household it was unlikely to be directly controlled by elites; in fact, the presence of some feasting at every household suggests little or no control was being exerted. However, the cut and dried answer may be far too simple. It might not be a matter of controlling whether or not people feast, but the manner in which people feast and the quality of the food being shared and consumed. Investigations into the types of foods being consumed may reveal the mechanisms by which elites were exerting control over feasting practices.

The household was thought to be the primary economic unit at La Blanca (Love and Guernsey 2011). Food, drink, and craft are produced in the household. Therefore, an increase in feasting behaviors, or the differentiation of the quality of feasts, greatly affects the domestic economy. The quest for power, and its reverberating effects, can be discerned through an analysis of the faunal remains from La Blanca. Assuming that all households were participating in feasting practices (Fauvelle 2010), the species distribution, recovery of 'meaty' skeletal elements, and a higher density in faunal remains recovered in elite households over non-elite households can imply an increased frequency in feasts in elite households. The bones essentially are a key to understanding the dynamics of feasting behavior at La Blanca, and ultimately further interpretations about the economy and relationships to power in the region.

FEASTS

Food and Feasts

In order to best understand feasting, one must first understand the importance of food. Food is a basic necessity that is required on a regular basis. The acquisition, preparation, consumption, and storage of food are a part of basic daily life. In previous archaeological inquiries, this minimal understanding of food was enough (Subías 2002). Food was simply a basic need and could be thought of as a matter of regular maintenance, nothing more (Subías 2002). However, food goes beyond this basic need. As noted by Milner and Miracle (2002:1), “food is both sustenance and symbol.” Food is power (Milner and Miracle 2002). Food is laden with social meaning and subtext. Food is how we think of ourselves and others. The sharing of food is a way to show love, gain trust, and garner allegiance. By contrast, the regulation of the distribution of food, or the withholding of food, is a way to exert control over others (Milner and Miracle 2002).

Clearly, food has great power, and feasts can serve as a way to amplify that power. Feasts are a ritualized activity involving the consumption of foods in a manner that goes beyond daily activity (Dietler 2001:65). As a further means to amplify the power of food, those who hold feasts may heighten the drama through the use of performance and symbolism (Bray 2003a; Mills 2004; Mills 2007). Feasts are conducted under a variety of circumstances. They have been interpreted by a number of researchers as being fraught with subtext and ulterior motives (Counihan 1999; Dietler 2001; Dietler and Herbich 2001; Hayden 2001; Perodie 2001; Wiessner 2001; Bray2003b; Hendon 2003; Mills 2004; Wills and Crown 2004; Mills 2007). Anthropologists have attempted to discern these motivations through a number a theoretical positions. Through the use of

these theoretical frameworks, additional information regarding feasts may be discerned, including a classification of types of feasts, as well as identifying the underlying reasons behind carrying out feasts.

Types of Feasts

Not all feasts are conducted in the same way or for the same reasons; therefore, it is important to understand all the ways in which feasts are utilized (Dietler and Herbich 2001). Perodie (2001:189-191) lists nine types of feasts: solidarity, reciprocal, solicitation, promotional, competition, political, acquisition of position, work-party, and child-growth. Each type of feast is held for specific and occasionally somewhat overlapping purposes. Solidarity feasts promote intra-group cooperation. Solidarity feasts can be held for a number of reasons, including promoting feelings of togetherness for preparation for inter-group conflict, for promotion of economic intensification, to solidify or maintain bonds. Reciprocal feasts are fairly well known in anthropology and are held to create and maintain alliances. Solicitation feasts are a way to solicit favors and/or support. Promotional feasts are held by an individual or group as a way to attract supporters. Competitive feasts are ways to outdo one another by holding consecutively more elaborate feasts for material profit or political gain. Political support feasts are held in order to obtain political support, while acquisition of position feasts are held in order to maintain or elicit additional support once a political position is obtained. Work party feasts are held in order to obtain labor, almost as a form of payment for labor offered. The final feast Perodie (2001) describes is child-growth feasts which are held as a way to invest surplus into children for future returns at marriage exchange or to maintain alliances between families.

Functions of Feasting

The explicit functions for holding a feast are not always the implicit function behind feasting. Listing feasts by type allows for explicit functions to be classified. To examine the implicit function of a feast, theorists often approach feasting with a specific function in mind. There are a number of approaches used to decipher these underlying functions. Two of the more prudent approaches to discuss for this thesis are the political (Dietler 2001) and the economic (Hayden 2001). In economic terms, feasts represent an investment of goods or social capital or the stimuli for creating surplus; likewise, in political terms feasts are a way to garner support or gather favor amongst the people. Additionally, the social functions behind feasting certainly merit some discussion. Feasts act as the backdrop upon which social value is established. Furthermore, social relations that go beyond relations of politics and economics are established at feasts.

Economic Function

Feasting clearly has a major impact upon economic production. By viewing feasting through an economic model, we may begin to understand how feasting impacts long-term culture change. For example, feasting can be thought of as a means of investment. Feasts serve as a means of converting perishable commodities into long-term assets, such as social capital (Hayden 2001). However, feasts have a much greater affect on economic production and exchange. Feasts stimulate resource intensification, provide a great deal of demand, and require long-term organization and planning to execute (Spielmann 2002; Jennings et al. 2005). These demands have reverberating affects upon economies.

Food is a commodity, but it is more, it is a perishable commodity. In a chapter describing feasts, Hayden (2001:23) opens with a Hindu proverb, “everything that is not given is lost.” This clearly sets the tone for his interpretation of feasts as economic exchanges. Feasts represent an investment, transforming surplus into an intangible commodity to be repaid either through economic means or social capital (Hayden 2001). This is not to say that other elements do not come into play, such as ritual justifications, just that the prime factor fueling the decision to participate in feasting is economic practicality. Hayden (2001) characterizes sponsorship of feasting, or lack thereof, as constituting a credit rating. If one's credit is high, one is able to gain access to power or prestige, attract mates, or obtain loans (Hayden 2001). Alternatively, if one's credit is low, all of the benefits are denied to the low-credit, “rubbish-men” (Hayden 2001:31).

Spielmann (2002), on the other hand, suggests ritual and feasting are the cause of economic intensification. For Spielmann (2002), feasting is not simply a way to invest surplus, as suggested by Hayden (2001), but is the stimulus for producing both surplus and specialized means of acquisition and production. Feasting, and other ritual activities, cause “large-scale demand” for both food and specialized ritual crafts (Spielmann 2002:196). The demand for ceremonial resources provides the primary stimuli for resource intensification and craft specialization causing change in economic production (Spielmann 2002).

Spielmann (2002) provides ethnographic and archaeological data from Melanesia to support her hypothesis. Through an examination of the data, Spielmann (2002) notes that the foods and raw materials used to create ceremonial objects go beyond the norm of daily-use foods and items. Foods consumed at feasts are not simply surplus from daily-

use resources, but are produced or acquired specifically for feasting (Spielmann 2002). The acquisition of these foods may require traveling long distances or participating in long-distance trade (Spielmann 2002). The production of these foods may include time-consuming or difficult techniques, or utilizing lands which would otherwise be overlooked due to increased difficulty of use (Spielmann 2002). Likewise, ritual objects must possess “unique properties” that differentiate them, such as being constructed from difficult to acquire or distant resources (Spielmann 2002:198). Furthermore, these objects undergo additional steps during manufacture, such as painting, polishing, or additional decoration to make them more attractive or eye-catching (Spielmann 2002). These foods and goods cannot simply represent invested surplus, but are commodities in their own right, produced and utilized in a specific manner.

Jennings et al. (2005) continue Spielmann’s (2002) argument by stressing the amount of time, labor, and planning is invested in preparing for feasts, stating that a single three-day feast can represent several years of preparation. In their discussion of alcohol and feasting, Jennings et al. (2005) describe the operational chains involved in the production of alcoholic beverages used in feasting. Through their discussion, Jennings et al. (2005) provide evidence that supplying the requisite drink for feasting requires a great many preparations, including the growing or acquisition of crops, as well as specialized knowledge to prepare the beverages and a work force both large enough and knowledgeable enough to prepare the alcohol. Rice beer, for example, can take up to eighty-five days to prepare (Jennings et al. 2005). Additional hurdles must also be overcome, such as issues of spoilage. Wine, for example, has a long shelf life and could be stockpiled; beers, like chicha, spoil quickly and must be produced just before the feast

(Jennings et al. 2005). Clearly, the long-term economic impacts of feasts are too great to be overlooked, but the economy is not the only arena in which feasting plays a role.

Political Function

Aside from its economic value, food has a long history with relations of power (Counihan 1999). Food is a basic need and is required for life. Those with food inherently have power over those without. Through the regulation of food, as well as additional resources, one can gain power over others. As Johnson and Earle point out, in many societies, “political and economic power reside not in wealth as such but in the control of access to resources” (2000:134). Johnson and Earle (2000) further explicate this resource-for-power exchange by pointing out that through the control and regulation of resources aggrandizers can gain prestige, and prestige is simply “latent power” (Johnson and Earle 2000:135). Therefore, the mass control and distribution of foods and goods through feasts are a major way in which to transform resources into power (Johnson and Earle 2000). Wills and Crown (2004:153) describe this resource for power exchange as commensal politics or “the use of food to create social relationships beyond the family.”

Dietler (2001) also discusses the role of feasting in the political economy. Dietler (2001) stresses the symbolic actions involved in the feast but also identifies an opportunity for the individuals involved to gain or manipulate political action and therefore political change. According to Dietler (2001:66), feasting allows for an opportunity “by which individuals create, maintain, and contest positions of power and authority...and, in the pursuit of their own conflicting interests, transform the structures of the systems themselves.” Dietler (2001) views the study of feasting as an opportunity for archaeological investigation and theory to go beyond typological classification and to

understand one way in which people change culture over time. By using ethnographic examples from Africa, Dietler (2001) illustrates and supports his contention that feasting allows for the transformation of structure through practice.

In a final example, Philips and Sebastian (2004) discuss the relationship between feasting and power. To introduce their discussion, Philips and Sebastian (2004) recount the story of the Greek hero Odysseus, a minor chief who utilizes feasting as a means of enticing followers to battle. The key word for their discussion is 'entice,' as those without complete power over others cannot force them to do their will. In order to get others to follow, there must be some sort of incentive, and as the story of Odysseus shows, feasting both before and after battle is an excellent way to attract others to follow (Philips and Sebastian 2004).

To further explain the connection between feasting and power, Philips and Sebastian (2004) discuss the connection between power and wealth. For some, wealth is the marker for power and social differentiation. However, as Philips and Sebastian (2004) point out, wealth is not always in the form of money or possessions, but it may be invested in much the same way that Hayden (2001) describes. As Hayden (2001) suggests, feasting is a major way in which to invest one's resources for current or later use. Feasting is, therefore, a way to both organize and mobilize power (Philips and Sebastian 2004). As Philips and Sebastian (2004:242) state, "large-scale feasting happened because those with power actively promoted feasting as a way to resolve any ambiguities of their power." Feasting thereby represents both the arena for negotiating political agendas, as well as the means to demonstrate power over others.

Social Function

Feasts also act as the backdrop against which social interactions and the development and consolidation of social relations take place. This social interaction goes beyond the establishment and negotiation of political roles. Spielmann (2002:196) regards feasts as “the quintessential context for the negotiation of roles and relationships in small-scale societies.” These interactions can take the form of establishing or reaffirming friendships and alliances, confirming familial ties, or engendering solidarity of a group. As Counihan (1999:6) states, “because eating good food when hungry causes a euphoric feeling, feasts and meals are a wonderful way to create positive social relations.” Feasts are also a way of creating and negotiating the identities of both groups and individuals, and for expressing gender roles.

Feasts are deeply seated in the economic and political realms. In an attempt to highlight the additional components of feasting, Hendon (2003) discusses feasting in a situation in which feasts are not the only way to express political ambitions; amongst Mayan households in the Late to Terminal Classic period. Through her example, Hendon (2003) shows that feasts are multifaceted, providing the occasion to establish much more than political posturing. Ultimately, Hendon’s (2003) article boils down to another example of political feasts; however, the discussion highlights the other aspects involved in feasting which make feasts the ideal platform from which to negotiate social relations.

Feasts provide countless opportunities, such as a way to demonstrate culturally expected behaviors or create and maintain social networks, or networks of exchange (Hendon 2003). Guests gather from great distances for feasts. Guests may network and create new social ties, or they may chat with old friends to reconfirm friendships. Guests

will often bring gifts to these events, not just for the host, but for fellow guests. Exchanges may be made and debts may be created or repaid (Hendon 2003). Additionally, feasts cross-cut the lines of social hierarchy (Hendon 2003). The elites are not the only ones involved in feasting, although elites may support the feasts of commoners to garner allegiance or build prestige (Hendon 2003).

Feasting also provides a platform from which identity may be negotiated (Bray 2003b). Identity is not inherent. Identity must be established and negotiated (Bray 2003b). During feasts, people interact, tell stories, make jokes, and establish the personality they want to project to others. This establishment of identity can be both individual or as a group. Group identities may be established or confirmed at a feast. Groups may set themselves apart and celebrate together to show their uniqueness, apart from those not involved in the feast. Furthermore, feasting is a way to express proper behavior (Hendon 2003). One may design oneself as a ‘morally upright’ person by adhering to the expected roles, both as a host and a guest (Hendon 2003:205). This observation links back to Hayden’s (2001) discussion of feasting and economics. Upholding expected behaviors at a feast transfer into a social credit rating, allow one to establish oneself as socially valuable for some future benefit.

Feasting does not only provide an opportunity to establish one’s identity, and a way for theorists to discern identities, but a backdrop against which gender roles may be established and discerned. As Hendon (2003) points out, the main source of labor for feasts comes from women. Women generally prepare the food and drink for feasts. However, the men are the primary recipients of the benefits created from feasting. Men tend to be the primary actors in the political arena. If one views feasting through the

political model, suggesting feasts are a way to create or reinforce political prowess, then men are the primary beneficiary. Yet, for the most part, cooking and the preparation of food rests largely in the women's domain. Feasting, and the analysis of the preparation and work involved in the feast, provides an excellent facet for identifying and understanding gender roles.

Negotiating Value

Feasts provide an opportunity to create and negotiate the social value of material goods. Through an analysis of the 'feasting and intrigue' of the Enga of New Guinea, Wiessner (2001) investigates the ways in which feasting creates value in objects. The value of material goods is culturally constructed; values are based on capital and labor input, utility, availability, exchange rate, and social value (Wiessner 2001:117). Feasts provide a backdrop upon which these values are formed and agreed upon (Wiessner 2001). Social strategies utilize these constructed values and can affect cultural change (Wiessner 2001). For instance, big men were able to manipulate the Tee cycle to gain access to untapped distant resources (Wiessner 2001:134). According to Wiessner (2001), evidence of these feasts, and the values created during the feasting events, should be archaeologically recognizable in certain contexts. For Wiessner (2001), investigating feasts provides an opportunity for understanding one of the ways in which people create and manipulate wealth and affect cultural change.

Performance Theory

Examining feasts through a single function may indeed work well for some approaches; however, feasts can simultaneously serve several functions. Mills (2007) proposes examining the complexity of feasts through performance theory. Performance

theory incorporates the establishment of social relations and dynamics of power into the physical performance of the ritual. From this perspective, all elements of the feast convey meaning (Mills 2007). These elements include the physical locations of the actors, artifacts, and foods involved in a feast. Sights, sounds, and the general atmosphere created during a feast serve to convey social and political information (Mills 2007). By identifying and interpreting these elements, researchers may gain a better understanding of a culture, as well as track cultural change, through an analysis of the feast.

Mills (2007) approaches the performance of a feast through the serving vessels used in Puebloan feasts. Through an analysis of these serving vessels over time, Mills (2007) is able to correlate changes in vessel form and function to significant changes in culture, such as the rise or fall of religious practices, or the changes that occurred when groups begin to interact with greater frequencies. Each modification in vessel design was meant as a means for communicating different messages in the changing dynamics of the feast. As Mills (2007:233) notes, “it is important to note the wider social changes that are related to these changes...not all service bowls were used in the same social networks for the same kinds of feasts.” With each modification, a new message was formed. In times of great turmoil, population growth, or shifts in settlement, these changes aided in reinforcing the values put forth during the feast. For example, in the Pueblo IV period, in which more and more diverse populations gathered in larger settlements, a single household could belong to several social networks (Mills 2007). Each network would have a unique set of ritual obligations; the changes in form and action during a feast aided in expressing those obligations (Mills 2007). Analysis of these varied vessels “provide a

window into how diverse the social scales of these events may have been in different areas within the historical trajectories of Southwestern societies” (Mills 2007:234).

Summary

From the above discussion, it is clear that feasting is a complex phenomenon. Feasts are both a means for investing surplus and the cause for creating surpluses through intensification. Feasts stimulate intensification by providing the demand for exotic or rare goods. Feasts provide the backdrop for political haggling and are an expression of political prowess. Feasts are an opportunity for social networking and craft and information exchange. Feasts allow for an opportunity to create identity and highlight gender roles. Undoubtedly, through the identification and analysis of feasts, a great deal of information about the past can be gained.

FAUNAL ANALYSIS AND ANALYSIS OF FEASTING

Faunal Analysis as a Means of Identifying Feasting

Faunal remains have often been used to identify the diets of past peoples. However, analysis of faunal remains should not be limited to cost ratios and nutrition but can and should be expanded to examine social relations, as food ways are clearly deeply rooted in the social realm (Gumerman 1997). Feasts are individual events. Singular events, like the individual choices made by specific actors, are difficult to detect archaeologically. Patterns of feasting may be identified through an interpretation of specialized structures, through an analysis of serving vessels or through an analysis of faunal remains, as food in the heart of the feast (Wake: personal communication 2012). The usefulness and limitations of applying techniques of faunal analysis to understanding feasting becomes clear through the case studies discussed below. Faunal analysis alone cannot explain the past, but the analysis can amplify what is already known into a more coherent understanding of the past.

Evidence of Feasting

Indicators of feasting behavior come in many forms. Specialized spaces may be constructed to facilitate the actions and behaviors of a feast, including increased areas for food preparation and ceremonial performances (Brown 2001). Specialized ceramics for both cooking and serving large amounts of uncommon foods may be manufactured (Welch and Scarry 1995; Hayden 2001; Spielmann 2002; Hendon 2003). Additionally, foods ingested at feasts go beyond the normal staple foods. These foods include high-ranking, rare, or difficult to obtain foods and can include both flora and fauna. Faunal remains, especially vertebrate remains, are not the only indicators of foods consumed at a

feast but can provide crucial information about feasts and the motivations and mechanisms of feasting. Identifying high ranking fauna, as well as identifying patterns of distribution of these fauna within a site, can also indicate feasting behaviors archaeologically (Hockett 1998).

Examples of these feasting indicators have been identified archaeologically by numerous studies. There have been so many studies, in fact, but only two studies will be discussed here; a study which utilizes faunal remains to identify and analyze feasts and a study which relies upon floral and faunal remains as well as a ceramic analysis to interpret feasts. In the first example, Hockett (1998) utilizes the spatial distribution of faunal remains to examine social structure at Baker Village in the American Southwest (A.D. 1030 to 1250). According to Hockett (1998), the village was a lightly populated group of approximately fifty individuals from five different extended families at any given time and displayed at least some degree of social inequality. The structures from the village suggest limited mobility (Hockett 1998). The faunal remains from the site suggest that some amount of feasting occurred and likely occurred within the central buildings of the village (Hockett 1998). According to Hockett (1998), bones from the prime cuts of meat were more likely to be found in proximity to the central buildings than in proximity to the storage areas and pithouses located away from the center of the village. For Hockett (1998), this suggests that there is at least an influence-based political hierarchy at Baker Village where feasts occurred in the central forums of the site.

Welch and Scarry (1995) analyzed floral and faunal remains along with associated ceramic vessels to identify patterns associated with the use of food to establish and maintain relations of power at Moundville. They contend that the elites received food

as tribute, and that evidence of this can be seen in the form and function of ceramic vessels. This morphological evidence was then combined with the floral and faunal remains as a means of strengthening the argument. Welch and Scarry (1995) contend that a higher diversity of higher-ranked plants and animals were utilized with a greater amount of intricacy used in the preparation and presentation of tribute foods. This added effort helps to delineate tribute practices from daily subsistence practices, and this helps to archaeologically identify feasts (Welch and Scarry 1995). Through an analysis of the measure of this intricacy, Welch and Scarry (1995) hypothesize how, and to what extent, food ways impacted and maintained social relations of power at Moundville.

Crabtree (1990) emphasizes the use of faunal remains in conjunction with other archaeological and ethnographic lines of evidence to better explain cultural phenomena. One way in which to use faunal remains to understand feasting, aside from Hockett's (1998) use of differential distribution, is to identify social value and differential access to specific species. However, one must first identify which species can best be used to illustrate this differential access (Crabtree 1990). An analysis of the fauna alone often cannot be used to make an argument for feasting and the mechanisms behind feasting behaviors, but with additional information along with an analysis of the bones, a picture can begin to form.

Faunal Analysis

In order to understand how faunal remains can be used to interpret feasting, it is necessary to understand the mechanisms of faunal analysis. Specifically how bones themselves are identified and analyzed. Faunal remains, or in this case bone, can be interpreted in numerous ways. They can be used to determine diet and environment (e.g.

Reitz and Wing 2008b). Cut marks and burning on animal bones can be used to interpret hunting or cooking methods (e.g. Fisher 1995). What is of most interest here is, first, how bones themselves are identified and analyzed. This includes identifying the methods that have been previously used and the merits of using those methods. Second, how this basic information may be interpreted by examining the faunal content of a site.

Methodology

“Little emphasis has been placed upon the development of methodologies which would allow the valid and reliable analysis of animal remains from archaeological sites” (Grayson 1973:432). While much may have changed since this statement was made, it still holds true that there is not a single unifying method for faunal analysis. Like much of archaeology, zooarchaeology has a number of methods which are applicable on a case by case basis. Some methods may be applicable under a number of circumstances in any number of varying environments. However, in other cases, the most commonly used methods are not applicable and new methods are created and used. Therefore, it is important to examine the methods of faunal analysis used for this project in order to establish a base line for not only how the collection was identified and interpreted, but also to determine which methods are appropriate under these circumstances.

Identification

According to Reitz and Wing (2008a), there are three parts to faunal analysis; identification, analysis, and interpretation. Identification includes any and all information that can be gathered directly from the bone; including taxon, element represented, side and section of bone, NISP, modifications, age, sex, measurement and weight (Reitz and Wing 2008a). Without DNA analysis, identification is not straightforward, and often

requires a great deal of decision making. The first step in identification is identifying taxon. This step is dependent upon recognition from comparison to a modern example of the possible taxa represented in the archaeological record. When taxon is identified, it is not with certainty, but rather the probability that the morphology of a specimen is morphological similar to a comparative sample (O'Connor 2008).

The specimen cannot always be identified to the species level due to the lack of certainty due to such complications as the fragmentary nature of the recovered specimens and the similarities between some species. Therefore, the primary goal of identification of taxon becomes to identify to the most discrete taxonomic level possible, even if that level is only 'vertebrate' or 'invertebrate.' Once a specimen has been identified as vertebrate bone, the next level of identification is class: mammal, fish, bony fish, amphibian, reptile, bird, and mammal. After class is established, the size of animal may be attributed where possible. There is a great deal of variation in species in different environments. Therefore, the attribution of the categories small, medium, and large is often relative. In mammals, for example, this identification includes small, medium and large. Therefore, the category 'small' includes the smallest species present in the area, for example a mouse, to a mammal approximately the size of a rabbit. Medium includes those animals larger than a rabbit to mammals approximately the size of a large dog. Large includes mammals larger than a large dog. If possible, the specimen is identified further to the order, family, genus or species level. If an identification is not deemed possible at any level, but seems more likely than any other possibility, c.f. (compares favorably) may be added.

Skeletal element is also recorded in a similar manner. In an ideal situation, the taxonomically identified specimen is compared to morphologically similar elements in a comparative collection. However, this is generally not the case, and what really happens is considerably messier. Typically, the element is hypothesized, and then, the size of the animal is theorized based on the assumed element. This allows one to guess the taxonomy based on the potential animals for that possible size range. Only after all this conjecture is the element compared to morphologically similar elements from the comparative collection in order to discern the taxonomy, size, and element represented. The side of the body the element is located is recorded once the element has been identified. When the bones are fragmented, the portion of the element is also recorded. This information includes whether the fragment is distal or proximal, if it is a shaft fragment, or if it is a fragment from a distinctive feature such as a trochanter, condyle or epiphysis of a bone. In the case of teeth, the type of tooth (incisor, canine, premolar, molar) as well as the location (upper, lower, left right) and number (e.g. first, second, third), is recorded. If it is apparent that the tooth is deciduous, this information is also recorded.

Specimen count, or NISP (number of identified specimens), requires a degree of decision making as well. As Reitz and Wing (2008a:202-205) suggest, there is some disagreement between zooarchaeologists as to how one should count specimens. Specimens tend to be fragmentary. These breaks may occur pre-deposition, post-deposition, during excavation, in transport to the lab, and in the lab during analysis. Some zooarchaeologists may choose to count the specimens as presented at the time of analysis (Reitz and Wing 2008a), while others reassemble the specimens where possible, counting

the repaired specimen as a single entity. Others may count the specimens based on quantity of bone represented or by specific element (Reitz and Wing 2008a). For the purposes of this thesis, the La Blanca collection was analyzed employing the repair and count method; repairing specimens and rearticulating teeth into alveolar cavities wherever possible. The repaired specimens were then counted as a single specimen, even if those repairs fell outside of the excavated levels.

Modifications to the bones are also recorded in the identification stage. These modifications include burning, cutting, gnawing, and working. Burning can be distinguished from other distinctive color changes and may appear black, grey, or white (Nicholson 1993). Color changes caused by burning should not be mistaken with color changes caused by other processes, such as the presence of organic acids, such as iron oxide or magnesium dioxide, in the soil (Nicholson 1993). Identifying cut marks may also be complicated by processes occurring before, during, or after deposition, such as burning, weathering, rodent gnawing, washing, or trowel trauma. The category of gnawing includes any animal mastication appearing on the bone; the most common of which are rodent and canine mastication, but may also include marks caused by small mammal, feline, human, or even sheep mastication (O'Connor 2008:47-51). Rodent gnawing looks like a series of parallel lines typically located along the shafts of bones whereas dog mastication appears as overlapping crushing and scraping around the ends of bones. Working includes any human modifications to bone, such as scrapping, polishing, drilling, or sawing. A description of these modifications, as well as any other pertinent information, may be recorded in a supplemental comments section located on the form where all of the direct observations are recorded.

Along with these observations, additional information observed from the bones may be recorded, including age, sex, measurement and weight of the specimens. Age may be ascertained from size after taxon is identified, or through an observation of the pattern of epiphysial fusion (O'Connor 2008), or patterns of tooth eruption or wear (Reitz and Wing 2008a). Age may be recorded in general categories such as juvenile and adult. Sex may be more difficult to determine and may be ignored as a category unless obvious, such as the presence of a baculum or pertinent to the question at hand, such as a determining hunting strategies of mammoth hunters who may have focused primarily on solitary males rather than large groups of females (Des Lauriers: personal communication 2008). In cases where these traits are difficult to ascertain, they may be estimated in the analysis stage (Reitz and Wing 2008a).

Analysis

The analysis stage is the production of secondary data derived from the primary data gathered in the identification stage (Reitz and Wing 2008a). This data includes determination of body size, age classes, and sex (Reitz and Wing 2008a). Secondary data also includes the relative frequencies of taxa and frequencies of element recovery (Reitz and Wing 2008a). Finally, the analysis stage includes estimates of dietary contribution, subsistence practices, and interpretations of modifications and pathologies (Reitz and Wing 2008a). These calculations are interrelated and often dependent upon one another (Reitz and Wing 2008a). There are multiple methods for obtaining these inferences, each with their own merits and applications, usually determined by either animal type or circumstance. Most of the methods are dependent on modern studies and comparisons to analogous modern species which has a degree of variability and may or may not be

comparable to conditions of the past; therefore, secondary data should be collected with a degree of caution (Reitz and Wing 2008a).

Estimating body dimensions is a beneficial place to start in the analysis stage. A lot of information can be gleaned from body size, such as human resource choice or exploitation strategies, or estimation of nutritional contribution (Reitz and Wing 2008a). Body size of the animals represented by the recovered bone can be determined a number of ways, and several factors must be considered. Reitz and Wing (2008a:183) list these factors as “age, sex, geographical range, nutrition, and individual variation.” All of these factors affect body dimensions. Obviously, age affects body dimensions as younger individuals tend to be smaller than older individuals. Sex may affect body dimension, if the sexual dimorphism within a species goes beyond the superficial and presents itself as pronounced size differences between the sexes, such as the massive size difference between male and female orangutans. Similar species exploiting different geographical regions may have differential body dimensions due to factors such as access to resources and evolutionary morphological changes such as insular dwarfism. Access, or lack thereof, to resources between groups or individuals can cause size differences. If animals cannot gain the proper nutrition to grow, growth will be stunted and animals thin; likewise, excessive access can cause accelerated growth or obesity.

One method for estimating body dimensions is comparison to reference skeletons and ratios (Reitz and Wing 2008a). Modern examples can provide an analogy for archaeological specimens. If, for example, an archaeologically recovered *Pecari tajacu* distal femur has similar dimensions to a modern *Pecari tajacu* distal femur, it may be assumed that the animals had similar body dimensions. Ratios may be determined

through the measurement of a large number of modern individuals whose body dimensions, sex, age, and skeletal element lengths are known (Reitz and Wing 2008a). If reference samples are limited, allometric regressions or ratio charts, where a single standard measurement is established, may be used. Formulas or ratio charts may be established based on these modern examples and applied to archaeological specimens when possible. However, these formulas and charts are dependent on recovering specific complete elements from species, which is often not the case for poorly preserved or heavily fragmented archaeological remains. Formulas and charts may simply not be a feasible strategy for estimation body dimensions for a collection. Further complications arise due to discrepancies between modern and past species, for example wild versus domesticate dimensions, and the intermediate dimensions of animals in the process of domestication or hybrid animals (Reitz and Wing 2008a).

Determination of age class can assist in discerning patterns of hunting or resource allocation, especially seasonal patterns of resource exploitation (Reitz and Wing 2008a), as well as long-term patterns of resource depletion. Age estimations and identification of sex are also important for understanding the process of domestication (Reitz and Wing 2008a). Determining exact age at death is highly unlikely, and approximate ages can be complicated by different growth patterns between past and modern samples, as well as factors such as variable breeding seasons, environmental and nutritional factors, and individual variation (Reitz and Wing 2008a). Creation of general age classes and general guidelines for attributing these classes reduce relative specificity of information and aids in the reduction of confusion and difficulty when attributing age (Reitz and Wing 2008a).

Assigning the general class of juvenile, sub adult, and adult tend to be the most helpful age class ranges for age estimates.

Age estimation techniques fall into two categories: determining age for animals with determinant growth and determining age for animals with indeterminate growth (Reitz and Wing 2008a). For animals with indeterminate growth, body dimensions are used to determine age classes, with small animals representing younger individuals, and larger animals representing older individuals (Reitz and Wing 2008a). This technique does not always work as studies have shown that size does not necessarily correlate with age (Reitz and Wing 2008a). For animals with determinant growth, the growth consists of two components, increase in size and increase in maturity, both are interrelated but do not necessarily occur in synchrony (Scheuer and Black 2000). Therefore, approximate ranges based on general growth patterns may be used, specifically age curves, patterns of epiphyseal fusions, and patterns of tooth eruption may be used to determine age (Reitz and Wing 2008a).

It is easier to determine age with greater specificity if the animal is younger; patterns of tooth eruption prior to adult dentition can help identify a specific age range do to general patterns of eruption from known modern animal patterns (e.g. AlQahtani et al. 2010). Tooth wear may also help determine age for older individuals, but excessive wear can either indicate advanced age or excessive chewing or a highly abrasive diet and not necessarily age at all, making it a less reliable means of determining age. Epiphyseal fusions may also be used to determine age, but again, it may be more reliable for identifying the ages of younger individuals as early fusing epiphyses tend to be denser and, therefore, more likely to survive archaeologically (Reitz and Wing 2008a). On the

other hand, extremely young individuals may not preserve at all or may be overlooked during excavation due to their extremely small size and dissimilar morphology to adults of the same species (Rougier: personal communication 2010).

Identifying the sex of an animal can aid in understanding prey choice models, as well as predator prey relations and animal husbandry (Reitz and Wing 2008a). Determining whether remains are male or female is based on morphology and takes into consideration sexual dimorphism of a species. Skeletal dimorphism, such as pelvic shapes, cranial attributes, antler size and shape, size differences, and the presence of a baculum are used to determine sex. However, samples tend to skew to favor larger and denser male skeletal elements as opposed to more gracile immature and female remains (Reitz and Wing 2008a). Determining sex based on comparison to a single standard may also skew results, as individual variation and overlapping dimorphism between the sexes can confuse potential identifications (Wake: personal communication 2010).

Calculating relative frequencies of taxa help to detect resource use trends over space or time or between groups (Reitz and Wing 2008a). They can also help discern the process of domestication or shifting resource exploitation due to changes in subsistence practices. For example, a site along a river may initially have seventy percent fish remains recovered at the deepest levels of the site, but these frequencies may fall to perhaps thirty percent fish towards the higher levels, indicating a change in subsistence practices over time. Relative frequencies of taxa are calculated through NISP (number of identified specimens), MNI (minimum number of individuals), and faunal weights (Reitz and Wing 2008a). NISP and weight are gathered during the identification stage, but MNI is usually calculated from the identification of elements from each identified species.

MNI is calculated one of two ways, highest number of unique elements, such as number of atlases or sterna, or through highest number of paired, right and left, elements, such as paired humeri or femora. For a more fine-grained calculation, additional information may be considered, such as size, age, or morphology. For example, an adult right femur of a *Sigmodon hispidus* cannot match with a juvenile left; however, size and morphological differences may simply be due to individual variation within a single body and, therefore, may skew these calculations. Additionally, MNI is not a literal interpretation of individual animals but a minimum number of individuals, either whole or partial, used at the site (Reitz and Wing 2008a). For example, a partial utilization may include a deer hindquarter brought in for trade by a neighboring group or shark tooth picked up on a beach and not a whole deer or shark used at the site. Therefore, the calculated MNI may not necessarily be relevant.

Calculating relative frequencies utilize a combination of MNI with either NISP or faunal weights in cases where NISP is difficult to obtain or simply not feasible to calculate, such as with highly fragmented samples. Using a combination of numbers helps prevent skewing of results (Grayson 1973; Reitz and Wing 2008a). MNI is calculated by species so using MNI alone can obscure diversity or completely ignore entire groups of animals. NISP and weights, on the other hand, can over-compensate. NISP counts individual fragments or repaired fragments of bone. Hundreds or even thousands of tiny fragments may be contributed by a single animal. A *Dasypus novemcinctus* NISP of 1458 may represent two armadillos while a *Canis familiaris* NISP of sixteen may represent eleven dogs. Weight suffers from a similar flaw as bones of

larger animals tend to weigh more than those smaller animals, causing larger, heavier-boned animals overrepresented.

Frequencies of element recovery have a myriad of applications, including the understanding of taphonomic processes, butchering processes, kill and butchering sites, patterns of animal distribution, resource use, calculating meat weights, and even social organization, to name a few (Reitz and Wing 2008a). Elements are identified and recorded in the identification stage, recording not only what element is recovered, but which portion or modifications are present (Reitz and Wing 2008a). This information can help discern patterns of faunal use. Some elements are more likely to be recovered if the site is an initial kill site or, perhaps, an activity area in which bones are used to make tools. If a site has bones from the meatiest or highest ranking portions of an animal in a single house, and lower ranking portions in all other houses, the first house may prove to be an elite household. These ratios may be recorded in graphs or charts and aid in understanding

Estimates of dietary contribution describe the amount of edible or useable animal products the recovered bone likely represents (Reitz and Wing 2008a). These values can be calculated through an estimation of the contribution of the complete animal or through estimations from specimen weights (Reitz and Wing 2008a). Complete animal contributions are calculated from a direct comparison with archaeologically recovered remains and modern reference examples, through allometry or by calculating meat weights through total weight and MNI (Reitz and Wing 2008a). The difficulty with using this type of dietary estimation is that it does not account for unused, discarded, or traded sections of the animal (Reitz and Wing 2008a). Utilizing specimen weight contributions

are a way to avoid this problem by calculating meat weights from recovered specimens only, and not the entire body they may or may not represent (Reitz and Wing 2008a).

Subsistence patterns, or “niche breadth,” records “the variety of animals used in the site (diversity) and the evenness (equitability) with which those species were used” (Reitz and Wing 2008a:245). Essentially, niche breadth records indicate relative frequencies of species to other species at the site. This information shows the differences between generalists and specialists (Reitz and Wing 2008a) Niche breadth answers questions like do those at the site focus on a specific animal resources, or do only some households utilize specific resources. This data can help understand general subsistence practices as well as differences between groups at the site (Reitz and Wing 2008a). Tracking patterns in niche breadth can aid in interpretations of theories, such as optimal foraging theory or prey choices models.

The final information recorded in the analysis stage is the modifications or pathologies present on the bone (Reitz and Wing 2008a). The basic information is recorded in the identification stage, including cut marks and burning. Patterns of marks are analyzed here to identify evidence of butchery practices, cooking techniques, or tool manufacture and use. Patterns in pathologies may help discern disease, epidemics, birth defects, or the process of domestication amongst the animal resources utilized at a site. The information regarding modifications and pathologies may be recorded as ratios and charts as well, or they may be investigated further to find microscopic evidence. This information, as well as the information recorded through the entire analysis stage, creates a picture of the past occurs in the interpretation stage.

Interpretation

Interpretation is the final stage in which an explanation is constructed based on the evidence gathered. It is essentially a story to make sense of the collected data. This stage is highly dependent upon theory. Through the application of theory the primary and secondary data may be manipulated to create an explanation of the past. The primary data shows what is present; the secondary data interprets what is present into more useful explanations and inferences. The application of theory to the data is what allows us to interpret the information gathered. Initially, more straightforward explanations may be formed, such as how the data can help reconstruct the past environmental conditions and diet of past people. Then, more complex theoretical interpretations may be postulated, such as what the data can tell us about how people lived and organized themselves.

LA BLANCA

With a greater understanding of how bones are analyzed and interpreted, as well as the limitations of the application of faunal analysis, the intention here is to supplement the information already gathered about La Blanca through an analysis of the faunal material recovered. The faunal remains gathered from La Blanca were processed and analyzed using some of the methods discussed above, and then interpreted within the framework of the theory presented in the feasting section. However, in order to properly examine the faunal remains from La Blanca, the broader picture of La Blanca must be investigated.

Initial Investigations

Early investigations into the area include environmental surveys conducted by Coe and Flannery (Love 2002). Early investigations were centered on the general region and not specific to La Blanca until salvage survey, surface collections, and some excavations were undertaken by Shook (Love 2002). In the 1970s, road construction near La Blanca threatened and ultimately resulted in damage to the site, specifically the main pyramid identified as Mound 1 (Love 2002). Salvage efforts by Shook recovered some data, but the main investigations did not begin until the 1980s when Love began his research project at La Blanca (Love 2002). Since then, a great deal of research has been conducted at the site. Numerous house lots have been excavated and analyzed in order to form a picture of the site (Love and Guernsey 2011). Current investigations at La Blanca tend to focus on ritual and the domestic economy (Love: personal communication 2010). With this in mind, the focus of this thesis examines the faunal remains with an eye towards feasting and what feasting can tell us about politics and the domestic economy.

La Blanca

La Blanca is located on northern Pacific coast of Guatemala, in the eastern portion of the Susonusco (Love 2002). The site is located between the Rio Naranjo and the Rio Tilapa (Love and Guernsey 2011). La Blanca may have seen a small archaic population, and there is evidence for occupation during the Locona and Ocos phases. The main occupation occurred in the Middle Formative period during the Conchas phase, from approximately 1000 B.C. to 600 B.C. (Love and Guernsey 2011). During this phase, the main ceremonial center of the site covered approximately 100 ha, with evidence of residential settlements in an area up to 200 ha and surface materials extending to up to 300 ha (Love and Guernsey 2011). The exact size of the site is undetermined, as much of the southern portion has been destroyed through the construction of a roadway, and private ownership around fringes of the site have halted additional survey (Love and Guernsey 2011). The archaeological evidence suggests that after this main occupation, La Blanca declined to a small village occupation around 600 B.C. (Love and Guernsey 2011).

During the principle occupation, which is the main focus of this thesis, the development of the site occurred at a rapid pace. Over approximately 300 years, La Blanca developed from a small village to a major occupation, complete with one of the earliest known pyramids in Mesoamerica, sunken plazas, and residential districts (Love and Guernsey 2007). La Blanca also boasts the earliest known representation of the quatrefoil in Mesoamerica, thus suggesting some development and control over the supernatural at the site (Love and Guernsey 2007). Clearly, in its brief period of construction, the residents of La Blanca took a small village and built a site with complex

social interactions. Simply through the observation of the monumental architecture, we can extrapolate that the elite had some measure of control over labor, subsistence, and ritual. The rapid construction of the site is only matched by its rapid abandonment, with the return of the site to a small village population living in the shadow of the monumental construction left in the wake of the massive three hundred-year boom.

Environment

In order to best understand the rapid three hundred-year period in which La Blanca developed, we must first understand under what conditions this development occurred. For this, we look to the environment. The region may be broadly classified as consisting of coastal plain and piedmont, with La Blanca situated with a distant mountainous backdrop (Love 2002). However, the region consists of several varied zones (Love 2002). The soils of the area are fertile and have a tropical climate (Love 2002). The primary form of precipitation is rain, with the seasons primarily divided into wet and dry; the wet season occurring between May and November and the dry between December and April (Love 2002).

Through a survey conducted of the area, Coe and Flannery determined the former area, prior to modern land use, to consist of eight, somewhat simplified, biotypes, which are listed in Love (2002:16). Although the environment was much more complex than the biotype classification would suggest, the biotypes serve as a useful guide to the basic environment. The first type is beach and sand with low scrub. In these areas, the available animals consist of two kinds of crabs, green sea turtle, black iguana, brown pelican, armadillo, and opossum. The second biotype is marine estuary and lagoons systems with available fauna for the marine estuaries consisting of mussels, marsh clams, oysters,

snook, red snapper, catfish, and crocodiles and upper estuaries consisting of tapir, peccary, and cayman. The third type is mangroves with red mangrove throughout most of the area, with only a few white mangroves in the upper most portions. The available fauna in this area is the same as in the marine estuary region.

The fourth biotype is the riverine region with dense vegetation and available animals consisting of a similar variety of bivalves, fish, and crocodiles as the marine estuary and mangrove regions, as well as turtles and otters. Animals available along the riverbanks include green iguanas, opossum, and jaguarundi. The fifth type, the salt playas, consists of red mangroves, madresalar, and bromeliad (*Bromelia pinguin*). Available animal resources in this area include two species of crabs, black iguana, deer, raccoon, paca, and jaguarundi. In the mixed tropical forests, the sixth biotype, there are both deciduous and evergreen species of trees, as well as various other types of vegetation. The animal species in this region consist of deer, jaguar, peccary, coati, paca, kinkajou, porcupines, anteaters, and squirrels.

The seventh biotype is the tropical savanna or pampas with tall or course grasses and the occasion palm. Animals in this region include foxes, deer, coati, armadillo, and cottontails. The eighth and final type is the cleared areas and second growth, or man-made environments. This area includes various types of vegetation as well as animals that may exist on the outer reaches of the fields such as cottontail. From these biotypes and the animal inhabitants, a picture of the landscape in which La Blanca developed comes into view. Subsistence practices must be based in these biotypes and the animals that inhabit them, all non-native resources may be attributed to trade.

Politics

Much of the previous research concerning politics at La Blanca is closely tied in with the neighboring sites in the Soconusco Region. According to Love and Guernsey (2011), change in the region may have cycled from times of centralized power to political turmoil and back. This can be seen in the frequent switching of capital cities (Love and Guernsey 2011). Numerous changes in power, social organization, and economics occurred with each cycle (Love and Guernsey 2011). Against the backdrop of continuous change, La Blanca may have been the fourth cycle in a five phase political cycle which began with Paso de la Amada and ended with the archaic states of El Ujuxte, Izapa, and Takalik Abaj.

As for La Blanca, the site displays some degree of control by elites. After all, some degree of control is required in order to organize the labor needed to build monumental construction projects present at the site, including a 25m high rammed earth pyramid (Love and Guernsey 2011). The social differentiation between households and the differences in construction quality between households (Love and Guernsey 2011) also hint toward some degree of control and social stratification between households. Elite households show higher densities of prestige goods, including jade, and products of long distance trade, specifically obsidian (Love and Guernsey 2011). However, this control was not complete as power was not so centralized as to have the elites control all aspects of production, distribution, and ritual.

Therefore, with such a close association with nearby sites and indications for the both centralization of power and the inability of elites to gain the type of control associated with a state, La Blanca may tentatively be examined as a transitional site, or a

transitional complex chiefdom, building upon the typology begrudgingly placed upon the site by Love and Guernsey (2011). Within this transitional complex chiefdom, the budding elites are finding a new ways to exert control over the population. The rapid-fire rise and decline and subsequent relocation of the majority of the population of La Blanca may be interpreted as an attempt to gain control that was not necessarily a failure, but a learning experience for the elite of the time; a backdrop against which power was tentatively exerted and potential ruling elites learned what worked.

Economics and Ideology

At La Blanca, economic intensification was closely related to ideology (Love and Guernsey 2011). Economic intensification at the site appears to be spurred by the proclaimed ritual power of elites (Love and Guernsey 2011). Increased demand for resources and labor by elites for the purposes of ritual practices put stress on non-elites to produce. The primary unit of production at La Blanca was the household (Love and Guernsey 2011). Therefore, changes in the domestic economy become the primary focus of economic inquiry at La Blanca. Whether or not households flatly submitted to these demands or resisted and acted in their own self interests (Laslett 1984, Love and Guernsey 2011), the general pattern appears to be towards economic intensification as demonstrated by an increasing emphasis on high-yield resources, specifically dogs and maize (Love and Guernsey 2011).

Feasting

Thus far, data supporting feasting at La Blanca has been limited. Aside from the data presented in this thesis, the faunal data is only available for five of the excavated households (Wake and Harrington 2002; Love and Guernsey 2011). Preliminary data

suggests the highest ranking household excavated at the site, Operation 32, has the highest relative faunal density (Love and Guernsey 2001). From this data, Love and Guernsey (2011) hypothesize that Operation 32 represents a locus of feasting. With limited faunal data it may be premature to postulate a theory as to the mode feasting at La Blanca. Hopefully, the current recorded data, along with the data reported in this thesis, will help to flesh-out a more complete picture of feasting practices at La Blanca during the primary occupation.

Aside from the faunal remains, feasting practices may also be discerned from analysis of the ceramic remains recovered from the site (Junker 2001). Research into the distribution and density of pottery associated with feasting suggests that everyone at La Blanca is engaging in feasting practices (Fauvelle 2010). This suggests that elites are not controlling feasting practices at La Blanca (Fauvelle 2010). However, analyzing the faunal densities may help explain to what extent households were engaging in feasting (Love and Guernsey 2011). It is possible that elite households were engaging in feasting practices with a higher frequency than non-elite households (Love and Guernsey 2011). Feasting behavior at the site may appear somewhat murky as La Blanca represents a transition of power, from a lesser to a greater degree of control exerted by elites. It is also possible that elites may not completely control feasting practices at this time, but they do engage in feasting more regularly than do non-elites. By adding to the faunal data being collected at La Blanca, a clearer picture of the feasting practices, and thus the relation of power at the site, may be formed.

Mound 11, Operation 37

The household from which the data for this thesis is derived is located in Mound 11. Mounds at the site are too large to excavate fully and are thus excavated in operations consisting of pits dug into five zones of the mound, with a minimum of one pit excavated in each zone (Love 2008). The excavation project at Mound 11 was dubbed Operation 37, a term which will herein be used to refer to the household. Operation 37 was excavated in 2006 by Dr. Michael Love and his team. Thus far, little data have been accumulated for Operation 37, as little of the excavated materials have been analyzed and documented. What is known about Operation 37 is that it is located in close proximity to an elite household at La Blanca, Mound 9, whose project heading is Operation 32. At Operation 32, an earthen quatrefoil feature was unearthed (Love and Guernsey 2007). This find suggests that Operation 32, and the household it represents, has some affiliation with ritual and the underworld (Love and Guernsey 2007). Operation 32 is also believed to be an elite household based on the jade content recovered at the site, ranking high on the jade scale (Love and Guernsey 2011). Due to the perceived elite status of Operation 32, Operation 37 was excavated in order to increase the sampling of elite households at La Blanca (Love 2008).

What is apparent about Operation 37 is that it has a long household history, with four episodes of construction, one more episode of construction than Operation 32 (Love and Guernsey 2011). At La Blanca, elite households tend to be occupied for longer periods of time (Love and Guernsey 2011). With such a long household history, Operation 37 is likely an elite household. Furthermore, Operation 37 is located in the Eastern Acropolis, and area believed to be an elite precinct (Love and Guernsey 2011).

Operation 37 also has a preponderance of large hollow figurines (Love and Guernsey 2011). Unfortunately, these figurines are almost entirely found at this one household, and may simply be an attribute of this household and not a measure of elite status (Love and Guernsey 2011).

RESULTS

Excavation and Recovery

Operation 37 was excavated in 2006 by Dr. Michael Love and his team. House lots at the site were identified and cataloged in a grid formation with one central zone, the house, and four zones surrounding the house (Love: personal communication 2011). The grid was excavated in a series of 2x2m units, with at least one unit randomly placed in each zone (Love 2008). Each unit was labeled numerically by sub-operation, with 5 sub-operations excavated in Operation 37. Fully excavating a house or house lot was neither reasonable nor possible due to the size of the house lots and the disruption it would cause to the modern agricultural production currently taking place at the site (Love 2008). The units were excavated in arbitrary 10mm levels unless natural stratigraphy was detected (Love 2008). Excavated materials were sieved through a 3mm wire mesh screen (Love 2008). The excavated materials were removed and the units covered (Love 2008). The faunal remains were washed, cataloged, and sent to the UCLA Zooarchaeology Laboratory for further analysis.

Laboratory Methods

At the UCLA Zooarchaeology Laboratory, the bone specimens were sorted by class and placed in individual bags sorted by unit and level. Specimens were sorted by taxon, cleaned and repaired where necessary and identified individually by myself and Dr. Thomas Wake using the comparative collection housed at the Cotsen Institute of Archaeology, UCLA. Information was noted by specimen, including species, skeletal element, side, portion, sex and age, where discernable. Additional information was recorded, including taphonomic features, including weathering, fragmentation, burning,

cutting, animal gnawing, recovery damage, like trowel trauma, and any other modification apparent on the bone. In some cases, specimens were measured and weighed, but this was not the norm for the collection and therefore will not be included in this thesis.

The fauna from La Blanca was measured using NISP and MNI. NISP was calculated but counting individual specimens after repairs if repairs could be made. MNI was calculated from the greatest number of morphologically paired elements, either right or left of like size or age, or from the greatest number of unique skeletal elements, whichever number was greater, for a given taxon. These numbers were calculated by for each identified taxon per unit, as the majority of remains recovered were from the Conchas phase and no sub-phases were reported.

The Fauna

The faunal assemblage from Operation 37 Suboperations 1 through 5 contained 6,862 identified specimens. The assemblage is dominated by fish, with 48.4 percent of specimens being fish, followed by 44.5 percent mammal, 5.2 percent reptiles, 1.5 percent birds, and 0.4 percent amphibians. The identified fish contain twenty-two genera and twenty-two species of fish, representing fifteen families. Anurans are represented by three families with three genera and two species present. Reptiles are represented by twelve genera and eleven species from six families. Bird identifications are ongoing, and currently are represented by only two families, a number which will likely rise upon further examination. Finally, mammals are represented by eighteen genera and fourteen species from six families.

Fish

Fish are the most numerous and diverse vertebrate class in Operation 37, with twenty two genera and species of fish. Of the fish, snook (*Centropomus* sp.) is the most diverse, with five species present. In terms of NISP, cichlids (Cichlidae) are most numerous, constituting ten percent of the total NISP, followed by snapper (*Lutjanus* sp.), snook (*Centropomus* sp.), catfish (Ariidae), and sleepers (Eleotridae). Tropical gar (*Atractosteus tropicus*) also has a high NISP, but this number is skewed as the majority of these specimens are enamel covered ossified scales or scutes. In terms of MNI, cichlids (Cichlidae), again, dominate, with at least forty-four animals present, followed by snook (*Centropomus* sp.), catfish (Ariidae), snapper (*Lutjanus* sp.), and mojarra (Gerreidae). Approximately half of these species are from low salinity environments, with about a fourth coming from high salinity environments, and the remaining fourth from medium salinity environments (Wake: personal communication 2011).

Bull shark (*Carcharhinus leucas* or possibly *Carcharhinus* sp.) is present at the site and is represented primarily by five teeth, many of which are worked, with holes drilled near the base. Tropical gar (*Atractosteus tropicus*) is overrepresented with two hundred and seventeen specimens from at least four fish. Catfish are represented at the site primarily by undifferentiated catfish (Ariidae), with sixty-eight specimens from at least six fish, with seventeen specimens of sea catfish (*Sciades* sp.) from at least six fish, one specimen from a blue sea catfish (*Sciades guatemalensis*), and one specimen from another catfish (*Cathorops* sp.). Goby (*Awaous* sp.) is also represented at the site, with one specimen from one individual recovered.

Table 4.1 Identified Fish from La Blanca, Mound 11, Operation 37

Scientific Name	Common Name	NISP	MNI
<i>Carcharhinus leucas</i>	Bull shark	2	2
<i>Carcharhinus</i> sp.	shark	3	3
<i>Atractosteus tropicus</i>	Tropical gar	217	4
<i>Cathorops</i> sp.	Catfish	1	1
<i>Sciades guatemalensis</i>	Blue sea catfish	1	1
<i>Sciades</i> sp.	Sea catfish	17	6
Ariidae	Catfishes	68	6
<i>Awaous</i> sp.	Goby	1	1
<i>Caranx caninus</i>	Pacific crevalle jack	1	1
<i>Caranx</i> sp.	Jack	1	1
<i>Chloroscombrus orqueta</i>	Pacific bumper	17	5
<i>Oligoplites</i> sp.	Leather jack	1	1
<i>Centropomus medius</i>	Blackfin snook	1	1
<i>Centropomus nigrescens</i>	Black snook	3	1
<i>Centropomus pectinatus</i>	Tarpon snook	6	2
<i>Centropomus robalito</i>	Yellowfin snook	6	2
<i>Centropomus unionensis</i>	Union snook	2	2
<i>Centropomus</i> sp.	Snook	107	9
<i>Amphilophus macracanthus</i>	Black throat cichlid	93	18
<i>Cichlasoma trimaculatum</i>	Three spot cichlid	25	7
Cichlidae	Cichlids	222	19
<i>Dormitator latifrons</i>	Pacific fat sleeper	73	6
<i>Eleotris picta</i>	Spotted sleeper	5	2
<i>Eugerres</i> sp.	Mojarra	1	1
<i>Eugerres axillaris</i>	Black axillary mojarra	2	1

<i>Gerres cinereus</i>	Yellowfin mojarra	11	6
Gerreidae	Mojarras	14	3
<i>Lutjanus colorado</i>	Colorado snapper	1	1
<i>Lutjanus guttatus</i>	Spotted rose snapper	1	1
<i>Lutjanus jordani</i>	Jordan's snapper	21	4
<i>Lutjanus</i> sp.	Snapper	136	7
<i>Mugil</i> sp.	Mullet	8	4
<i>Mycteroperca</i> sp.	Grouper	1	1
<i>Polydactylus</i> sp.	Threadfin	2	2
<i>Haemulopsis leuciscus</i>	Raucous grunt	1	1
<i>Pomadasys macracanthus</i>	Longspine grunt	14	3
<i>Pomadasys</i> sp.	Grunt	2	1
<i>Synbranchus marmoratus</i>	Swamp eel	2	1
Teleostei	Bony fish	2233	
Total		3321	138

Jacks (Carangidae) are represented at the site by three genera and two species, with twenty specimens from a minimum of eight individuals. Seventeen specimens have been identified as the Pacific bumper (*Chloroscombrus orqueta*), with one specimen each of the Pacific crevalle jack (*Carnax caninus*), the jack (*Carnax* sp.), and the leather jack (*Oligoplites* sp.). Snook are represented by one hundred seven specimens of snook (*Centropomus* sp.), six specimens of tarpon snook (*Centropomus pectinatus*) and yellowfin snook (*Centropomus robalito*), three specimens of black snook (*Centropomus nigrescens*), two specimens of union snook (*Centropomus unionensis*), and one specimen of blackfin snook (*Centropomus medius*). Cichlids are well represented at the site, with two hundred twenty-two specimens of Cichlidae from at least nineteen fish, ninety-three

specimens of *Amphilophus macracanthus* from a minimum of eighteen fish, and twenty-five specimens of *Cichlasoma trimaculatum* from at least seven fish.

Sleepers are represented at the site by primarily by the Pacific fat sleeper (*Dormitator latifrons*), with seventy-three specimens from at least six individuals, as well as three specimens of spotted sleeper (*Eleotris picta*) from at least two fish. Mojarra are represented at the site by twenty-eight specimens, fourteen specimens identified to the family level (Gerreidae), eleven specimens identified as yellow fin mojarra (*Gerres cinereus*), two specimens identified as black axillary mojarra (*Eugerres axillaris*), and one specimen identified as mojarra (*Eugerres* sp.). Snappers are represented at the site by one hundred thirty-six specimens of snapper (*Lutjanus* sp.), twenty-one specimens of Jordan's snapper (*Lutjanus jordani*), and one specimen each of the Colorado snapper (*Lutjanus colorado*), and spotted rose snapper (*Lutjanus guttatus*). Mullet (*Mugil* sp.) is represented at the site with eight specimens from a minimum of four fish.

Grunt is represented at the site by seventeen specimens, with fourteen specimens of longspine grunt (*Pomadasys macracanthus*) from at least three individuals, two specimens of grunt (*Pomadasys* sp.) from at least one individual, and one specimen of raucous grunt (*Haemulopsis leuciscus*) from one individual. Grouper (*Mycteroperca* sp.) is represented at the site by a single specimen from one fish. Threadfin (*Polydactylus* sp.) is represented at the site by two specimens from at least two fish. Swamp eel (*Synbranchus marmoratus*) is represented at the site by two specimens from a minimum of one eel. Sixty-seven percent of the fish remains were too fragmented or damaged to identify beyond bony fish (Teleostei).

Amphibians

Amphibians are present at the site in low numbers with only 0.4 percent of the total NISP. In terms of NISP, the Mexican burrowing toad (*Rhinophrynus dorsalis*) is represented by fifteen specimens from a minimum of five individuals. The Mexican burrowing toad is also known as the Uo frog, but neither a toad nor a frog, but a species from a monotypic family with an “old, independently evolving lineage” (Maxson and Daugherty 1980:278). The marine toad (*Bufo marinus*), a species frequently depicted in Olmec iconography (Kennedy 1982), is represented by nine specimens from a minimum of five individuals. Frogs are represented by one specimen from one genus, the ditch frog (*Leptodactylus sp.*). Undifferentiated anurans are represented by five specimens. Anurans may be intrusive burrowers to the site, or may be present due to the ritual activity already identified at the site (Love and Guernsey 2007).

Table 4.2 Identified Amphibians from La Blanca, Mound 11, Operation 37

Scientific Name	Common Name	NISP	MNI
<i>Bufo marinus</i>	Marine toad	9	5
<i>Rhinophrynus dorsalis</i>	Mexican burrowing toad	15	5
<i>Leptodactylus sp.</i>	Ditch frog	1	1
Anura	Frogs and toads	5	
Total		30	11

Reptiles

Reptiles are the third most common class in Operation 37, although they occur in relatively low numbers constituting 5.2 percent of the total NISP. Reptiles are relatively diverse with eleven species from twelve genera present. Reptiles are somewhat diverse

Table 4.3 Identified Reptiles from La Blanca, Mound 11, Operation 37

Scientific Name	Common Name	NISP	MNI
<i>Chelonia mydas</i>	Sea turtle	13	1
<i>Kinosternon scorpioides</i>	Mud turtle	128	10
<i>Trachemys scripta</i>	Pond slider	97	5
Emydidae	Marsh turtles	2	
Testudinata	Turtles	16	
<i>Caiman crocodilus</i>	Caiman	6	4
<i>Crocodylus acutus</i>	Crocodile	1	1
Crocodylia	Crocodiles	5	
<i>Ctenosaura similis</i>	Black iguana	21	6
<i>Iguana iguana</i>	Green iguana	17	5
<i>Iguana/Ctenosaura</i>	Black or green iguana	28	7
<i>Norops</i> sp.	Anole	1	1
<i>Basiliscus vittatus</i>	Basilisk	1	1
<i>Ameiva festiva</i>	Whiptail lizard	3	2
<i>Boa constrictor</i>	Boa constrictor	2	2
<i>Leptodeira</i> sp.	Cat-eyed snake	1	1
Colubridae	Snakes	4	3
<i>Crotalus durissus</i>	Rattlesnake	2	2
Serpentes	Snakes	3	
Reptile		6	
Total		357	51

within each order represented, with five species of lizard, three species of turtle and snake, and two species of crocodylians. In terms of NISP, turtles dominate, followed by

lizards, and equal amounts of snakes and crocodiles. In terms of MNI, lizards dominate, with a minimum of twenty-two individuals, followed by turtles, snakes, crocodilians. There are also six specimens which can only be identified as reptile.

Turtles are represented by thirteen sea turtle (*Cheloniidae*) shell fragments, as well as elements from mud turtles (*Kinosternon scorpioides*) and sliders (*Trachemys scripta*). Among the turtles, there were several worked specimens, including a turtle shell vessel. Crocodilians are represented by a minimum of four caimans (*Caiman crocodilus*) and one large worked specimen of a crocodile (*Crocodilus actus*). Lizards are represented primarily by iguanidae, with at least six black iguanas (*Ctenosaura similis*), five green iguanas (*Iguana iguana*), seven either black or green iguanas, and one anole (*Norops* sp.). Also present are at least one basilisk (*Basiliscus vittatus*) and a minimum of two whiptail lizards (*Ameiva festiva*). Snakes at the site include boa constrictors (*Boa constrictor*), cat-eyed snakes (*Leptodeira* sp.), and at least three rattlesnakes (*Crotalus durissus*).

Birds

Birds in Operation 37 are present in low numbers, constituting only 1.5 percent of the total faunal materials. The data for birds are skewed, as most of the specimens have not, as of yet, been discretely identified. At least two families of birds have been identified, and there will likely be more. What has been positively identified is the lower leg (tarsometatarsus and all phalanges) of a domestic turkey (*Meleagris gallopavo*). With further analysis, this turkey may prove to be the oldest known occurrence of a domestic turkey for this area for this time (Wake: personal communication 2011). Along with the limited avian identifications there are some modified bird remains. These include small burned bird bone tubes, possibly used as beads, and long, worked bird tubes which have

been cut and ground with rounded edges. In California, long bird tubes such as these would be identified as flute blanks (Wake: personal communication 2011).

Table 4.4 Identified Bird from La Blanca, Mound 11, Operation 37

Scientific Name	Common Name	NISP	MNI
Meleagris gallopavo	Turkey	15	1
Aves	Birds	87	6
Total		102	7

Mammals

Operation 37 contains a diverse array of mammals, with eighteen genera and fourteen species recovered. Of these, carnivores are the most diverse, followed by rodents, opossums, and artiodactyls. In terms of NISP, rodents dominate. There are also a high number of carnivores, followed by smaller amounts of artiodactyls, cottontails, and marsupials. Armadillos are also highly represented with an NISP of four hundred twelve identified specimens, but this is likely an overrepresentation, as the majority of these are dermal ossicles or scutes. In terms of MNI, rodents again dominate with a minimum of forty-six individuals represented, followed by twenty carnivores, twelve artiodactyls, six cottontails, five armadillos, and four marsupials.

Marsupials are represented by nine specimens represented three genera of opossum from at least four individuals, one common opossum (*Didelphis* sp.), one mouse opossum (*Marmosa mexicana*), and two four-eyed opossums (*Philander opossum*). Armadillos are represented by four hundred twelve specimens from a minimum of five nine-banded armadillos (*Dasypus novemcinctus*). Of the carnivores, dogs (*Canis familiaris*) are the most prominent with an NISP of one hundred ninety-five (MNI 14)

Table 4.5 Identified Mammals from La Blanca, Mound 11, Operation 37

Scientific Name	Common Name	NISP	MNI
<i>Didelphis</i> sp.	Opossum	2	1
<i>Marmosa mexicana</i>	Mouse opossum	2	1
<i>Philander opossum</i>	Four-eyed opossum	5	2
<i>Dasybus novemcinctus</i>	Nine-banded armadillo	412	5
<i>Canis familiaris</i>	Domestic dog	195	14
<i>Canis</i> sp.	Dog	3	1
Canidae	Dogs	1	
<i>Leopardus pardalis</i>	Ocelot	2	2
<i>Panthera onca</i>	Jaguar	1	1
Felidae	Cats	1	
<i>Procyon lotor</i>	Raccoon	2	1
<i>Mustela frenata</i>	Long tailed weasel	1	1
<i>Homo sapiens</i>	Humans	134	11
<i>Pecari tajacu</i>	Collared peccary	5	3
<i>Odocoileus virginianus</i>	White tailed deer	41	9
Artiodactyla	Even-toed ungulates	4	
<i>Dasyprocta punctata</i>	Agouti	1	1
<i>Orthogeomys grandis</i>	Giant gopher	15	4
<i>Oryzomys</i> sp.	Rice rat	99	14
<i>Sigmodon hispidus</i>	Cotton rat	174	28
Rodentia	Mice and rats	246	
<i>Sylvilagus</i> sp.	Cottontail rabbit	20	6
Mammal, lg		301	
Mammal, md		87	
Mammal, sm		185	

Mammal	1113	
Total	3052	104

constituting ninety-five percent of the total carnivore NISP of two hundred six. Other carnivores include ocelot (*Leopardus pardalis*) and raccoon (*Procyon lotor*), each represented by two specimens, as well as jaguar (*Panthera onca*) and long tailed weasel (*Mustela frenata*), each represented by a single specimen. There were also some unidentified fragments of canidae and felidae present in low numbers (NISP of four and one respectively). Artiodactyls are represented primarily by collared peccaries (*Pecari tajacu*) and white-tailed deer (*Odocoileus virginianus*); with five specimens of peccary from no fewer than three individuals and forty-one specimens of deer from at least nine individuals.

Among the rodents, the hispid cotton rat (*Sigmodon hispidus*) is most common with a specimen count of one hundred seventy-four from a minimum of twenty-eight individuals. The rice rat (*Oryzomys* sp.) is second most common with ninety-nine specimens from a minimum of fourteen individuals. These numbers may be under represented as two hundred forty-six specimens could not be identified further than rodentia. Also among this family is the giant pocket gopher (*Orthogeomys grandis*) represented by fifteen specimens from a minimum of four individuals. There is also a single proximal femur from an agouti (*Dasyprocta punctata*). The final mammal contribution to Operation 37 is the cottontail (*Sylvilagus* sp.). Cottontails are represented by twenty specimens from a minimum of six individuals.

Of particular interest to note among the mammals are a burned jaguar (*Panthera onca*) thumb (left accessory phalanx 1), the modified human remains, and the many

mammal bone artifacts recovered at the site. The jaguar thumb is an indicator of a jaguar pelt. Bones of the paws occasionally remain stuck to the pelt during processing (Wake: personal communication 2011). Finding a phalanx suggests the pelt was present in the household. Additionally, there were numerous bone textile implements recovered. These include several bone needles, likely crafted from deer, two bone splinter awls, manufactured from either deer or human bone, and a bone shuttle, made from the long bone of either a human or tapir. Finally, there were several modified human remains recovered, including cranial fragments and long bone fragments, which were modified and had traces of red ocher.

Summary

The faunal remains from Operation 37 are diverse and high ranking. Fish dominate the assemblage, but are closely followed by mammals. Reptiles and birds contribute only a small portion of the faunal remains recovered. Aquatic species are exploited primarily from fresh water environments, with a decreasing emphasis on high and medium salinity resources, a pattern which continues in later sites (Wake: personal communication 2011). Indicators of high rank include the abundance of high-ranking fauna for consumption, including dog, deer, and peccary, as well as exhibition, including shark, crocodile, ocelot and jaguar remains. The large number of dogs recovered at the site suggests an increased reliance on high-ranking domestic meats for ritual purposes, a pattern also consistent within the site, as well as with other Formative period sites (Wake and Harrington 2002).

COMPARISON AND DISCUSSION

Intrasite Comparison

Wake and Harrington (2002) identified and analyzed faunal material from Operations 25, 26, and 27. When the data from Operation 37 is compared to other households at La Blanca, the basic exploitation pattern remains consistent. However, the diversity of species recovered from these three households is significantly lower than the diversity recovered from Operation 37 with fifty-five genera and fifty species identified from Operation 37 and twenty-three genera and seventeen species identified from Operations 25, 26, and 27. Additionally, the highest-ranking species, crocodile, ocelot and jaguar, which are present in Operation 37 are absent in the Operation 25, 26, and 27 assemblages.

Wake and Harrington (2002) identify turtle, dog, and deer as the primary sources of protein in Operations 25, 26, and 27, which are also present in Operation 37 but in significantly higher numbers. In all cases, the total MNI for turtles, dogs, and deer is higher in Operation 37 than the other individual households. In fact, the total MNI for turtles is higher in Operation 37 (MNI 16) than it is in Operations 25, 26, and 27 combined (MNI 15). These higher MNIs of these protein-rich serve to confirm that Operation 37 is a higher ranking household. When the MNI differences is combined with the higher diversity and the absence of crocodile, ocelot and jaguar remains in Operations 25, 26, and 7, a strong case can be built for Operation 37 outranking Operations 25, 26, and 27.

Intersite Comparison

The faunal remains from La Blanca tell an interesting story. By providing context, through comparisons with other sites and an understanding of the conditions under which La Blanca existed, that story can be properly told. As Reitz and Wing (2008a:182) note, “the ultimate goal is to relate animal remains to the other materials from the specific site and to other sites so that larger cultural and biological inferences can be made.” With this in mind, the data collected in this thesis can be compared to another site from the same region, the Soconusco, and a similar timeframe, specifically Paso de la Amada. Furthermore, theories regarding exploitation, feasting, and culture change may be applied to the faunal data in order to interpret the meaning of the bones. The story can then be overlain with current theories for La Blanca, specifically regarding the domestic economy, ritual activity, and the proposed political cycling occurring during the Formative Period.

Paso de la Amada

Paso de la Amada has been identified as a key center driving a previous phase in the political cycling identified in the Soconusco region (Love and Guernsey 2011). Paso de la Amada is located on the Pacific coastal plain of Chiapas within the greater Soconusco region (Clark and Pye 2011). The area is located near three rivers, and sits amongst fresh water and mangrove swamps, as well as estuaries and forests (Wake 2004). Initial excavations dated the site to between 1850 and 950 B.C. (Wake 2004). The site is spread over an approximately 50ha area (Lesure and Blake 2002). Paso de la Amada has a series of buildings set atop platforms, interpreted as high-status residences

(Lesure and Blake 2002), as well as the earliest known ball court in the region (Blake et al. 1998).

Paso de la Amada was excavated in 'lots,' consisting of field-defined stratigraphic levels (Wake 2004). Due to the abundance of vertebrate remains recovered, only Lot 11 from mound 1, the least mixed lot, was analyzed and reported (Wake 2004). Lot 11 dates to somewhere between 1350 and 1200 B.C. (Wake 2004). The reported Lot 11 assemblage contains 3,563 specimens (Wake 2004). This number only represents a subset of the fish remains, as well as all of the identified amphibians, reptiles, and mammals recovered from Lot 11 (Wake 2004). Bird remains from Lot 11 were not reported along with the rest of the remains presented here, although, bird remains from Paso de la Amada have been reported elsewhere (e.g. Steadman et al. 2003). Bird remains will not be discussed here, as there is not sufficient enough identified remains to compare them to La Blanca.

At Paso de la Amada, fish dominate the assemblage with 1,790 specimens, constituting a minimum of 50 percent of the reported assemblage (Wake 2004). This number is low for the overall assemblage from Lot 11, but is adequate to demonstrate the abundance of fish in the assemblage, as well as to illustrate the types of fish being exploited at Paso de la Amada (Wake 2004). Of the species identified at the site, sea catfish (*Arius* sp.) are the most abundant, with nine hundred specimens from at least forty individuals, followed by three hundred and fifty specimens of sleeper (Eleotridae) and fifty-five specimens of Pacific fat sleeper (*Dormitator latifrons*) from at least nineteen individuals (Wake 2004). Like at La Blanca, fish at Paso de la Amada are exploited from both estuarine and brackish fresh waters.

Amphibians and reptiles are the least abundant in the assemblage with three hundred and eighty-three specimens constituting 11 percent of the total identified assemblage (Wake 2004). Of these specimens, twenty-six are amphibian with twenty specimens of toad (*Bufo* sp.), four specimens of anuraus (frogs and toads), and one specimen each of true frog (*Rana* sp.) and a caecilian or tepalcua (*Dermophis mexicanus*) (Wake 2004). The latter two are not represented at La Blanca. The reptile from Lot 11 includes three hundred fifty-seven specimens from crocodilians, turtles, lizards, and snakes (Wake 2004); a similar distribution that is present at La Blanca. Of these, turtles are the most abundant, with one hundred forty specimens recovered, the most common being musk turtle (*Kinosternon* sp.) with one hundred sixteen specimens recovered (Wake 2004). The next most abundant are snakes with the majority of specimens identified as nonvenomous snakes (Wake 2004).

Mammals are relatively abundant at Paso de la Amada in terms of the reported assemblage with 1,390 specimens, constituting 39 percent of the reported assemblage and 25 percent of the total assemblage (Wake 2004). The mammals reported for Paso de la Amada are diverse and include twelve species and fourteen genera, including marsupials, armadillos, carnivores, artiodactyls, rodents, and rabbit (Wake 2004). Much of these animals are similar to those recovered from La Blanca, with the exception of white-nosed coati (*Nasua narica*) not present in Operation 37 but is present in another household from La Blanca. The grey fox (*Urocyon cinereoargenteus*), red brocket deer (*Mazama americana*) and paca (*Agouti paca*) are also not represented at La Blanca but are represented at Paso de la Amada. Like at La Blanca, the most abundant animal at Paso de la Amada in terms of NISP are rodents with one hundred twenty-three specimens,

followed by armadillos, which as always, is overrepresented do to the high number of scutes per individual (Wake 2004). Dog (*Canis* sp. and *Canis familiaris*) is also represented at the site with twenty-two specimens from at least three individuals (Wake 2004). Most of the dog bones are burned, which suggests they were included in the diet, much like they were at La Blanca (Wake 2004).

Paso de la Amada and La Blanca

Isotope analysis of the bone from Paso de la Amada, as well as the excavated materials, shows that subsistence at the site includes agricultural domesticates, including maize and beans, but in smaller quantities than in later sites (Wake 2004). This suggests there was some degree of sedentism as well as social stratification at the site (Wake 2004). Vertebrate contributions to the diet include animals collected from a wide range of environments, suggesting “broad-ranging generalists,” where reliable staples were provided from opportunistic hunting animals from a number of microhabitats (Wake 2004:221). Dogs were also present at the site, but in small numbers (Wake 2004). The presence of low levels of domesticates, as well as the relatively high presence of collected resources, suggest a minimal dependence on under-reliable domesticated resources and a greater emphasis on hunting and gathering possibly more stable resources, to better varying maize yields (Wake 2004).

By contrast, the faunal remains paint a different picture. Not all of the faunal remains represent daily-use resources or even consumed meat at the site. There are, however, a few inferences that made be made from the fauna recovered. Fish and turtle at the site likely represent a staple, as they are easily acquired, reliable source for caloric intake (Masson 1999). The dog recovered from the site fits with a model of increased

“focus on high-yield protein sources such as the domestic dog and deer also reflect a maximizing strategy aimed at intensifying production and augmenting surpluses of subsistence goods” (Love 2007:289). The presence of white-tailed deer and collard peccary suggests opportunistic hunting around the periphery of gardens. This fits within the ‘garden hunting’ model put forth by Linares (1976), which suggests opportunistic hunting such as this reduced the seasonality conflicts associated with the adoption of gardening practices over a hunting schedule. Additionally, the overwhelming number of rats recovered at the site occurring in relatively good condition (e.g. patella still articulated with the femur and nearly a complete and intact anterior cranium) indicates that the rats were likely decomposing in situ and were either living in the trash or killed and tossed in the trash. This is typical of households with long occupations where food for rats in trash pits is abundant (Wake: personal communication 2010).

From the comparison of the early Paso de la Amada to the later La Blanca it becomes clear that as politics are changing so too are the animals utilized at the site, both for caloric and non-caloric functions. The two sites are all generally focused on similar resources, but to varying degrees. While Paso de la Amada and La Blanca were sedentary villages and emphasize higher-yielding mammalian resources, Paso de la Amada has a greater influence on collected resources as predictable sources of food. La Blanca’s tendency towards more opportunistic hunting suggests a greater reliance on agricultural resources than seen at Paso de la Amada. Likewise, La Blanca yielded high-ranking, display and/or ritual fauna, including jaguar (*Panthera onca*), marine toad (*Bufo marinus*), crocodile (*Crocodilus actus*), ocelot (*Leopardus paradalis*), and modified human remains.

Ritual at La Blanca

Ritual activity may also be inferred through some of the faunal remains. Anurans may be intrusive burrowers or an indicator of ritual activity. Kennedy (1982) identifies numerous illusions to toad features, specifically the marine toad (*Bufo marinus*), in Olmec iconography (Kennedy 1982). Toads, an animal of both land and water, have been linked to shamanistic practices, as well as birth and rebirth (Kennedy 1982). In Mesoamerica, water is frequently associated with the underworld (Love and Guernsey 2007). Imagery related to the underworld was not unfamiliar in La Blanca. As mentioned previously, a quatrefoil feature was uncovered in Operation 32, located near Operation 37. The quatrefoil at La Blanca was interpreted by Love and Guernsey (2007:926) as “a portal to the underworld” and a signifier of ritual activity at the site. Remains of toads were also identified at Operation 32. These may or may not be related to the quatrefoil at the site, but it is possible that these toad remains, as well as those recovered from Operation 37, are related to the underworld imagery already located at the site.

Feasting at La Blanca

Was there feasting at La Blanca, and what were the mechanisms of those feasting practices? There is evidence of high-ranking fauna at Operation 37, including deer, peccary, dog, and crocodile, as well as marine toad and jaguar. These animals have been demonstrated to be ideologically significant for the approximate time and region in which La Blanca is located (Love and Guernsey 2007, Love and Guernsey 2011). Faunal distributions at the site also fit a model of hierarchy and feasting at the site (Hockett 1998). Higher ranking households have higher densities of recovered faunal remains.

However, as Crabtree (1990) notes, fauna is not enough to make a case for feasting. Other lines of evidence must be considered.

In a recent thesis project, Fauvelle (2010) demonstrated that the ceramic remains recovered from La Blanca do not match a model of elite control of feasting. Ceramic densities between households suggest that all levels of society had access to the vessels involved in feasting (Fauvelle 2010). Fauvelle (2010) contends that feasting may not be a means by which elites exert control over the population at La Blanca. There is clearly an imbalance of power at the site, but not all aspects of life need to be controlled by the elites to maintain this imbalance. Elites may simply not need to have this additional measure of control to confirm their status (Fauvelle 2010).

Social relations at the site may be more intricate than can be answered simply. In a study conducted by Emery (2003), the zooarchaeological evidence from the Petexbatún region of Guatemala was examined in order to evaluate the use of animals as luxury goods among the ancient Maya. Emery (2003) contends that recent examination of the non-zooarchaeological remains have shown greater variability in social dynamics than previously thought; however, the zooarchaeological evidence has not yet been incorporated into this new, more diverse model. It was previously expected that elites would have differential access to preferred species including foreign species, meatier elements, species used in feasting, or species which provide non-food material used for status goods or tools. According to Emery (2003), the zooarchaeological evidence does not reflect an elite/non-elite dichotomy, but better reflects differential access to a more complex social class differentiation. Emery (2003) clearly states that zooarchaeological evidence can be used to help explain social status, but that the evidence clearly points to a

greater complexity and variability in the social systems in the Petexbatún region of Guatemala.

A similar situation may be occurring at La Blanca. The picture may just not be as clear as one would like. La Blanca represents a transitional site, in which mechanisms of elite power were changing. Elites may have had a degree of control over feasting at some point. This can be seen in the ceramics in which the highest ranked household at the site have the highest density of ceramics associated with feasting (Fauvelle 2010). However, the lack of complete control over feasting may simply suggest a complex power-play in which elites were testing the waters to determine where power needs to be exerted, and when elites may relinquish control. There may also be additional forces at work. The story being told by the bones at La Blanca suggests there was some degree of feasting going on, and that the elites of the site are possibly engaging in the feasting more than the non-elites. Additional information regarding feasting cannot be simply stated at this point. Additional research needs to be conducted at non-elite households to provide a greater amount of data to contrast elite with non-elite households.

Economics and Politics at La Blanca

The archaeological record clearly indicates that elites had at least some degree of control, but this control was likely centered on ritual. Indicators of ritual abound at the site as illustrated by the monumental architecture of Mound 1, and the quatrefoil basin, Monument 3, located in an elite household (Love and Guernsey 2007). The fauna recovered from Operation 37 also suggests ritual power, with the jaguar phalanx and numerous bones of the marine toad both being associated with shamanistic power and ritual already known for the region (Love and Guernsey 2007). Based on the available

evidence, it is unlikely that feasting represented a major source of power at La Blanca. Economic intensification and political authority at the site were likely related to the demonstration of ritual power by elites, and not centered on increased production specifically related to feasting and tribute.

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