

## **Cornmeal Production and Women's Roles: Changing Labor Patterns in the Northern Southwest**

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Mealing rooms, as a specialized architectural form, provide a unique opportunity for Southwestern scholars to address cornmeal production and the role of prehistoric Anasazi women. Mealing rooms were initially small, at least semi-subterranean pitstructures, with multiple metate bins dominating the floor. The permanent bin facilities and groundstone artifacts they contained, with little or no room for other activities, support the assertion that these were specialized structures devoted to mealing activities. After the introduction of multiple bins in separate mealing pitrooms primarily from A.D. 1000-1150 (Mobley-Tanaka 1997; Schlanger 1994, 1995), mealing rooms were incorporated into the surface pueblo roomblock and later into public courtyard settings (Ortman 1998; Spielmann 1995). Since mealing is ethnographically linked to women, both cross-culturally (Ember 1983; Friedl 1975; Martin and Voorhies 1975; White et al. 1981) and among historic Puebloan groups (Cushing 1920; Dozier 1983; Eggan 1950; Ortiz 1979; Parsons 1939; Stevenson 1892; Titiev 1992), these structures apparently represent space utilized by women in the past as well. Thus, mealing rooms provide a source of information to infer changes in women's use of space from the archaeological record.

Recently, several researchers have argued that mealing pitrooms provided a specialized locus for women's activities, and that these structures were related to the development of integrative kiva pitstructures (Mobley-Tanaka 1997; Schlanger 1994, 1995). The link between mealing rooms and kivas is evidenced by their one-to-one

correspondence and spatial association (Mobley-Tanaka 1997:441; Morris 1986:42; Schlanger 1994:7-8, 10). Mealing rooms were generally located just east or west of the kiva (Mobley-Tanaka 1997:441; Morris 1991:663) (see Figure 1). While there appears to be an undeniable link between mealing rooms and kivas, what are the implications of this fact for women's labor patterns?

Jeanette Mobley-Tanaka (1997) and Sarah Schlanger (1994, 1995) have both argued that the development of ritually prescribed differences between the sexes may be linked to the construction of mealing rooms. A mealing room provided a specialized structure for mealing activities where groups of women could work and socialize together. Ethnographically, the importance of ground meal for ceremonies and ritual was notable among the historic pueblos (Cushing 1920; Hough 1915; Parsons 1939; Schlegel 1977; Stevenson 1892; Titiev 1992; Young 1987). Although women were responsible for grinding the ritual cornmeal, the role of women within the ritual sphere was secondary to that of male tribal members (Parsons 1939; Stevenson 1892; Titiev 1992). Mobley-Tanaka (1997) and Schlanger (1994, 1995) both noted that the segregation of women's mealing activities into separate mealing rooms, and out of the site's integrative kiva pitstructure, may have signified the development of such a ritual division of organization between men and women. The current research builds on this premise by providing a more extensive analysis of mealing activities within mealing rooms and at other site contexts.

Prior to the development of mealing rooms, both Mobley-Tanaka (1997) and Schlanger (1994) noted that groundstone artifacts and mealing activity areas were commonly found within pitstructures. Likewise, they implied that mealing practices

decreased within kiva pitstructures when mealing rooms were present. However, neither of these studies actually addressed where mealing activities occurred outside of mealing rooms. Does the evidence provided by groundstone tools support their argument when assemblages are compared between the two structure types? Were mealing facilities oriented to promote women's interactions? Was the spatial orientation of mealing features similar at different site contexts? These are critical questions for evaluating where mealing activities were focused, and how the use of space for these activities changed through time.

### **The Study Region and Research Questions**

In this paper I use data from the Mesa Verde Region of the American Southwest to address how mealing activities changed within architectural spaces (Figure 2). Data come primarily from the Dolores Archaeological Program, the Four Corners Archaeological Project, and the Crow Canyon Archaeological Center (Figure 3). The excavated sites used from these projects fall into the A.D. 650-1250 time range (Tables 4.1-4.3, Perkins, in preparation).

I use three primary sets of data to address women's use of space for cornmeal production. First, I assess the grinding orientation of mealing features at different site contexts: mealing rooms, kivas, and other non-mealing rooms such as domiciles and limited activity structures. Then, I compare mealing activities in pitstructure/kivas when mealing rooms were present and absent from the site. Finally, I evaluate the size of pitstructure/kivas at settlements with and without mealing rooms. I use these data to assert that the social interaction of women was an important component determining the

spatial configuration of mealing features and that the presence of mealing rooms significantly affected the use of kivas.

### **The Spatial Orientation of Mealing Features at Different Site Contexts**

I first describe the spatial characteristics of mealing facilities to shed light on the production process involved with mealing corn. Because mealing rooms frequently housed multiple mealing bin complexes, Anasazi women could come together to perform intensive production activities and interact as a group. Fred Eggan (1950:129, 131) recognized the importance of women's interaction at multiple mealing bin complexes for Anasazi social organization fifty years ago. In addition to the presence of multiple facilities in the same structure, another clear indication that women socialized while mealing corn was provided by the orientation of mealing features. Because the metate was slanted downward from the processor, this information can be used to infer grinding direction.<sup>1</sup>

Three specific characteristics of grinding direction were noted—whether women faced each other, whether grinding direction was related to structure doorways, and whether the direction faced within mealing rooms was towards the associated kiva.

The orientation of mealing features provides clues to women's social interactions. If women faced each other rather than having their backs to the center of the room, this suggests they were actively engaged in social interactions while mealing corn. The orientation of doorways may also be relevant. Because mealing rooms regularly lacked a hearth, they primarily relied on natural lighting conditions (Harmon 1998). If mealing features were oriented towards the door, then more light was focused on the mealing

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<sup>1</sup>Even though grinding direction was rarely discussed within the text of the published literature, it was often

activity area. Finally, Mobley-Tanaka (1997:441) suggested that mealing stations were setup to face the associated kiva as an indication of women's roles within the ritual sphere. However, it may be that mealing facilities were setup to have visual access of the doorway. Previous researchers have noted that structure doors tend to be oriented toward the kiva, which was a focal point of the community. Mealing bins may simply be oriented towards the structure entry so the processors could see outdoors and so more light was focused on their activities.

A total of 169 mealing features were identified from 60 sites, with the grinding direction faced by processors assessed by structure type. Mealing features included both *in situ* metates on prop stones and permanent mealing facilities constructed into the floor such as mealing bins, adobe metate rests, and collecting basins.

**Table 1 Summary of mealing feature characteristics.**

<b>Structure type</b>	Mealing rooms (n=22)	Kivas (n=27)	Other non-mealing rooms (n=42)	Room totals (n=91)
Rooms with a single mealing feature	1	15	27	43
Rooms with multiple mealing features	21	12	15	48
Rooms with multiple mealing features that are side contiguous (+ denotes spaced near each other, side by side)	20	1 + 2	4 + 2	29
Rooms with multiple mealing features that are top contiguous	2 top & side	3	1 top & side	6
Rooms with multiple mealing features that are noncontiguous	1	6	9	16

\* Data from Appendix 5 (Perkins, in preparation).

The data from Table 1 indicate that mealing rooms were usually setup with metates placed contiguously side-by-side one another. The side contiguous pattern was present in 95% (20 of 21) of mealing rooms with multiple features. Such an arrangement

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discernable from structure and feature maps in reports or field notes.

was probably the most efficient construction method so that bin walls could be shared between mealing stations. It also facilitated an assembly line production method so that meal could be passed down the line and become successively ground, from course to medium to fine texture (Bartlett 1933:4, 14; Beaglehole 1937:62; Eddy 1979:7; Lange 1968:116).

In addition, side contiguous bins were usually constructed with space between the bottom end of the bin front and the structure wall for kneeling (Bartlett 1933:12, 15; Dorsey 1899:741; Eddy 1979:5; Lange 1968:116; Gumerman 1984:89; Morris 1991:663, 675; Woodbury 1954:63-64). Bracing ones feet provided more leverage to facilitate the grinding process. Based on a sample of 20 mealing activity areas where the distance to the wall or foot rest from the mealing area was reported, the average kneeling distance was 48.7cm, with a range from 35cm to 55cm (data from Table 7.13, Perkins, in preparation). These archaeological data are directly in line with Bartlett's (1933:15) ethnographic average of 45cm from the Hopi. Therefore, mealing stations were setup toward the center of these generally small rooms so that Anasazi women could take advantage of structure walls for bracing their feet. Thus, mealing rooms usually contained side-by-side contiguous mealing bins that dominated the floor of the structure.

In contrast, non-mealing rooms were used for multiple activities and tended to have noncontiguous mealing features (Table 1). When contiguous facilities were present in non-mealing rooms, they tended to be constructed head-to-head with the top end of the bins contiguous. Kivas with multiple features often had top contiguous bins (25% or 3 of 12), which limited the floor space taken up because the bins were generally constructed parallel along one wall. One of the disadvantages of constructing top contiguous mealing

bins along a wall is that women had no convenient place to brace their feet while grinding. But in at least one kiva with top contiguous bins reported here (33% or 1 of 3), slab foot rests were constructed into the floor to serve this purpose instead of a structure wall. Although top contiguous bins were also occasionally built in mealing rooms (n=2 or 10%), this was in addition to a side contiguous pattern of several other features. The only time side contiguous mealing appeared within kivas (n=3 or 11%), this was indicated by *in situ* metates that were not permanent facilities. They could be removed and re-setup as space and needs required.

The predominant pattern of side contiguous bins in mealing rooms meant that women were side-by-side and facing in the same direction as they worked, promoting easier interaction than if their backs were to one another. Although having one's back to another processor within the small confines of a mealing room did not preclude talking, it certainly seems that interactions would be easier if women were not facing opposite directions. Table 2 summarizes the direction of mealing features in relation to other processors within the same structure when multiple features were present.

**Table 2 Summary of grinding orientation in relation to other processors.**

<b>Structure types with multiple mealing features</b>	Mealing rooms (n=21)	Kivas (n=12)	Other non-mealing rooms (n=15)
Rooms with a side or direct view of other processors	19	9 (1 unk)	7 (5 unk)
Rooms with mealing features back to back	2	2	3
Percentage of rooms with mealing features back to back	10%	17%	20%
Mealing feature totals	63	40	66
Features with processors back to back	4	4	6
Percentage of features with processors back to back	6%	10%	9%

\* Data from Appendix 5 (Perkins, in preparation).

unk = unknown

Only two mealing rooms with a total of four mealing stations were setup so that women were facing opposite directions (Table 2). The exceptions included two *in situ* metates that could have been setup in different directions, and a room with four facilities within a small space that limited the orientation of the fourth mealing station. The remaining 90% of mealing rooms were oriented so that the women faced in the same direction, directly faced one another, or had a side view of one another. Only 6% of the individual mealing stations had processors with their backs to each other. It is clear that mealing features within mealing rooms were oriented so that women could have direct eye contact with each other as they worked.

As was the case with mealing rooms, four mealing stations in kivas had processors back to back (Table 2). All four cases involved *in situ* metates. Ten percent of the mealing stations in kivas were setup so that women faced opposite directions. However, the percentage of kivas where women had their backs to one another was higher than mealing rooms at 17%.

Within other non-mealing rooms, 20% of structures included features that were back to back (Table 2). In all six cases, these were *in situ* metates facing opposite directions that could be re-positioned. Nine percent of the mealing features from non-mealing rooms were oriented so that women had their backs to each other. These slightly higher values within kivas and other non-mealing rooms are likely due to the larger number of *in situ* metates over permanent facilities (Table 3).

**Table 3 Summary of permanent and temporary mealing features.**

<b>Structure type</b>	<b>Mealing rooms (n=22)</b>	<b>Kivas (n=27)</b>	<b>Other non-mealing rooms (n=42)</b>	<b>Room totals (n=91)</b>
Mealing feature totals	63	40	66	169
Permanent mealing facilities	61	16	28	105
Temporary mealing features (including <i>in situ</i> metates on prop stones)	2	24	38	64
Percentage of temporary mealing features	3%	60%	58%	38%

\* Data from Appendix 1 and Appendix 5 (Perkins, in preparation).

A majority, or 60%, of the mealing features from kivas were simply denoted by *in situ* metates (Table 3). Other non-mealing rooms, such as domiciles and limited activity structures, also contained a majority of *in situ* metates over permanent fixtures at 58%. This contrasts sharply with mealing rooms that included two examples of *in situ* metates that comprised only 3% of features from mealing rooms. Thus, kivas and other non-mealing rooms contained more temporary features that did not restrict the use of certain areas to a single activity—a specialized locus for mealing.

**Table 4 Structure and feature totals of orientation in relation to other processors.**

<b>All structure types with multiple mealing features</b>	<b>Room totals (n=48)</b>
Rooms with a side or direct view of other processors	35
Rooms with mealing features back to back	7
Percentage of rooms with mealing features back to back	15%
Permanent mealing features with processors back to back	2
Temporary mealing features with processors back to back	12
Total mealing features with processors back to back	14
Percentage of total mealing features with processors back to back	8%

\* Data from Appendix 5 (Perkins, in preparation).

To summarize, in all structure types, the few cases when mealing features were not oriented so that women could interact while sharing visual contact primarily involved non-permanent *in situ* metates (n=12 or 7%) (Table 4). Only when space limitations were reached with as many as four separate mealing facilities in the same structure, did a permanent fixture force processors to turn their backs to one another (n=2 or 1%). When all mealing features are considered together, only 8% were oriented so that processors were back to back. The majority of mealing features, including both *in situ* metates and permanent facilities, were oriented so that women could see one another while actively mealing.

With mealing features oriented to promote interactions among processors through visual contact, how did their location relate to structure doorways? A summary of structures with available data concerning the orientation of mealing features to doorways is presented in Table 5 by structure type.<sup>2</sup>

**Table 5 Summary of grinding orientation in relation to doorways.**

<b>Structure types with adequate data to assess orientation in relation to doorways</b>	Mealing rooms (n=13)	Kivas (n=2)	Other non-mealing rooms (n=5)	Room totals (n=20)
Mealing feature totals	38	2	7	47
Mealing features with back to doorway	1	1	2	4
Mealing features with a side or direct view of doorway	37	1	5	43
Percentage of mealing features with a side or direct view of doorway	97%	50%	71%	91.5%

\* Data from Appendix 5 (Perkins, in preparation).

Within mealing rooms, the overwhelming majority of mealing features at 97%, were oriented so that processors had a direct or side view of an entrance (Table 5). Only

<sup>2</sup>Several mealing rooms and most kivas had roof hatch entrances making door orientation inapplicable. In

a single *in situ* metate had a processor's back towards the entryway. Thus, the direction faced by permanent mealing facilities was towards the entrance of mealing rooms.

Few kivas referenced an entryway because most were subterranean structures with a roof hatch entrance. However, two kivas included wall passageways (Table 5). One processor had a view of the passage into a corner retaining room. Another processor had her back to a door in the bench wall. It appears that side entryways within kivas were not a consideration when locating mealing features.

Other non-mealing rooms had two processors with their backs to an entryway (Table 5). Another single mealer directly faced a doorway. Four other features were oriented so that the processors could see at least one passage into the room. Although the sample size was small, 71% of processors faced toward an entrance. The orientation of mealing features towards structure doorways finds support from the limited data available from non-mealing rooms.

In conclusion, only half of the mealing features found in kivas were directed towards their entries. Other non-mealing rooms had a majority of features facing an entrance at 71%, but this value was not as high as mealing rooms at 97%. It appears that the location of doorways was an important factor considered when permanent features were constructed in mealing rooms. Such an arrangement allowed more natural light to be centered on mealing activities, particularly since a hearth was usually absent from mealing rooms.

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addition, surface structure doorways were often not discernable due to inadequate wall heights.

If mealing features in specialized mealing rooms usually faced the structure entrance, they might also be oriented towards the kiva. Table 6 summarizes structures with adequate data to assess grinding orientation in relation to associated kivas.

**Table 6 Summary of grinding orientation in relation to kivas.**

<b>Structure types with adequate data to assess orientation in relation to kivas</b>	Mealing rooms (n=20)	Kivas (n=2)	Other non-mealing rooms (n=16)	Room totals (n=38)
Mealing feature totals	58	4	21	83
Mealing features not facing a kiva	29	4	16	49
Mealing features directly facing a kiva	17	NA	1	18
Mealing features generally facing a kiva (+ denotes likely faced kiva)	9 + 3	NA	2	14
Mealing features directly facing an additional integrative kiva	NA	0	2	2
Total mealing features facing a kiva	29	0	5	34
Percentage of features facing a kiva	50%	0%	24%	41%

\* Data from Appendix 5 (Perkins, in preparation).

NA = not applicable

The highest percentage of features facing a kiva were found in mealing room contexts (Table 6). Mealing rooms had 17 mealing features that directly faced their associated kiva. An additional nine features generally faced in the direction of the kiva with another three examples likely fitting this category. Therefore, a total of 29 mealing features were oriented toward the kiva. However, the remaining 29 features did not face the kiva. With an equal number of features facing and not facing the kiva, it appears that mealing room features were not purposefully directed to face the kiva.

Although most kivas in the database were addressed to determine whether mealing features within the other structures at the site were oriented toward them, there were two kivas where mealing orientation was noted with respect to an additional

integrative kiva (Table 6). The two top contiguous mealing bins and the two contiguously spaced *in situ* metates with catch basins were not facing their associated integrative pitstructures. The orientation of mealing features within kivas appears to be autonomous to additional integrative structures, and instead, the visibility of processors in relation to one another appears to be the only noteworthy orientation for mealing features within kivas.

Within other non-mealing rooms, a single mealing feature directly faced its associated kiva (Table 6). Two mealing features generally faced their associated kivas. In two cases, the mealing features faced just west of their associated kivas, but they did face the additional integrative kivas that were present. The 16 other mealing features did not face their associated kivas, which comprises 76% of mealing features from non-mealing rooms. It is clear that mealing orientation within the majority of non-mealing rooms was not directed toward the associated kiva.

In summary, mealing features within all structure types were not consistently oriented towards their associated kiva. Although half of the mealing features within mealing rooms faced toward the kiva, the other half did not face the kiva. When non-mealing rooms were considered, even lower percentages were found with only 24% of features facing a kiva. Thus, the placement of mealing features was independent of the direction of associated kivas.

The proposal by Mobley-Tanaka (1997:441) that features in mealing rooms faced their associated kiva as an indicator of women's ritual roles was not supported. However, other evidence indicates that these structure types were connected. When mealing rooms were introduced they were subterranean pitstructures located in the public site plaza, with

a one-to-one correlation with a kiva pitstructure. Usually mealing rooms and kivas were the only subterranean structures built at pueblo sites and some sites had tunnels connecting the mealing room to the kiva (e.g., 5MT2544a) (see Figure 4).

Furthermore, previous research focusing on mealing pitrooms presented strong arguments that the two structure types were complementary (Mobley-Tanaka 1997; Schlanger 1994). However, a neglected aspect of this research was the evidence for mealing activities found within kivas. Therefore, the groundstone assemblages, the mealing facilities, and the sizes of kivas are addressed to provide further support that the use of these two structure types was interrelated and that women's roles within the ritual sphere were being differentiated from men.

### **Mealing Activities within Kivas when Mealing Rooms were Present and Absent**

Next, I compare pitstructure assemblages at sites where mealing rooms were present and absent.<sup>3</sup> If mealing rooms were built as a locus for group mealing activities that had previously taken place within the pitstructure/kiva, then evidence of mealing within kivas should decrease when a mealing room was present. Evidence of mealing was measured by comparing the number of permanent mealing facilities and groundstone artifacts from use-contexts.

Groundstone tools were defined as artifacts used in mealing related activities and included manos, metates, mortars, pestles, and hammerstones. Hammerstones were

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<sup>3</sup>Although several researchers (Mobley-Tanaka 1997; Schlanger 1994:7) assert that mealing rooms may not have been found during excavation because of a focus on the north-south patterning of unit pueblos, I can only use the current data available. The potential problem of unidentified mealing rooms was hopefully overcome because of the thorough procedures used in the projects contributing to this research. The analyses of kivas at settlements with the presence and absence of mealing rooms were based on the assumption that sites were adequately investigated to find these structures if they had been present. The fact that differences appeared between kivas at sites with and without mealing rooms also supports the use of these sites as fully representative of the prehistoric settlement plan for the majority of these sites.

included since they often served as tools for refurbishing groundstone surfaces as they were dulled through use (Gillespie 1976:92, 129; Lange 1968:117, 174; Schlanger 1991:462; Wright 1990:82-83). Based on evidence of ethnographic tool use and efficiency of tool form (Adams 1993; Bartlett 1933; Hard 1990; Lancaster 1986; Mauldin 1993; Morris 1990), these artifacts were divided into three categories of use: corn mealing tools, generalized grinding tools, and hammerstones. The distinction between corn mealing tools and generalized grinding tools simply recognizes that some tool forms were more efficient to use in the production of cornmeal and were regularly used for such activities ethnohistorically, while others tended to have more generalized functions based on their form and size (Chapter 5, Perkins, in preparation). Tools specifically linked to corn grinding activities included two-hand manos, trough metates, and slab metates. General grinding tools included one-hand manos, basin metates, mortars, and pestles. Hammerstones included nonflaked lithic hammerstones, peckingstones, flaked lithic used cores, and flaked lithic cobble tools.

Although transformation processes may affect groundstone floor assemblages, the current data were specifically tested to assess the influence of abandonment mode on the mealing indices used for this research (Chapter 6, Perkins, in preparation). Abandonment had an insignificant impact on the groundstone indices used to measure changes in women's production of cornmeal. Therefore, the pitstructure assemblages from the 51 sites included in Table 7 should accurately reflect prehistoric activities conducted by women.

**Table 7 Groundstone indices of pitstructure/kivas when mealing rooms were present and absent.**

<b>Mean groundstone indices of pitstructure/kivas</b>	with mealing rooms present (n=24)	with mealing rooms absent (n=39)
Permanent mealing facilities	0.2	0.4
Corn grinding tools	2.4	5.8
General grinding tools	1.2	1.7
Hammerstone tools	2.2	3.6
Total groundstone tools	5.8	11.1

\* Data from Table 6.4b and Table 6.4c (Perkins, in preparation).

When the groundstone indices for pitstructure/kivas with mealing rooms present and absent were compared, notable differences were apparent in all categories of mealing tools and facilities (Table 7). Pitstructure/kivas with no mealing room had 11.1 total groundstone tools, which was double the number of tools found when a mealing room was present. Further, when the three different categories of groundstone tool types were compared, the largest difference was between counts of corn grinding tools, with 5.8 at sites without mealing rooms and 2.4 at sites with mealing rooms. The total number of mealing tools, and particularly the number of corn grinding tools, decreased when mealing rooms were constructed as part of a site's settlement plan.

Although only a small number of permanent mealing features were found in pitstructure/kivas, the number doubled from 0.2 facilities when a mealing room was present to 0.4 facilities when a mealing room was absent. Thus, the use of space for mealing activities decreased within pitstructure/kivas when a mealing room was present at the site.

I also compared pitstructure/kiva sizes between sites with and without mealing rooms in Table 8.

**Table 8 Pitstructure/kiva sizes when mealing rooms were present and absent.**

<b>Pitstructure/kivas</b>	with mealing rooms present (n=24)	with mealing rooms absent (n=38)
Average pitstructure/kiva size	14.45m <sup>2</sup>	19.21m <sup>2</sup>

\* Data from Appendix 4b and Appendix 4c (Perkins, in preparation).

The average pitstructure/kiva size at sites with mealing rooms present was 14.45m<sup>2</sup> (Table 8). The average pitstructure/kiva size increased to 19.21m<sup>2</sup> at sites with mealing rooms absent. The smaller average kiva size at sites with mealing rooms present appears to be linked to the construction of mealing rooms. Data concerning kiva sizes assembled by James (1994:225, 256-259) also confirmed these findings (Chapter 7, Perkins, in preparation). This supports the proposition that mealing activities decreased within pitstructure/kivas as noted by the decrease in structure size when mealing rooms were built.

## **Conclusions**

In summary, several patterns in the placement of mealing features were noted. Mealing rooms consistently contained side contiguous mealing bins, marked by 95% of multiple features. When the orientation of mealing features to doorways was assessed, only mealing rooms showed a consistent orientation, with 90% of features having a direct or side facing view of the entrance. This may be related to the fact that mealing rooms usually lacked a hearth for lighting. However, 71% of non-mealing rooms also contained mealing features that faced an entryway.

Other patterns predominated in all three categories of structure types. Mealing rooms, kivas, and other non-mealing rooms had mealing features oriented so that the processors had visual contact with each other while actively mealing. Only 8% of all mealing features were situated so that women were back to back and not facing each other. The data suggest that social interactions were an important aspect of cornmeal production, whether such activities were performed in mealing rooms, or other structures. The orientation of mealing features emphasized women's labor patterns as being interactive concerning the production of cornmeal for both subsistence and ritual use.

In addition, no structure types showed a consistent orientation of mealing features toward the kiva. Although mealing rooms had twice as many mealing features facing the kiva over non-mealing rooms (50% versus 24%), there was an equal number of features not facing the kiva from mealing rooms. Therefore, kiva orientation did not appear significant to the grinding direction faced by processors within mealing rooms, or at other site contexts.

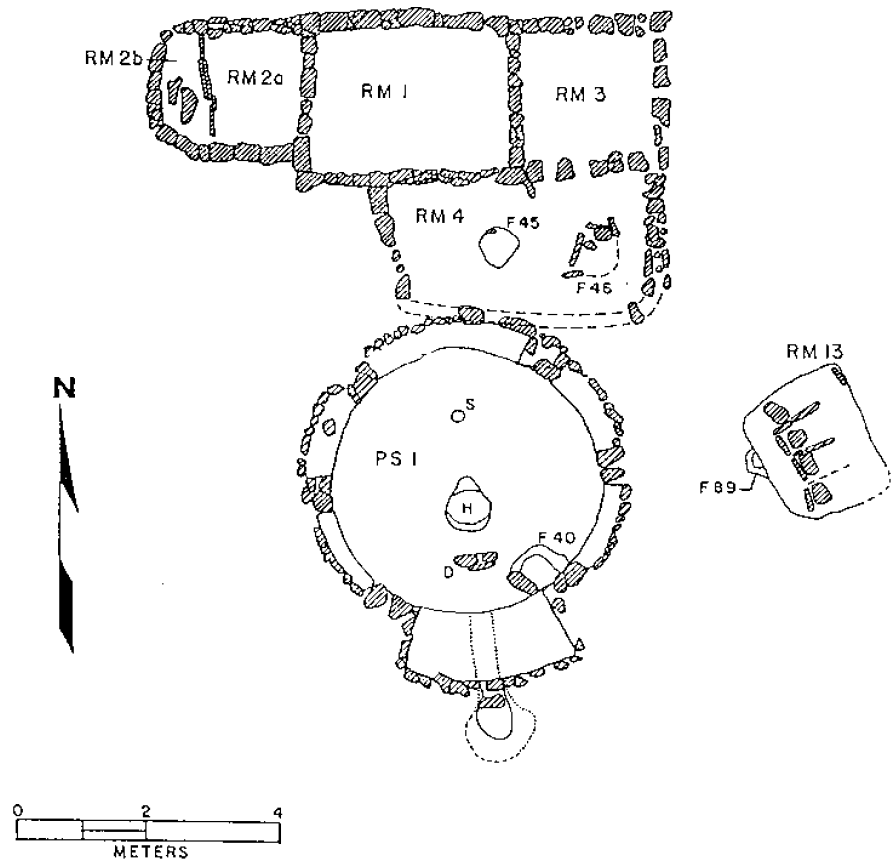
However, comparing mealing activities within kivas when mealing rooms were present and absent indicated that these structure types were interrelated. Groundstone assemblages and permanent mealing facilities were significantly decreased when a mealing room was present at the site. In addition, the size of kivas was smaller at sites when a mealing room was present. These findings clearly point to a link between the construction of specialized mealing rooms and a decrease in mealing activities in their associated kivas.

Indeed, it appears that the production of cornmeal was separated into its own specialized structure while decreasing in kivas when a mealing room was constructed at a

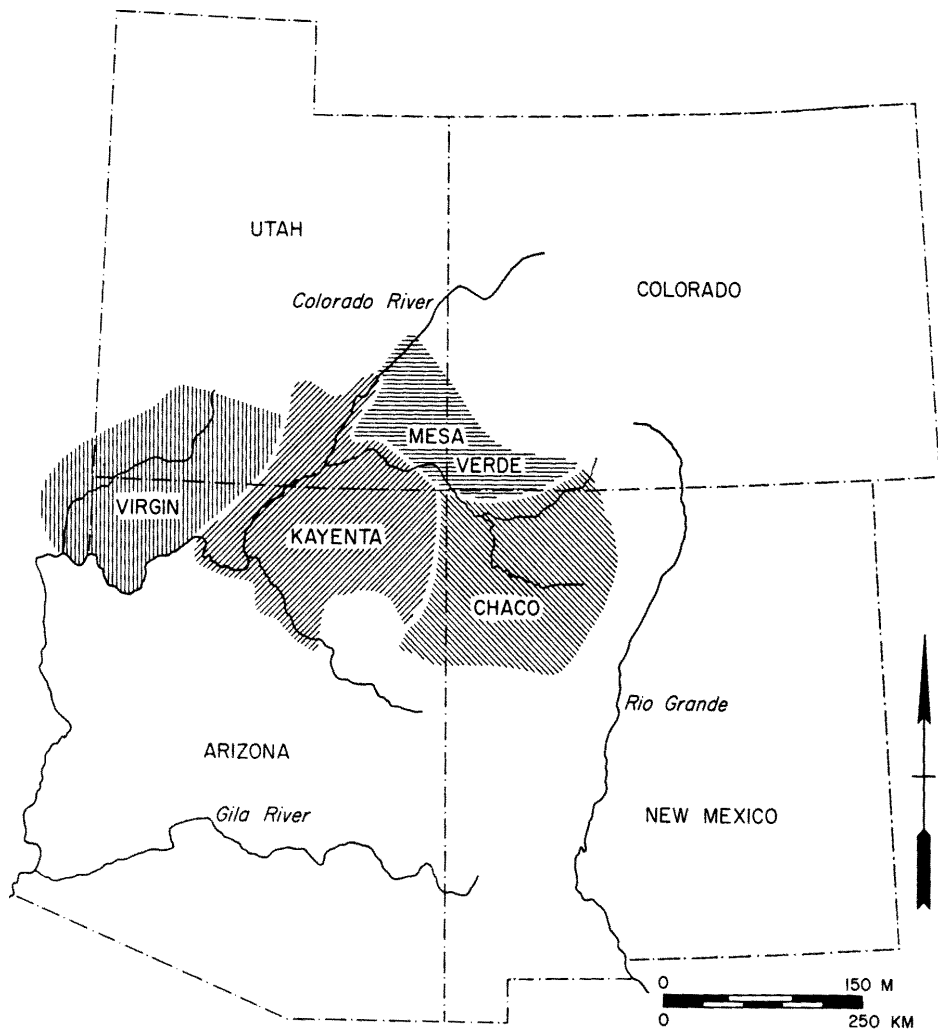
settlement. However, not all sites included mealing rooms as part of their settlement plan. Irregardless, it appears that mealing features were oriented to promote the interaction of women even when they were not located in a specialized mealing room. All structure types emphasized that grinding orientation toward other processors was an important aspect of mealing feature locations. The few instances when mealing features were oriented so that women did not face each other primarily involved *in situ* metates that were not permanent facilities. As first emphasized by Eggan (1950), the interaction of women in the production of cornmeal had a far-reaching impact on Anasazi social organization. The spatial configuration of mealing features emphasized the social interaction of women and also highlighted the separation of women's and men's ritual roles.

### **Acknowledgements**

I would like to thank several people and institutions for their help in the course of this research, which forms part of my dissertation. First, the Anasazi Heritage Center in Dolores, Colorado, was a welcome research facility with particular help from Victoria Atkins, Susan Thomas, Carolyn Landes, and LouAnn Jacobson. At the Crow Canyon Archaeological Center in Cortez, Colorado, staff members who facilitated this research include Melita Romasco, Mark Varien, Scott Ortman, Karen Adams, Mary Etkorn, and Lee Gripp. The National Science Foundation provided financial support in the form of a Dissertation Improvement Grant, No. SBR – 9713107. A final thanks goes to Alison Bell for helpful discussions during all stages of this research.

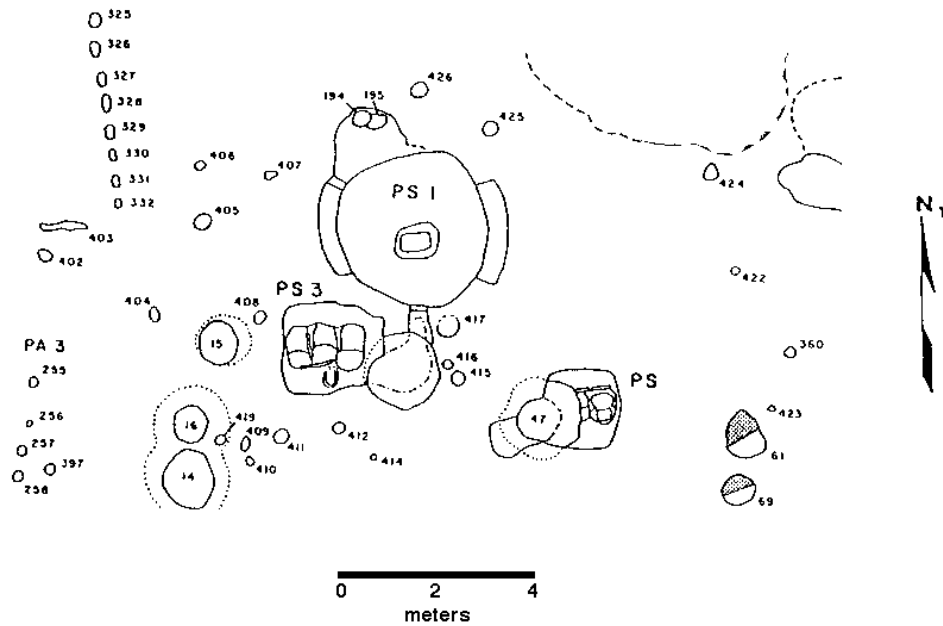


**Figure 1 Site plan of typical mealing room location at 5MT8934b. The mealing room is just east of the kiva (adapted from Hovezak, Bertram, and Hammack 2000:117, Fig. 3.30).**



**Figure 2** Anasazi cultural traditions of the American Southwest  
(copied, with permission, from Petersen 1988:3, Fig. 1).





**Figure 4** Site plan at 5MT2544a with tunnel connecting kiva and mealing room (to southwest). Southeast of the kiva is another mealing room that was abandoned while the use of the kiva continued. It appears that the two mealing rooms were not contemporaneous (adapted from Morris 1991:410, Figure 5.7).

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