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Regional diversity in the Predynastic pottery of Upper Egyptian settlements

Introduction

Since the discovery of the mortuary remains of Predynastic cultures in Upper Egypt a little over a century ago, the pottery found within the numerous graves has been used to date, define and chart the social and technological development of these earliest settled inhabitants of the Nile Valley. The ceramics from the settlements of Predynastic Upper Egypt, however, have hitherto never been fully described, and this diverse body of information has remained an unexploited resource for furthering our understanding of the developments and interactions which led to the establishment of the Dynastic Egyptian state.

During the heyday of Predynastic research in the early part of this century cemeteries were the focus of attention, but some 20 settlements were also identified. Although only a handful of them were excavated, each one produced a huge amount of pottery. Because the early excavators were hampered by the lack of a relevant framework from which to study these settlement assemblages, the ubiquitous rough wares were generally ignored in favour of more familiar and attractive finer wares. It was on the basis of the relatively rare polished wares and their comparable forms in cemeteries that the settlements were dated and their ceramic contents characterized. An examination of the complete ceramic assemblages from the recent excavation within the Upper Egyptian settlements has revealed that many important insights into Predynastic culture and its regional characteristics were overlooked by previous investigators using traditional descriptive methods (Friedman 1994).

Settlement Pottery

In order to describe and compare the full range of diversity found within

the ceramic assemblages of settlement sites over time and space, the pottery from recently excavated portions of various localities within the settlements at Hierakonpolis, Nagada and Hemamieh was examined (Fig. 1). Geographically, the sites furnish ceramic samples from the full extent of what has been considered the heartland of Upper Egyptian Predynastic culture. The northernmost sector of the Upper Egyptian cultural milieu in the Badari region of Middle Egypt is represented by the selective sample from Caton-Thompson's (1928) excavations at Hemamieh now housed in museums in Britain and is supplemented by the results from the recent re-examination of the site (Holmes and Friedman 1994). The complete ceramic assemblages from a number of localities within the large multi-component site of Hierakonpolis supply the evidence to assess the character of settlement pottery at the southernmost border of what is considered pure Upper Egyptian culture (Hoffman 1972, 1982, 1989; Geller 1984, 1992; Harlan 1985; Friedman 1996). The assemblages from excavations in the Nagada region at a series of small villages and hamlets located along the desert edge collectively called the Khattara sites and also at South Town conducted by Hassan in 1980 (Hassan 1981; Hassan and Matson 1989) exemplify the material from the geographical mid-point of the Upper Egyptian cultural expanse, which, since Kaiser's (1956, 1985) influential work, has been considered the nodal point of mainline Upper Egyptian Predynastic culture.

Together, the ceramic assemblages from these three areas span the entire Predynastic period in Upper Egypt. The evidence from over half a million sherds ranging in date from Badarian, the first undisputed ceramic-bearing occupation in Upper Egypt, to the end of the Predynastic period, or late Gerzean (Nagada II/IIIa), has been examined. Unfortunately, not every phase is well represented in the ceramic samples available from each region. The shaded areas in figure 1 indicate the periods covered by the studied sample. Nevertheless, comparable assemblages from the late Nagada I/early Nagada II period, here called Amratian to avoid confusion with phases determined from the study of the mortuary sphere (Kaiser 1957), and the Gerzean, or Nagada IIc-d, were present at all three sites providing sufficient temporal overlap for meaningful comparison within these two major traditional subdivisions of the Upper Egyptian chronological and cultural sequence.

The examination of the ceramic material utilized a modified version of the taxonomic classification system devised by Hoffman and Berger (1982) specifically to record potsherds. This system places at the primary level fabric as defined by a combination of clay type (Nile silt or marl) and macroscopically visible tempering agents (e.g., organic matter, straw, grog, shale, etc.), which, for the most part, appear to have been purposeful additions to the clay. Shape, as subjectively and empirically determined from the diagnostic sherds, is bound to fabric. The independent variables of surface treatment and decoration are considered in relationship to both fabric and shape.

Phase	Date BC	Hierakonpolis	Nagada	Hemamieh
Protodynastic	3000			
	3100	Nekhen	Cemetery	Graves
	3200			
Gerzean	3300			Upper Levels
	3400	HK29A	South Town	
	3500	HK29,24a		
Amratian	3600	HK14		
	3700	Sondage	KH sites	
	3800			
Badarian	3900	Cores		Lower Levels
	4000	?		
	4100		Spot finds	
	4200		?	
	4300			
	4400			

Fig. 1. The temporal range of the Predynastic sites of Hierakonpolis, Nagada and Hemamieh. Shaded areas refer to periods for which the ceramic sample has been examined.

The most notable outcome of the examination of these settlement assemblages has been the elucidation and definition of regional pot-making traditions in the Amratian phase in each of the geographic areas. Specifically, while the fine, untempered, polished pottery was similar at all sites, the coarse utilitarian pottery, not present in contemporary graves, was strikingly different in each region with regard to tempering agent, manufacturing technique and surface finish. These marked regional variations are a previously unknown aspect of a culture usually considered, on the basis of its graves, to be remarkably homogeneous. This evidence of regionalism hints at a much more complex cultural and political situation in Upper Egypt than expected from the study of the mortuary complex alone.

Significantly, this regional diversity disappears by the mid-Gerzean period (Nagada IIc), already established as a time of increased social stratification and societal change. By this phase, the local utilitarian pottery had been replaced by a standardized, technologically superior, chaff-tempered fabric; Petrie's Rough Ware. This new pottery is identical in temper, manufacturing technique and shape at all sites and represents a major departure in production mode and style from what had been in use previously for utilitarian purposes. This new, standardized pottery appears at Hierakonpolis, and possibly other sites, in conjunction with a suite of specialized activities, such as standardized blade manufacture and large scale beer production. These transformations are not only useful as chronological markers, but no doubt also reflect social and economic changes that played a role in the development of the Egyptian state. The appearance of this transformation across time and space, especially as revealed in the ceramic assemblage, may also provide a reflection of political events of relevance to our understanding of the so-called unification of Egypt (see also Köhler 1992). Unfortunately, the data for the early Gerzean phase necessary to fully chart these transformations is still lacking.

The settlement assemblages of the Amratian Period

Settlement assemblages were attributed to the Amratian phase on the basis of a morphological comparison of untempered pottery (fabric/temper class 2) with either a black-topped red slip or an entirely red polished slip with or without the addition of decoration in white paint to cognate forms in the mortuary corpora (Petrie's B, P and C classes). Radiocarbon samples associated with the Amratian assemblages at each site have yielded the dates commensurate with this cultural attribution. The Amratian assemblages however were most clearly distinguished by the distinctive temper of the utilitarian wares which were local to each region which made up from approximately 54% (Nagada) to 23% (Hierakonpolis Locality HK14) of the complete ceramic collection.

Hemamieh TP1 Level 6 internal (Holmes and Friedman 1994: table 10)	(Beta 35823) 1 sigma cal.	4940±80 BP 3790-3645 BC
Khattara sites, weighted average (Hassan 1984, 1985)		5015±80 - 4780±70 BP cal. 3850-3650 BC
Hierakonpolis HK14 (Geller 1992:182) (WSU 1729)	1 sigma cal.	4820±120 BP 3720-3500 BC

The coarse-tempered Utilitarian Wares (Fig. 2)

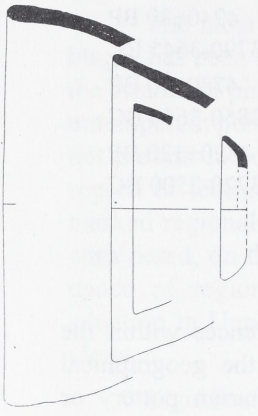
Previously suspected, but poorly defined, regional differences within the ceramic assemblages of the Amratian settlements in each of the geographical regions are clearly apparent from an examination of the utilitarian pottery or kitchen wares at each site. Three regional traditions can be distinguished most clearly on the basis of the choice of macroscopically visible tempering agent. Differences in manufacturing technique, surface treatment, and, only to a lesser extent due to the fragmentary nature of the material, shape can also be discerned.

At the Khattara sites of the Nagada region, the distinctive tempering agent was composed of ground potsherds or 'grog'. Grog was added to the more or less refined local Nile silt alone or with the addition of coarse to fine organic matter, apparently grass stems and leaves. The fabric recipe was fluid; however, the two grog tempered fabrics are differentiated on the basis of the presence (fabric/temper class 27) or absence (fabric/temper class 7) of organic tempering material which also appears to correlate with certain shape and surface treatment choices. The technique used to fashion vessels of both fabrics appeared to be similar. Bases, built from slabs of clay flattened or placed in a rounded mold, were attached to coil constructed bodies. Pounding or paddling to join sections and thin walls is evident from the star-shaped cracks radiating from large grog inclusions. Exteriors were smoothed with wet hands, a cloth, a flat tool or a reed brush. Marks from scraping or trimming are occasional and occur with frequency only on the flat bases of grog-tempered fabric 7 vessels.

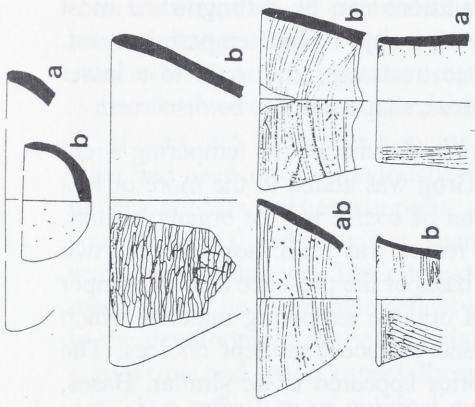
Surface treatments applied to fabric 7 pots were variable and included a self-slip or wet smoothing, brown, red and occasionally grey-black slips and washes. Burnishing occurred on about half of the examples. Vessels of grog and organic-tempered fabric 27 could be coated with a self slip and either burnished or lightly polished and buffed with a piece of leather or cloth, but were most frequently left untreated and little effort was made to eradicate the surface irregularities. Decoration in the form of incision (while wet) across the top of the rim was applied to a small percentage of bowls and jars of both fabrics. Other forms of decoration are very rare.

Recognizable shapes (Fig. 2) are limited to deep and shallow bowls of

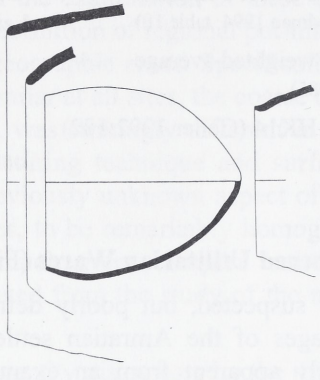
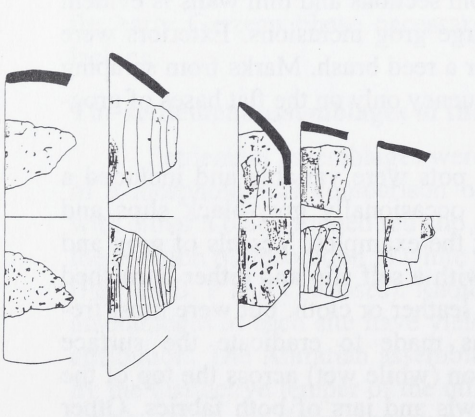
Hierakonpolis
Fabric 3



Hemamieh
Fabrics 21 & 26



Khattara
Fabrics 7 & 27



Adarma

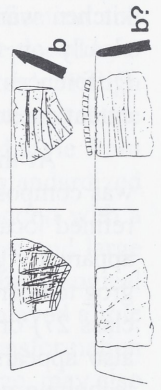


Fig. 2. Coarse-tempered utilitarian wares from settlements of the Amratian period.

various sizes with sloping or curving wall- profiles and globular or bag-shaped hole-mouth jars (a.k.a. deep restricted bowls) with direct rims and relatively unrestricted orifices in relation to the sloping or curving shoulder. Rims, with rare exceptions, are direct and the flattening of the rim top appears to be a regionally significant attribute of the Nagada area. Bowls and jars with modeled rims, and jars with a concave upper body, i.e., jars with S-shaped profiles, are extremely rare and are made almost exclusively of fabric 7. Both flat and round bases were recovered. Rim to base profiles are preserved only for two shallow, flat based bowls. It is assumed that the majority of similar bowls had flat bases, while jars had flat or rounded bases.

At Hierakonpolis Localities HK14, a domestic site, and HK24A, a brewery, the local fabric in the Amratian phase was tempered with shale fragments (fabric/temper class 3). The surfaces were wet smoothed and occasionally coated with a red ochreous wash, but rarely burnished. It is assumed that the larger vessels were constructed from coils or slabs of clay, although all surface indications have been eradicated. There is no evidence of paddling to smooth joins, although many, but not all, tabular shale inclusions are oriented parallel to the surface. Shapes (Fig. 2) are limited to jars and relatively deep bowls with direct rims, curving wall profiles, and apparently flat bases; however, round bases in this fabric have also been recovered.

The nature of the local variant in the Amratian period in the Badari region is more difficult to define due to limitations of the sample. An Amratian assemblage was only distinguished at the 3'6 level below the surface from Caton-Thompson's (1928) excavation records and only a selective collection of these sherds has been retained in museums. What has been considered Amratian pottery also occurred in deeper levels in conjunction with Badarian pottery (see Caton-Thompson and Whittle 1975; Friedman 1994). The assemblages from the recent re-excavation of Hemamieh suggest that the Amratian utilitarian wares were, in part, a continuation and outgrowth of the wares of the Badarian phase (Holmes and Friedman 1994). The two phases are therefore considered as a unit in this discussion.

In the Badarian period, the local utilitarian pottery is distinguished by the addition of coarse organic matter, apparently chopped grass stems, to the more or less refined Nile silt (fabric/temper class 21 = Brunton's Badarian Rough Brown class). This fabric is part of a continuum which incorporates a fabric characterized by the presence of fine organic material which may be a natural inclusion in unrefined Nile silt (fabric/temper class 26 = parts of Brunton's Badarian Smooth Brown class). These two fabric classes are distinguished here for descriptive purposes and because certain shapes appear to be fabric specific. The number of diagnostic examples from arguably Amratian levels at Hemamieh is admittedly small (see Fig. 2 shapes marked a), but they appear quite similar to the Badarian

examples in fabric, surface treatment and the simplicity of form. The surface treatment applied to the tempered fabrics in both periods was most often a brown or self slip which had been burnished with a pebble while still moist or loosely burnished when leather-hard. None of the limited number of Amratian examples was decorated, but in Badarian levels decoration takes the form of finger channeling and rim top incision.

The fully quantified ceramic samples from the test pits of the recent re-excavation of Hemamieh indicate that vessels of both fabric 21 and fabric 26 continued to be present throughout the Amratian, although in diminishing numbers (Holmes and Friedman 1994: fig. 20). Gradually, these fabrics were supplanted by straw-tempered pottery of still undetermined shape, often coated with a thick black, red, or brown slip which was occasionally burnished. This straw-tempered fabric (fabric/temper class 1) falls within the range of variation of the utilitarian wares of the Badarian phase according to Brunton (1928:23f), and a limited number of fragments were recovered in the Badarian levels of the recent test excavations.

It should be noted that straw-tempered pottery was also reported at Hierakonpolis in all levels of the deep cores at Nekhen which may extend back to the Badarian (Hoffman 1989). Although not common in any of the Amratian assemblages examined for this study, it is only at the Khattara sites of the Nagada region that straw-tempered pottery is conspicuous by its virtual absence. The subsequent popularity of mass-produced straw-tempered pottery does not appear to stem from these early homemade occurrences, but can only be understood in terms of changes in utility pottery acquisition and production in the Gerzean phase.

At all three sites in the Amratian phase, the regionally distinct utilitarian vessels, be they tempered with coarse organics, grog, or shale, were used for essentially the same purposes. Use-related residues indicate that these vessels were often used as cooking pots and in other food preparation contexts. From the technological point of view, each of the regionally distinct temper choices was well suited to the task of cooking. Large pieces of temper of any type, but particularly grog and mineral tempers like shale, will mitigate thermal shock and crack propagation, and promote the transfer of heat to the contents (Rye 1981; Rice 1987). The choice of tempering agent and the range of simple shapes in each fabric were no doubt influenced by functional concerns as well as tradition. The fluid recipe for each regionally defined fabric and the non-standardized range of size and shape of the vessels suggest that the production of these utilitarian wares took place in the household for personal household use.

The untempered Polished Wares (Fig. 3-4)

In contrast to the regionally distinct traditions of household-based utilitarian pottery production, the untempered polished wares (fabric/temper class 2) of the

Amratian phases with black-topped red and entirely red polished surface treatments with and without additional white painted decoration (Petrie's B, P and C wares) at all three sites show a marked similarity in paste preparation, shaping modes, firing technology, surface treatment and decorative choices. This class of pottery has its own repertoire of shapes, mode of manufacture and a developmental trajectory that separates it from the coarse-tempered utilitarian wares. Shapes such as beakers with direct and everted rims, bowls with everted rims, modeled and everted rim jars, and carinated bowls and jars appear to be restricted to the untempered polished wares.

Despite the overall similarities among the untempered polished ware assemblages, minor, but possibly regionally significant, morphological differences are apparent. Thus, distribution from a central source can be ruled out. Local production of this pottery is also attested by the discovery of kilns at Hierakonpolis (Geller 1984) apparently dedicated to the production of untempered pottery, and from the analysis of the silts used to make untempered polished red and black-topped pottery at Armant and Hierakonpolis which shows the sediments to be local to each site (Ginter *et al.* 1985:38; Allen and Rogers 1982). Both sets of evidence suggest that manufacture of this uniform and labor intensive pottery was in the hands of specialists who were well versed in the general fashion prevailing throughout Upper Egypt. All sites exhibit pottery with the same fine level of clay preparation and cleaning; the same care taken to eradicate surface irregularities; the same ideas about surface treatment, finishing and decoration (with certain regional (?) differences); and the same control of the kilning process which usually resulted in well fired red slipped pottery, with or without the secondary black-topping treatment.

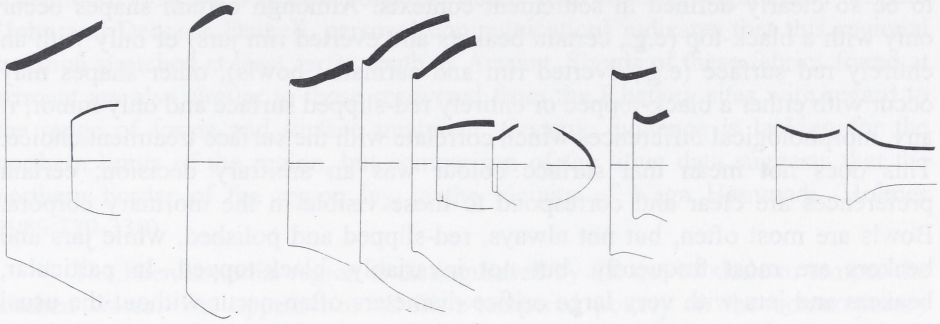
Further evidence that this pottery was produced by specialists is supplied by the limited presence of vessels composed of fine organic-tempered, or, more likely, unrefined Nile silt (fabric/temper class 26) at both Khattara and Hemamieh. Some of the vessels of this fabric are clearly amateur attempts at imitating the finer red polished untempered pots. The shapes are often irregular, the walls are thicker, the surface finish is often streaky, and the colour is variable (but most often brown or mottled), indicating poor control of the kiln atmosphere. None of the examples is black-topped. The contrast in quality between the vessels of these two fabrics certainly suggests that those made of fabric/temper class 26 are homemade and home-fired products, made along side the utilitarian wares, perhaps only when the specialists-made vessels were unavailable or unaffordable.

All of the upper body shapes of the untempered polished wares distinguished in the settlement assemblages have parallels among the B, P, C and F ware classes of the mortuary corpora, although not necessarily in the corresponding surface treatment-based ware class. The distinction between surface treatment and

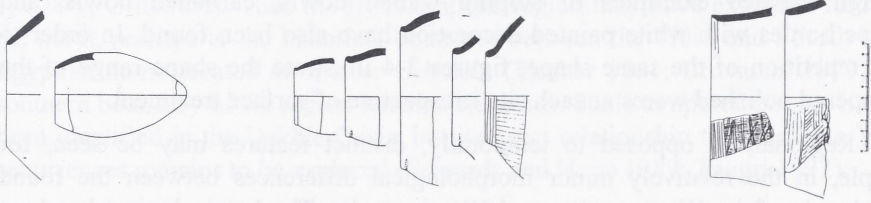


Fig. 3. Untempered Nile silt fabric: open forms.

Hierakonpolis



Hemamieh



Khattara

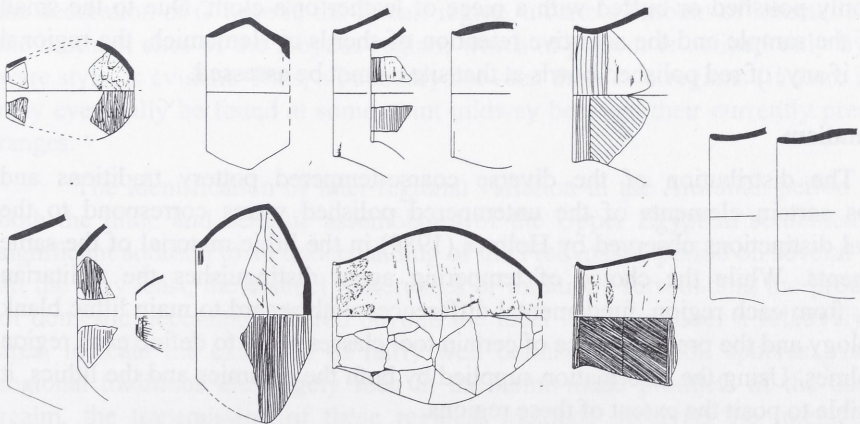


Fig. 4. Untempered Nile silt fabric: closed forms.

shape suggested by the traditional B and P ware mortuary classes does not appear to be so clearly defined in settlement contexts. Although certain shapes occur only with a black-top (e.g., certain beakers and everted rim jars) or only with an entirely red surface (e.g., everted rim and carinated bowls), other shapes may occur with either a black-topped or entirely red-slipped surface and only minor, if any, morphological differences which correlate with the surface treatment choice. This does not mean that surface colour was an arbitrary decision; certain preferences are clear and correspond to those visible in the mortuary corpora. Bowls are most often, but not always, red-slipped and polished, while jars and beakers are most frequently, but not invariably, black-topped. In particular, beakers and jars with very large orifice diameters often occur without the usual black-top, perhaps due to the practical difficulties of manipulating such large vessels during the black-topping process. Only the application of white painted decoration correlates strongly with shape. Within the settlement finds, Petrie's C ware is essentially restricted to red polished bowls and beakers with everted rim, although isolated examples of sloping walled bowls, carinated bowls, and perhaps bottles with white painted decoration have also been found. In order to avoid repetition of the same shape, figures 3-4 illustrate the shape range of the untempered polished wares at each site irrespective of surface treatment.

Regional, as opposed to temporally, distinct features may be seen, for example, in the relatively minor morphological differences between the round based bowls of the Khattara sites and Hierakonpolis. The hemispherical bowls at Hierakonpolis often have an incurving rim, and the wall profile is curved. At Khattara, the wall profile is straight and sloping and the rims, never incurving, are more frequently flattened than at any other site. Further, while the bowls from Hierakonpolis are always clearly burnished with a pebble, the bowls at Khattara are often only polished or buffed with a piece of leather or a cloth. Due to the small size of the sample and the selective retention of sherds at Hemamieh, the regional nature, if any, of red polished bowls at that site cannot be assessed.

Regionalism

The distribution of the diverse coarse-tempered pottery traditions and perhaps certain elements of the untempered polished wares correspond to the regional distinctions observed by Holmes (1989) in the lithic material of the same settlements. While the choice of tempering agent distinguishes the utilitarian pottery from each region, fundamental differences with regard to main lithic blank technology and the predominance of certain tool classes serve to define each region for Holmes. Using the information supplied by both the ceramics and the lithics, it is possible to posit the extent of these regions.

The occurrence of grog-tempered and grog and coarse organic-tempered

pottery at the Khattara sites surrounding Nagada and also at Armant (Ginter and Kozlowski 1994:74, 93) and along the desert road linking Nagada and Armant (John and Deborah Darnell, personal communication) indicates that this regional tradition stretched at least as far south as Armant. Sherds of these fabrics found at Armant are also similar to those recovered from the Khattara sites with regard to the range of forms and surface treatment. Ceramic evidence is lacking for the northern limits of the region, but comparison of the lithic data suggests that the northern border of the region lay in the vicinity of Naga Hammadi (Holmes 1989:329-330).

The Hierakonpolis region is distinguished by the use of shale to temper the kitchen wares. The appearance of shale-tempered pottery in the contemporary settlement at Adaima indicates that the region extended northward at least to the area around Esna (Midant-Reynes *et al.* 1990, 1991). However, the occurrence of small amounts of shale-tempered pottery within the Armant settlements suggests some degree of interaction between these two regions (Mond and Myers 1937:50-1, 178-9, Grit-ware). Thus the Hierakonpolis region may have extended further to the north, perhaps to the historical boundary between the Third and Fourth Upper Egyptian nome located at or near Gebelein (Fischer 1961; Brovarski 1977). The southern boundary of the region remains unknown. Shale tempered pottery has also been identified in the Dakhla Oasis, but its exact relationship to these Nile Valley occurrences remains to be explored (Edwards and Hope 1989; Tangri 1992).

The lithic and ceramic traditions in the Badari region thus far appear to be limited to the 35 km stretch of the Badari realm investigated by Brunton and Caton-Thompson (1928). This apparent restriction is due to insufficient evidence from settlements in the Abydos region to the south (but see Patch 1991) and the apparent lack of habitation in the area immediately to the north. Based on similarities with the decoration of C ware in the Badari region, a certain amount of interaction with the northern sites of the Abydos region, which at present is defined only by its C ware style, is evident. Thus, a boundary between these two regions (if there is one) may eventually be found at some point midway between their currently presumed ranges.

The identification of inter-regional variation in the Amratian period within both the lithic and ceramic assemblages of the Upper Egyptian settlements is a significant addition to an understanding of the Predynastic period on several levels. At the very least, the distinct preferences or traditions surrounding the production of domestic necessities, shared beyond the local level and over a relatively large area, indicate the existence of fairly well defined interaction spheres. As these regional traditions are largely seen in the home-made products of the domestic realm, the transmission of these regional methods involved the interaction of people beyond the level of incidental intercommunity exchange.

While Finkenstaedt (1985) suggests that the regionally restricted motifs on C ware indicate a different cultic focus in the Nagada and Abydos regions respectively, Holmes (1989:328) considers it likely that the inter-regional variability of the lithic industries reflects different Predynastic kingdoms or other socio-political units within pre-unified Egypt. Indeed, the hypothetical map of the proto-states of Upper Egypt produced by Kemp (1989: fig.8) simply by calculating equidistant catchment areas around archaeologically rich centers of importance in ancient Egyptian tradition is remarkably close to the geographic range demonstrated by the distribution of the distinct regional traditions within the material culture of the settlements. Despite the evidence of regional divisions dating back perhaps to the beginning of the Predynastic sequence, the political relevance of these regional interaction spheres before the end of the Amratian (although likely) cannot be demonstrated, and it is not at all clear that towns of later significance always served as early nodal points. Nevertheless, the clear identification of social regions in Upper Egypt on an archaeological basis, which may predate divisions into polities but may have formed the basis for them, is an important new addition to the discussion of the origin and development of the early state in Egypt.

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