Baking Culture: A Taste of Akrotiri, Greece Circa 1650BC

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RESEARCH GOALS

Food forms a critical linkage between people and their environment. How and what people eat relates to a variety of cultural factors including social norms, socioeconomic status, ethics, and religion. The types of foods eaten also provides a window into land-use practices (think farming and deforestation). Therefore, understanding ancient foodways remains an important focus within archaeology. Archaeologists rely on traces of evidence left behind long ago to understand past peoples. Carbonized seeds (aka. archaeobotanical remains) and other plant tissues provide windows into possible foodstuffs utilized. In addition, archaeologists rely on oral history and traditional ecological knowledge and practices to gain entry into the past. The stories people tell and the things they produce often have deep historical roots. This project draws on these data sources to reconstruct the nature of early bread at Akrotiri – an ancient Minoan site located in the Mediterranean Sea. There is a long tradition of baking a dense, crisp, unleavened barley-based bread in Crete, Greece. The Cretan Paxamadia, or rusk, is a rounded double baked bread. Often, people use barley as the main ingredient in this foodstuff.

Fig. 1 Different variations of Paximadia.

Historically, people described paxamadia as "peas ant food" since it can be made with a variety of different grains, and it has a long shelf life. Today, these rusks are a staple in the Mediterranean diet. Archaeobotanical data collected during the excavations at Akrotiri provides insight into the types of grain used millennia ago (Figure #2). Triticum (wheat) and Hordeum (barley) appear in several different contexts and the latter appears with the greatest frequency. Using this information in conjunction with a long history of rusks in Greek cuisine, my research sets forth to reconstruct these early breads using age-appropriate technology.

Volume (litres)	42	8	24	25	7.5	total	10.5	62	36
Loci (see Table 35.7)	A	A	A	A	A	A	B	B	D
Sample number	WF 2000(668)	WF 2000(695)	WF 2000(715)	WF 2000(710)	WF 2000(915)		WF 2000(694)	WF 2000(697)	WF 2000(923)
Plant species									
Cereals									
Triticum cf. *aestivo-compactum*				1		1			
Triticum monococcum spkt. fork				1		1			
Triticum sp. spikelet fork-indet.					1	1			
Triticum cf. *monococcum* - glume base	1			2		2			
Triticum sp. - glume base						0		1	
Triticum sp. - awn	1			1		2			
Hordeum sp. - hulled	8			15		23		17	
Hordeum sp. - hulled 6-row						0	3		9
Hordeum sp. (hulled) frags.						0		2	
Hordeum/Triticum grains				8	2	10		3	6
Hordeum (bulgur frags.)						0		3	
Hordeum cf. *distichum rachis* frags.			2			2			
sterile florets cf. *Hordeum* sp. (cf. *distichum*)			4			4			
Hordeum sp. rachis			1	4	1	6	2		1
Hordeum murinum-type rachis						0		1	
Hordeum wild (?) rachis			1			1			
Hordeum sp. - awn (charred)		1	3	2	22	28		11	48
Cerealia frags.	5		5		9	19	9	4	23
Cerealia (cf. *Hordeum* sp. rachis)						0		1	
Cerealia - awn (# *Hordeum*; # *Triticum*)						0		1	
cf. *Catapodium* sp.						0		4	

Fig. 2 Archaeobotanical (seed) material from Akrotiri, Thera, Pessos 65N.

Ingredients	Recipe 1	Recipe 2	Recipe 3	Recipe 4
Yeast	2.5 tsp	2 tsp	2 tbsp	2tbsp
Salt	pinch	1 tsp	1/2 tbsp	1 tbsp
Barley	1/2lb	4c	5 c	2c
Einkorn	1/2lb	-	3c	2 1/2c
Water	1 1/2c	1 1/4c	3c	1 1/3c

Fig. 6 Measurements used from recipes to create proto recipe, as seen below in Fig. 7.

With Yeast	Without Yeast	Half With Yeast	Half Without Yeast
2 tbsp	-	1 tbsp	-
1/2tbsp	1/2 tbsp	1/4 tbsp	1/4 tbsp
4c	4c	2c	2c
3c	3c	1 1/2c	1/12c
1 1/3c	1 1/3c	2/3c	2/3c

DISCUSSION

The results proved to show six different results, depending on both; baking technique and recipe. Each baking method had different temperatures and moisture levels, causing differences within the final product of paximadia. The recipe without yeast took longer to cook because of lesser amount of glutenous gas within the dough itself. The bread without the yeast also rolled more easily than the yeast recipe, causing them to have a more dramatic physical difference. Each bread that was cooked in the Dutch oven took the longest, with the most regulated temperature and dense moisture content. The drier the bake, the lighter the color of the paximadia. The hearth proved to be the fastest method, with the least amount of moisture content.

Fig. 3 Clay Pot Method in action at HEARTH.

Fig. 4 In-tact cooking vessel found at Akrotiri Excavation site.

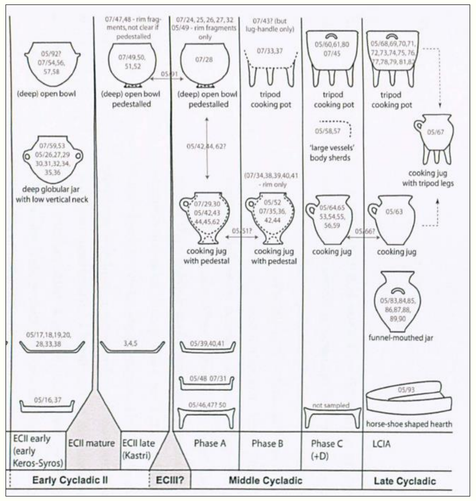

Fig. 5 Representation of evolution of cooking vessels in Akrotiri, Greece.

METHODS

Experimental archaeology attempts to improve our understanding of the past through controlled experiments using age-appropriate raw materials and technologies. For this research, I use a methodology grounded in experimental archaeology to recreate a "proto" recipe for paximadia (Figure #6 &7). To do so, I draw from the archaeobotanical findings (Figure # 2) to arrive at my ingredient list. Traditionally, people make paximadia primarily out of barley (Hordeum sp.). Since barley appears most frequently in the archaeological record at Akrotiri, the analogy seems warranted.

The second part of my methodology involved baking the paxmadia using three different archaeologically inspired approaches:

1.) Under a ceramic vessel that was situated adjacent to a live fire

2.) Directly on hot masonry within a wood-fire bread oven

3.) Using a Dutch oven in a conventional household oven. This approach served as a control.

CONCLUSIONS

Within this research, life at Akrotiri circa 1650BC can be tasted for in the slightest. Each variation of paximadia has small, but distinct flavor differences, making the call for this research much more prominent. The variations also differed in color, shape and density- but is also dependent on the vessels used for baking. If we can taste a piece of the past, how can we better understand social norms, status, ethics, religion or other culturally important elements? In experiencing food culture ourselves, will it be a new factor in understanding archaeology as a whole?

Fig. 7 Top recipe of paximadia has no yeast, while Fig. 8 below contains yeast.

FUTURE RESEARCH

The wide variety of results is a significant factor within my results because it shows how easily diverse food can be. This raises the question of what I can as an archaeologist to better understand Akrotiri's food culture. Can the botanical remains from the site be used in an authentic recipe? How long can yeast in Akrotiri lay dormant, and can it be resurrected? If yeast from the site can be revived, would it create a more accurate taste to the ancient world?

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