Introduction

The total number of the sherds collected by Arkell (1954) from the surface at Agordat is 1469. This number excludes the 171 sherds that were recovered from the excavation made at Kokan (trench A and trench B), which is the largest artifact bearing site within Agordat. Arkell (1954:33) stated that the site he chose for the excavation was disturbed. In my research I found that it was difficult to determine the number of sherds from each of the two trenches because of the way that they were stored in the Sudan National Museum. The same tray contained sherds from trench A and B. In addition, there was no written description of the excavated sherds in the inventory archives of the Museum. For this reason I decided not to include the sherds in the classification.

I did not use temper and clay types as criteria for the classification due to lack of a microscope. It is, however, possible to observe that mica and other sand particles are dominantly used as temper. These inclusions are often exposed on the body sherds as a result of erosion. It seems that exposure to erosion has also affected the surface treatment of the sherds. Most of the sherds are not well-burnished. A good number of the sherds have more than one colour. This includes black and brown; black top-red bottom, black/brown and grey.

Study Area

Agordat is located in the Barka Valley in Eritrea. It is situated at 15°25’ N latitude and 37°04’ E longitude (Figure 1). The Barka Valley is part of the western hot lowlands, which extends from Eritrea to the Eastern Desert of the Sudan. The area receives a maximum of 200 mm of rainfall per annum. The dominant type of soil at Agordat is sandy soil (Beldados et al. 2007).

Pottery Classification

The criteria used in the classification of the pots from Agordat are largely based on body parts and pot function. Accordingly there are seven major categories. These are:

i. rim sherds
ii. body sherds
iii. necked pots
iv. open bowls
v. pot stands
vi. handles
vii. others (seals, cups, bead-like decorations/adornments, foreign sherds*)

i. Rim sherds

There are a total of 486 rim sherds in the collection (33.08% of total sherds). The total weight of rim sherds is 39.58 kg. This group is sub-divided into rim-lip profiles, decoration, and size based on diameter (Tables 1 and 2).

The most common rim-lip profiles are tapered, rounded, internally thickened, externally thickened, and bilaterally thickened (Figure 2). The most frequent types of decoration on the rims are cross-hatches, incised wavy lines, incised or impressed zig-zag patterns, and closely spaced small diagonal lines. Finger nail impressions are also used in the decoration of rim sherds (Figure 3).
ii. Body sherds

The largest proportion among the surface finds belongs to this category. There are 854 body sherds in the collection representing 58.13% of the total ceramic assemblage. The most noticeable decoration patterns are the closely spaced parallel lines, the cross-hatches, diagonal line incisions with geometric patterns and zig-zag incisions. For some sherds the above patterns are done in zones on the body (Figure 4). This is similar to the decoration of sherds that belong to the Pan-Grave, Jebel Mokram, and C-group cultures and in the assemblage found at the Jebel Moya site. The zonal patterns are like the one shown in Ia6, Ib4, Ib5, Ib7, Ia8, Ia9, Ia10, Ia15, Ia16, Ia17 in the Jebel Moya plates of the Scandinavian Joint Expedition to Sudanese Nubia publication (Save-Soderbergh 1989). The colours of the body sherds are quite varied.

Figure 1: Agordat is indicated by a triangle.
iii. Necked pots

In the Agordat ceramic collection no complete necked pots and open bowls were recovered. There are only seven sherd fragments of necked pots. This is 0.47% of the total ceramic collection. Three of these sherds are decorated with clay ball attachments on their shoulders and they are all combed. The remaining sherds are undecorated. The necked pots have two different forms: sherds with straight necks (Figure 5a); and sherds with longer outward curves (Figure 5b).

iv. Open bowls

This category includes all body sherds and rim sherds except for the seven necked pots. Most of the open bowls are between 20 and 50cms in diameter.

Figure 2: Rim-lip profiles  a) tapered rim; b) rounded rim-lip c) internally thickened rim-lip d) externally thickened rim-lip e) bilaterally thickened rim-lip.
The re-use of some open bowls can be seen from the repair holes. The most visible decoration techniques and patterns are mentioned above in the discussion of rim and body sherds.

v. Pot stands

A total of nine pot stands were recovered from Agordat. The shape/form of the pot stands include tripod, circular and waisted. Tripod pot stands were also observed in some C-group sites (Arkell 1954).

The circular pot stands are decorated with dotted incisions (Figure 6a). Pot stands with a waisted shape (Figure 6b) are decorated in parallel circular incisions which go around the sherd and with long zig-zag incised lines (these are similar to the samples from Kerma in SJE; 262/53:9; 262/1; 262/H; 262/13:1). The tripod pot stand (Figure 6c) is not decorated.

vi. Pot handles

Pot handles are either in the form of hollow ear-like attachments or crude knobs. There are 92 sherds in the form of the hollow ear-like handles and 11 crude knobs (Figures 7a,b).

vii. Others

Seals. There are two stamps or seal-like ceramic sherds which could have been used as seals. Both are decorated with dotted and lined incisions and are semi-circular in shape. One of the two pieces has a small waist between the semi-circular extensions. The other is a broken half since it has only one of the two semi-circular extensions. The seals from Agordat are not as complex in design as seals in the

Figure 3: Common decoration patterns of rim-lips: a) cross hatching; b) wavy line; c) parallel lines; d) v-shaped; e) zig-zag f) curved lines; g) palm-like design.

Figure 4: Zonal patterns from Agordat.
**Figure 5:** Necked pot samples from Agordat.

![Necked pot samples from Agordat](image)

- a) Straight
- b) Curved

**Figure 6:** Types of pot stands.

![Types of pot stands](image)

- a) circular
- b) waisted
- c) tripod

**Figure 7:** Pot handles.

![Pot handles](image)

- a) hollow attachments
- b) crude knob
SJE collection. In the SJE collections, the seals contain plant, animal and linear motifs as designs (Save-Soderbergh 1989).

**Cups.** There are six cups which have concave or flat bases. Four of these are decorated with dotted line incisions.

**Adornments.** There are two bead-like sherds which are small in size (1.5 x 1.5cms). The pieces have holes in their centres and may have been used for suspension purposes (Figure 8).

**Secondary Usage of Pot Sherds**

The secondary usage of ceramic vessels can be traced from the repair holes (Figure 9). In the collection there are 16 sherds with repair holes (Table 5). Haaland (1981) has experimentally shown that repair holes can be made with groovers (one of their many functions). She further proposed that in order to be more efficient in making the holes the groovers must be hafted.

**Summary**

Incision as a technique is dominantly employed in the decoration of both body and rim sherds in the Agordat ceramic collection. Most of the sherds that are decorated in zones are the ones with a combined decoration technique: incision and impression. The majority of the sherds in the collection are roughly burnished. This might be a result of post-production and use. It is easy to see that the sherds are repeatedly exposed to erosion. The same reason can be applied for sherds with faded/unclear decoration patterns. Most of the open bowls have a diameter between 20 and 50cms. These sherds might have been used for cooking. For sherds that are small in size (less than 20cms in diameter), the technique of decoration used is mainly incision and these vessels might have been used for serving. The most common rim profiles are the tapered and the rounded ones (Table 3 and Figure 3). Almost all of the sherds in the collection are open bowls. Pot handles are dominantly in the form of hollow attachments. The availability of many sherds with decoration patterns, techniques and forms similar to the C-Group, the Pan-grave, and the Gash-Group probably demonstrate the prevailing contact among the inhabitants of Agordat and with the peoples of these cultural groups.

**Regional Dimensions of the Agordat Ceramics**

The decoration technique of clay ball attachment has a wide geographical distribution (Figure 10). These sherds found at Agordat are combed on both surfaces. Arkell (1954) described the sherds as beer pots and compared them with two necked yellowish fragments recovered from C-Group burials at the site of Aniba in Nubia. The same technique of decoration was used on the Jebel Moya sherds. Besides clay ball attachments, long rolled clay in a ‘sausage’ form, was used as a decorative technique at Jebel Moya (Addison 1949). The same motif is recovered in a layer which is dated to 3500/3550-3790/3820 BP at the Gash Group sites. Phillipson (1977:66) states that pot sherds decorated in the clay ball attachment technique indicate an origin in the southern Sahara with comparable pottery traditions in places that include north east of Lake Chad.
Figure 10: Clay ball applique technique.

Figure 11: Closely spaced parallel incised lines.
The closely spaced parallel incised lines are among the most common decorative pattern in the Agordat collection (Figure 11). Within Ethiopia body sherds are recovered with the same pattern found at Gobedra (Phillipson 1977b), at Danei Kawlos in Temben (Agazi 2001:89) and at Yabelo (Girma 2001:94). Outside of Ethiopia, such styles are visible at Jebel Moya and Rabak, a site some 40 kms west of Jebel Moya (Haaland 1989). In addition, closely spaced horizontal parallel incisions are very common at Mahal Teglinos (Fattovich 1993). Such sherds are also numerous at the Kerma sites in the fourth cataract area (Henriette Hafsaas personal communication). This pattern can not be considered as typical of this period (see discussion of the dating of the site) since it could also be found either in earlier or later contexts. They are described here due to the frequency of their occurrence.

At Agordat the cross-hatch decorative pattern is used on both the body and rim sherds (Figure 12). The cross-lines are mostly done on roughly burnished surfaces. The cross-hatch motif is also used on some of the sherds recovered from Danei Kawlos (Agazi 2001:89). At Yabelo there are two sherds decorated in this pattern (Girma 2001: 93, 112). Most of the sherds in Yabelo are decorated in a very simple manner employing incision as a technique and the only carefully applied of these is the cross-hatch. This style is also pertinent in the Abhai tradition ceramic assemblage which is dated back to the fourth millennium BP and is categorized under the second Kassala Phase (Fattovich et al.1984). At the Rabak and Jebel Moya sites the cross-hatch decorative pattern is also common. The latter cultural layer of Rabak is contemporaneous with the oldest artifact bearing layer of Jebel Moya (Addison 1949; Haaland 1989).

Zig-zag incision is the other decorative pattern that can be observed in different sites. Wavy like zig-zag pattern impressions are very common on the rim lips of the Agordat sherds. At Mahal Teglinos, horizontal zig-zag patterns that are comparable with C-Group and Kerma are recovered (Fattovich 1993). Similar zigzag patterns on body sherds and the wavy-like impressions on the rim lips are also visible among the sherds of Jebel Moya (Addison 1949).

According to Arkell (1954) there are striking similarities in the decoration styles and techniques of the sherds in Agordat and that of the C-Group. He particularly emphasized on the red sherds that have incised dotted patterns and the tripod pot stands (Arkell 1954; Plate VII, 1, 2). In the later case, the only difference is that the stands recovered from the C-Group burials are taller than those of their parallels from the Agordat surface collections (Figure 6c).

The pattern of decoration in zones is also common in the Agordat ceramic collections. Such patterns are often done employing the techniques of incision and impresson. The same pattern is also visible on sherds belonging to the C-group, the Pan-Grave, Kerma and Jebel Moya (Addison 1949; Sadr 1987; Save-Soderbergh 1989 and Hafsaas 2006).

A wide range of similarity can be drawn between the ceramics of Agordat and that of the Pan-Grave culture. The cross-hatch incised patterns on black mouthed and thickened rim sherds are quite frequent in both of these sites. Incised cross-lined patterns on red, brown and grey sherds are the most common type of pottery design in Agordat and in the Pan-Grave sites. The crossed lines are either designed in the form of zonal patterns or uniformly outlined. In addition, closely spaced parallel incised lines on body sherds, clay ball attachments, triangular and zig-zag incisions can be mentioned as frequent features. Almost all of these patterns are visible on sherds that belong to the Mokram group (Petrie 1901; Sadr 1987).

Conclusion

The zonal patterns and the cross-hatch incisions that are common at Agordat, C-group, Pan-Grave, Kerma and Jebel Moya, and Gash-group sites
Table 1: Number of rim sherds classified according to decoration patterns and estimated diameter (approach taken from Haaland 1981).

<table>
<thead>
<tr>
<th>Decoration patterns</th>
<th>0-10cm</th>
<th>11-20cm</th>
<th>21-30cm</th>
<th>31-40cm</th>
<th>41-50cm</th>
<th>51-60cm</th>
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<tbody>
<tr>
<td>Cross hatched</td>
<td>3</td>
<td>19</td>
<td>8</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dotted impressed lines</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dotted incised lines</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combed</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curvilinear</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Zig-zag impression</td>
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<td>5</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zig-zag incision</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parallel incised/impressed lines</td>
<td>1</td>
<td>20</td>
<td>16</td>
<td>2</td>
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Table 2: Number of rim sherds classified according to decoration techniques and estimated diameter (approach taken from Haaland 1981).

<table>
<thead>
<tr>
<th>Decoration techniques</th>
<th>0-10cm</th>
<th>11-20cm</th>
<th>21-30cm</th>
<th>31-40cm</th>
<th>41-50cm</th>
<th>51-60cm</th>
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<tbody>
<tr>
<td>imprints</td>
<td>1</td>
<td>3</td>
<td>10</td>
<td>11</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Incised lines</td>
<td>4</td>
<td>32</td>
<td>22</td>
<td>6</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Nail impression</td>
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<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay ball attachment</td>
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<td>3</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Rocker stamping</td>
<td>1</td>
<td>5</td>
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Table 3: The frequency of rim-lip profiles.

<table>
<thead>
<tr>
<th>Rim-lip profiles</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>tapered</td>
<td>112</td>
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<tr>
<td>bilaterally thickened</td>
<td>75</td>
</tr>
<tr>
<td>internally thickened</td>
<td>97</td>
</tr>
<tr>
<td>externally thickened</td>
<td>92</td>
</tr>
<tr>
<td>rounded</td>
<td>109</td>
</tr>
<tr>
<td>Total</td>
<td>485</td>
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</table>
Table 4: Total number and percentage of classification types.

<table>
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<tr>
<th>Classification types</th>
<th>Total number</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Body sherds</td>
<td>854</td>
<td>58.13</td>
</tr>
<tr>
<td>Rim sherds</td>
<td>486</td>
<td>33.08</td>
</tr>
<tr>
<td>Necked pots</td>
<td>7</td>
<td>0.47</td>
</tr>
<tr>
<td>Pot handles</td>
<td>103</td>
<td>7.01</td>
</tr>
<tr>
<td>Pot stands</td>
<td>9</td>
<td>0.61</td>
</tr>
<tr>
<td>Others</td>
<td>1</td>
<td>0.68</td>
</tr>
<tr>
<td>Total</td>
<td>1469</td>
<td>99.98</td>
</tr>
</tbody>
</table>

Table 5: Number of rim sherds with repair holes (approach taken from Haaland, 1981).

<table>
<thead>
<tr>
<th>Type of decoration</th>
<th>0-10cm</th>
<th>11-20cm</th>
<th>21-30cm</th>
<th>31-40cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crossed lines</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incised lines</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Un decorated</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Black inside\Red outside</td>
<td></td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

seem to be typical of this period. These patterns together with the clay ball appliqué technique can be taken as diagnostic features for pot sherds that belong to this period.

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