

GENDER DIVISION OF LABOR
AND INTENSIVE TERRACE AGRICULTURE
IN THE MAYA LOWLANDS

by

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Anthropological approaches (Baumann 1928; Boserup 1970; Burton and White 1984; Burton and Reitz 1981; Burton et al. 1977; Ehrenberg 1989; Guyer 1980, 1984, 1988; Linares 1981, 1985; Carney and Watts 1990; Folbre 1982) focusing on sexual division of labor share the “nearly” universal generalization that agricultural work routines differ between men and women (Stone et al. 1995). My research focuses on the gender versus sexual division of labor. As Robin (1998) concluded gender does not refer to a “normative male-female dichotomy” (Hill 1998:102). I explore gender as an ambiguous socially constructed category including gender role, identity, attribution, and ideology (Hill 1998; Spector and Whelan 1989). In other words, gender constitutes what men and women actually do, how they feel about themselves when they do it, what others think of their actions, and what those activities mean within their culture (Spector and Whelan 1989).

Returning to the Xunantunich hinterlands, I further examine farming gender division of labor in relation to intensive terrace agriculture for the Maya from the Dos Chombitos community in Belize (Figure 1:Slide 1). During the Late Classic Period (A.D. 700 - 830), the Maya witnessed considerable population increase initiating and perpetuating more intensive agricultural strategies (Neff 1997;

1998a, 1998b, Neff and Gifford 1996) such as, the construction and maintenance of agricultural terraces – linear stone features built for slope management (Wilken 1987). (Slide 2) Using multiple lines of evidence, I address the following three questions: 1) what tasks are associated with terrace agriculture; 2) what tools aid in the performance of these tasks; and, 3) who performs these tasks. Following Robin's (1998) lead, I avoid making any generalizations about male and female activities, or creating any binary oppositions defining male space versus female space (Hill 1998). Consequently, I chose a microscale spatial analysis to document artifact variation along a continuum of terrace agricultural contexts.

A cross-cultural ethnographic analysis provides the full range of engendered behavior and the tasks and tools associated with intensive agricultural strategies within the modern world (Spector and Whelan 1989). The Yucatec Maya ethnohistoric and ethnographic record in conjunction with ancient Maya codices furnish information regarding cultural norms or traditions serving to guide ancient Maya gender roles. An examination of the pre-Colonial, Colonial, and post-Colonial period documents provide the time-depth necessary to examine continuity and change for Maya gender relations.

To answer the first question -- terrace farming tasks are a product of intensive agricultural practices -- the process of working harder on less land (Stone 1991:18). The tasks include forest clearing, terrace construction [including quarrying and creation], ground preparation, planting, crop maintenance such as weeding and watering, and harvesting (Kramer 1998). Tasks often unrecorded include pre-planting seed processing, transporting goods between the village and fields, monitoring crops, trapping rodents, weedy plant collection (Robin 1998) and often field ritual (Collier 1975:33; Kramer 1998).

The tools used to perform these tasks include the machete, pickax and hoe for forest clearing and ground preparation. Hoes and machetes were also used for weeding tasks. A sharpened digging stick was the primary seeding tool. And finally, a sharp cutting tool was the chief harvesting tool (Figure).

Now, who performed these tasks? Pre-1970, Yucatec ethnographers regularly record men working in the cornfield, hunting, carrying wood, and building houses. (Slide) Women, on the other hand, were depicted grinding maize, cooking, making tortillas, buying and selling goods, sewing, carrying water jugs and babies.

Post-1970, a spurred interest in engendered labor relations resulted in ethnographic accounts of Yucatec men sharing childcare duties and women working in the field (Slide) (Kramer 1998; Press 1975). Cross-cultural evidence suggests that women -- lactating and pregnant -- in subsistence agricultural societies can and do perform all the tasks associated with intensive agricultural production (Friedl 1975; Pospisil 1978:6; Turner 1971, 1972; Mehta 1994; Vasquez, talk presented to the NAU Anthropology Society, 1998). However, clearing fields is a nearly universally masculine task (Friedl 1975). The more recent Yucatec ethnographies appear to support this generalization. With this in mind, I began this study with the null hypothesis that women during all life cycle stages were everywhere doing everything associated with agricultural production.

Kramer's (1998) time allocation study in Xculoc, Yucatan found that young women and women beyond their reproductive careers participate in many agricultural tasks. (Chart 1:Slide) Young men spend more time performing fieldwork activities, however, young women contribute a great deal to the success of the agricultural strategy. (Chart 2:Slide) Interestingly, non-nursing women spend almost 2X as much time in away from home fieldwork. (Chart 3:Slide) Moreover, women without young children (ages 0 - 6) spend 3X as much time in

fieldwork and women nursing a child under a year strictly participate in domestic and village activities (Kramer 1998).

Additionally, pre-Colonial **native** Yucatec Maya wills and testaments (Restall 1995) suggest that men were more likely to work away from the solar, or house plot, tending the fields or cutting the forest, whereas women tended to work within the confines of the solar (Espejo-Ponce Hunt and Restall 1997:245).

Women were two times more likely to obtain a solar in a will and owned more household goods (1997:246-249). Importantly, one half of the males owned one of five tools -- the machete and ax being the most common (1997:247-248).

Examining the longevity of Maya agricultural gender ideologies, we now turn to the 16th century preconquest Quiche hieroglyphic book, the Popol Vuh (Tedlock 1985). In relation to agricultural tasks and tools, the epic story provides an interesting account of two twin brothers who magically cultivate a garden with the aid of a mattock, axe and hoe. The axe and mattock took on a life of their own, felling trees and bushes, “clearing off whole mountains, small and great” (Tedlock 1985:125). Additionally, upon their initial departure, they told their grandmother to bring them their midday food. The grandmother replied, “Very well, my dear grandchildren” (Tedlock 1985:125). And off the brothers went to make their

garden. I interpret this in a very literal and symbolic sense -- the mattock, axe and hoe were gardening tools used by the twins while away from their home to perform fieldwork. The mattock, axe and hoe are symbolically associated with masculine **gardening** (See Robin 1998 for a discussion on agricultural system semantics) away from the home.

Returning to my null hypothesis, the most recent ethnographies and pre-Colonial native documents all suggest that modern and ancient Maya gender ideology associates away from home fieldwork with men even though younger and older women contribute significantly to the overall productive strategy. (Chart 4:Slide) Possibly correlated with the nursing requirements of an "on demand nursing strategy" or driven by unseen ideological motives, women with a child under a year old spend a great deal of time performing childcare duties. In doing so, these women contribute less to the total amount of fieldwork and more to domestic tasks.

So how do we recognize away from home fieldwork in a community presumably lacking the post-Colonial slash-n-burn equivalent of an outfield? (Slide) Terrace excavations carried out by Ted Neff under the direction of Wendy Ashmore were conducted at two loci located to the east - southeast (Terrace Set

191 - 192) and north - northwest (Terrace Set 110) of Dos Chombitos, a minor pre-Columbian center overlooking the Macal River Valley (Figure 2). From the onset, we recognized a spatial continuum between terrace contexts. As a result we tested terrace sets "near" rural domestic architecture, "intermediate" between domestic architecture and what we've termed "pure" agricultural space. In an attempt to disassociate the wide range of domestic activities from the more narrowly defined domestic terrace gardening activities, we chose to examine the first set of terraces just below the domestic spatial complex. In testing the intermediate space, we recognized the inability to arbitrarily carve the ancient Maya landscape into infields versus outfields. The "pure" agricultural space was ultimately defined by distance from domestic structures in conjunction with artifact patterning that suggested agricultural tasks were the primary activity occurring in these locations. I propose fieldwork in the "pure" agricultural space is equivalent to the **away from home** fieldwork associated with Colonial and post-Colonial gender ideology. Consequently, artifact patterning based on the different agricultural spatial contexts might reveal information regarding past gender roles.

Artifact patterning was robust across the terrace agricultural continuum.

Today, I exclusively examine the lithic tool assemblage variation from the ancient

field surfaces. (Chart 6:Slide) In the near domestic context, we located expedient tools, cores, polishing stones and small, tabular-shaped, broad-based distal tools -- or small "hoe-like" tools. The intermediate context contained only expedient tools and the small "hoe-like" tools. The "pure" context had some expedient tools, large "hoe-like" tools, and general utility bifaces (Slide).

(Slide) Expedient tools, or utilized flakes, are hard hammer percussion flakes, flake fragments, or nodules, exhibiting edge damage patterning (Shafer 1983:235; Figure 3) . Examining the patterning at low resolution (10X), I documented a variety of expedient tool functions -- a majority of which were indeterminate. Interestingly, Gero (1993:169) argues that cross-culturally prehistoric women made many of the utilized flake tools found in the domestic context.

The appearance of irregular chert cores -- the piece of stone that you strike in order to produce flakes (Whittaker 1994:14) -- suggests the initial stages of formal and informal tool production took place in the near domestic context.

(Slide) Polishing stones are small, oval or round, ground stones used to burnish ceramic vessels (Rice 1987:138-139, 150; Figure 4). The few Guatemalan ethnographies (Reina and Hill 1978) I read suggested that household pottery

manufacture was dominated by women. Perhaps the feminine role of potter in the rural household context was a traditional byproduct from the Lowland Maya region. However, more research would draw out the subtle intricacies of pottery production gender roles.

(Slide) General utility bifaces, a ubiquitous tool found during the Late Classic period, are large oval bifaces usually made out of chert. Using ethnographic and archaeological evidence, McAnany (1992) argues oval bifaces found at Pulltrouser Swamp in Northern Belize were used as weeding and tilling implements. (Slide) One complete general utility biface exhibiting similar patterning was found in the "pure" agricultural context. However, the careful interplay of analogy, context, experimentation and use wear patterning, should guide stone tool functional interpretations.

I bring this up because general utility bifaces were probably used for a variety of purposes. (Slide) The lexical diversity is documented in the Diccionario Maya Cordomex (Clark 1995; Table 1). Summarized in this table are more than eight different axes, a suggested equivalent of general utility bifaces.

Consequently, the macrowear study I performed can only suggest a functional interpretation.

(Slide) Interestingly, another distal fragment from the "pure" context exhibited extensive sickle gloss, readily apparent to the unaided eye. The highly polished edge and dorsal face were smoothed and rounded, resulting from phytolith additives from grassy plants to the tool surface (Kamminga 1979:151, in Clark 1995:128).

Clark (1995) argues oval bifaces exhibiting sickle gloss were used in a similar manner as today's machetes. A modern day Lacantun oval biface exhibiting sickle gloss on only one of the exterior edges suggests it was hafted similar to depictions in ancient Maya codices. (Slide) Here is a picture of the Lacantun oval biface. (Slide) This is a slide demonstrating two hafting techniques used by the ancient Maya in the Dresden Codex. (Slide) And here are several other hafting techniques illustrated in the Dresden and Madrid Codices -- notice they are all masculine gods holding the tools. Based on this evidence, I would argue that at least this distal end represents a tool that was used to clear forest -- principally secondary growth, including grass and possibly old corn stalks. Furthermore, based on the ethnographic and ethnohistoric information, I would argue that this particular tool is a byproduct of forest clearing -- a masculine activity.

(Slide) Two new tool forms -- the small and large, tabular-shaped, broad-based distal, tools -- showed evidence of hafting. Irregular micro-flaking occurred on both tool faces and edge damage from use exhibited extensive crushing with some rounding and polishing. The polish appeared a relatively dull texture compared to the sickle gloss previously discussed. Microwear analyses at Late Classic Copan revealed that a dull polish with a matte texture results from soil abrasion.

The broad blade while amenable to a transverse haft like a modern hoe could have been mounted using a simple socket haft at a right angle to the blade. The similar shape and particularly their strict occurrence in an agricultural context, in conjunction with the usewear patterning suggest these tools shared a similar function to present day hoes.

(Slide:Chart 6) Interestingly, the larger "hoe-like" tools are strictly found in the "pure" agricultural context and the smaller tools in the "domestic" and "intermediate" contexts. The ethnographic evidence demonstrated that men and women used a hoe for weeding. The archaeology indicates that weeding occurred in all the sampled agricultural contexts, presumably by men and women.

(Slide) In summary, the archaeological evidence suggested the masculine forest clearing task using a machete-like tool occurred **away from the solar** in the "pure" agricultural space. Moreover, the tools found in the "pure" agricultural context represented a specialized agricultural tool kit, including weeding and forest clearing tools -- presumably used by men, and younger and older women. (Slide) A majority of the artifacts found in the "near" domestic context represented activities often associated with a woman -- perhaps a nursing woman and her children. The "intermediate" space was more similar to the "domestic" space and lacked the specialized agricultural tools associated with the "pure" agricultural space.

(Slide) To help reduce the costs associated with crop loss, farming strategies employed during the Late Classic required individuals to farm not only within the immediate vicinity of the solar but also concurrently in different environmental regimes. So while the distinction is not as clear as the infield:outfield dichotomy -- there were probably people working away from home in different parts of the landscape alone and in small family, lineage and community groups. I propose that "pure" agricultural space represented the archaeological correlate of away from home fieldwork. I presented the lithic tool variation along the agricultural

continuum making suggestions regarding possible engendered behavior.

Furthermore, to avoid the traps of a direct historical approach (Thomas 1997), I used the ethnohistoric and iconographic information as time-depth indicators of continuity and change in gender ideologies. As expected, I found many dissimilarities between the ethnographic present and ethnohistoric past and one similarity -- away from home fieldwork is symbolically and ideologically associated with men even though women performed a great deal of fieldwork. I think its important to understand that just because women might be more symbolically and ideologically associated with "domestic" tasks and men with farming -- its when we place judgement on those positions as being subordinate that our western biases monopolize our interpretations.

I agree with Robin (1998) that breaking down western formulated dichotomies and preconceived notions of strict engendered space is the first step to a fuller understanding of ancient Maya gender ideology. However, we are still faced with a problem of definition. What is engendered work and space? Gender is ambiguous because it is everchanging in the life cycles and cultural identity of each individual's role within their family, lineage, community, and overall culture.

We need to keep this in mind when initiating what I found a very productive model building process designed to explore gender division of agricultural labor.

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