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### IRON AGE CERAMICS OF THE SAMON VALLEY, MYANMAR

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**Abstract:** This paper presents a range of characteristic features found in the Iron Age ceramics discovered in Samon Valley burial sites in the course of excavations carried out by the French Archaeological Mission in Myanmar between 2001 and 2006. We attempt to define some specific characteristics of Upper Burma ceramics (recurrent forms, use of "can vases"), in order to propose a provisional typology of the Ywa Htin Iron Age potteries and a more precise Metal Age chronology. We also propose additional elements relating to ceramic technology, clays and decoration (the context in which discoveries were made, funerary rituals, see Pautreau *et al.* 2001b, 2004, 2005a, 2005b, 2006, 2007a, Pautreau dir. 2007).

Keywords: Myanmar, Samon Valley, Iron Age, pottery, ceramic typology, ceramic technology.

#### Introduction

Studies of the Bronze and Iron Ages in Burma are still at an early stage, although investigations led by local (Archaeological Service of Mandalay, works of U Win Maung) and foreign teams (MAFM) have provided a better understanding of Burmese populations. Syntheses are still quite rare in this country (Collective 1999 and 2003, Higham 2002, Pautreau *et al.* 2005b, Pautreau dir. 2007), and, until now, only sites with a funeral vocation have been the object of scientific excavations. We have almost no information about vessels used in domestic settlements, or about the relationship between domestic and funerary ceramics. Pottery vessels, however, are the most common and best-preserved type of artefacts, and also constitute a fundamental field of study for the understanding of Burma's Bronze and Iron Age cultures. In this short paper, we present the characteristics of Metal Age ceramics from Upper Burma (morphologic classification, specificities, ornamentation, macroscopic observations), and attempt to explain how they may be distinguished from those from other regions of South-East Asia.

#### Specific burmese features

Since 2001, excavations by the French Archaeological Mission in Myanmar have been carried out in the Samon Valley in Upper Burma (Pautreau et al. 2005b). The burial sites studied have shown that the deceased - women and men - were either buried in coffins or shrouds, with offerings invariably placed near the bodies. In most cases, a set of three vessels was found near the bodies (Pautreau et al. 2005b, Pautreau dir. 2007: 40 and fig. 65). These sets usually consist of a bowl – of varying diameter and depth - a globular vase with a flared neck, and a cylindrical pot. The Ywa Htin (Pautreau dir. 2007), Ohh Min (Pautreau et al. 2005a), and also Myo Hla sites (Pautreau et al. 2004) provide good examples of this kind of deposit. Modes of prehension - like handles - are quite not used, even if some vertically perforated lugs have been found in Ohh Min and Nyaung Gon burial sites (Fig. 1). The receptacles are ceramic vessels, but sometimes one of these may be replaced by a bronze vase (Myo Hla, S32, Pautreau et al. 2004), or by a basket made of organic material (Ywa Htin, S22, Pautreau dir. 2007). Offerings were usually placed near the feet and legs, or occasionally near the head of the deceased. The association of these three ceramics seems to have greater significance than either the nature or the shape of the vessels.



Figure 1: Shallow bowls with a perforated teats used for prehension (type C1). The fractures of the ceramics – as is generally the case with shallow bowls – show that they were made in two separate parts, the bottom and the neck. A slow wheel has been used for the finishing of the neck (horizontal marks on internal and external surfaces). a: vase OM TT2 of Ohh Min (C1-a), Myanmar (excavations J.-P. Pautreau, 2005, MAFM; drawing and CAD Ch. Maitay, MAFM); b: vase S8-1 of Nyaung Gon (C1-b), Myanmar (excavations MAFM, 2007; drawing and CAD Ch. Maitay, MAFM).

At Ywa Htin, there are a few specimens of a particular form of vase, one that is also found at Bronze Age and Iron Age sites in Upper Burma (Kokkokahla, Myauk Mee Gon, Myo Gon, Ta Mar Gon, Pe Daw, Ohh Min...). This is a cylindrical or semi-cylindrical vase, the opening of which has been sealed and perforated with a circular pattern (group D) (Fig. 2). M. Win Maung has called them "can vases"



Figure 2: Samples of pottery vessels from the D group (Pagan Museum). Ywa Htin burial site, Myanmar, Iron Age (drawing A.-S. Coupey and F. Pellé, CAD Ch. Maitay, MAFM). a: YH-PAG-3; b: YH-PAG-1; c: YH-PAG-2 (from Pautreau dir. 2007). (Win Maung 2003a). We also believe that these artefacts were used for drinking, perhaps for fermented liquids, such as beer. They sometimes feature perforations (on the bottom and/or rim) or strips, or perforated lugs (horizontal or vertical). These are imitations of bronze pots, which adopt a bamboo-tube shape, closed at either end (Win Maung 2003a; Win Maung 2003b: 76 and fig. 11). The form variants of this group are far more numerous (vases with perforations and strips, with concave sides...).

#### A Classification of Upper Burma potteries from burials

Typo-chronological frameworks are being developed and those already in place are seriously lacking in precision or in stratigraphical data. An analysis of morphological criteria represents one of the part of the study of Samon Valley ceramics. For the moment, petrographic observations do not allowed to know exactly the origin of the productions (local or imported) or the nature of the inclusions seen in the clay (natural or addicted). The burial sites at Ywa Htin have revealed a series of pottery specimens which are important for the understanding of Iron Age ceramics of the Samon Valley, as they display a very close resemblance – in shape, decorative elements, methods of production, etc – to items found at other contemporary sites (Pautreau dir. 2007). From the study of Ywa Htin ceramics, three main groups have been identified: closed shape vases with a neck (group A), cylindrical vases (group B) and low, open shape vases (group C) (Fig. 3). A considerable variation in shapes has given rise to numerous form variants (Maitay 2007). These ceramics



**128** EurASEAA 2006, Bougon papers

belong to Iron Age contexts, but in several instances they take on forms associated with the Bronze Age (round vases, shallow bowls, small open bowls...). The ceramic vocabulary has been inspired by A.O. Shepard (Shepard 1956), H. Balfet (Balfet *et al.* 1983), and A. Gibson and A. Woods (Gibson, Woods 1997: 81-283) works.

#### Group A: closed shapes with neck.

In this category of receptacle the upper sides of the body turn inwards, and the diameter of the opening is less than the diameter of the body of the vase. The height of receptacle is less than its maximum diameter. Schematically, this group corresponds to spherical vases with a flared neck and a rounded or pedestal base. Three forms were defined: A1 (the height of the receptacle is less than the maximum diameter), A2 (the height of the receptacle is greater or equivalent than the maximum diameter) and A3 (spherical vases with small base, widening neck and vertically perforated strips; the height of receptacle is less than the maximum diameter) (Fig. 3a). The A1 form is characterised by a height less than the maximum diameter and, in most cases, by a diameter of the body that exceeds the diameter of the opening. The end of the sloping shoulder (corresponding to the greatest diameter) is situated at a point half way up the receptacle (A1-a and A1-d) or in the lower part of the body (A1-b and A1-c). The A3 form, characterised notably by its small size and by the presence of vertical perforations, was undoubtedly designed to be suspended. It can be further sub-divided into two variants: those with a gentle internal junction between neck and body, and those with a more angular internal junction. Some pots of this shape, from Nyaunggan site, are exhibited in Yangon National Museum. Others have been found at the Ywa Htin (S10-2, S10-4, S10-6, S10-7, S10-8, S10-9, S16-3 or S51-1 *in* Pautreau dir. 2007; Ko Ko Kyaing 2003, 61), Nyaunggan (Nyunt Han 1999, fig. 6 and 7) and Kokkokahla sites.

#### Group B: cylindrical vases

This category is represented by receptacles, which have semi-vertical sides, or have a gently flared shape. This shape may also feature a flat or convex base, or a pedestal (B2-b3). Two principal forms can be distinguished: B1 (cylindrical vases with an edge prolonging the side) and B2 (cylindrical vases with a flared or outwardly rim). Such vases have been found at Ywa Htin (S4-5, S14-2, S84-6, S107-7, S121-1, S128-3, S151-1), and also in Myo Hla (Pautreau *et al.* 2004), Ohh Min (Pautreau *et al.* 2005a), Tan Tha Phet (Pautreau *et al.* 2006) or Nyaung Gon sites (Pautreau *et al.* 2007, fig. 8). Different form variants of B2 have been defined: B2-a (cylindrical vases with flared or outwardly rim and with a flat bottom), B2-b (cylindrical vases with flared or outwardly rim and with rounded bottoms or with a pedestal) and B2-c ("cylindrical" vases with inwardly sloping sides and flared rim) (Fig. 3b).

#### Group C: shallow bowls

We have chosen to use the term "shallow bowls" for open vases where the maximum diameter of the receptacle is greater than the height (Fig. 3c). We have defined six different forms: C1 (shallow bowls with a high or medium-high fracture point of the sloping shoulder), C2 (shallow bowls with a low fracture point of the sloping shoulder), C3 (open shapes with a high fracture point of the sloping shoulder and an inwardly rim), C4 (small open shapes, commonly called "cup", with no fracture point of the sloping shoulder and with a flat bottom) and C5 (open shapes with no fracture point of the sloping shoulder and with a rounded, or cup-shaped bottom). C1 and C2 forms are sometimes decorated with smooth cords made by addition of a small roll of clay or by pinching the surfaces (Fig. 4).

The C6 form is represented by small vases that have a flared pedestal, convex sides, short flaring neck and a rim that is fluted on the inside but rounded on the outside. The height of the vase is less than the diameters of the opening and of the body, and the diameter of the opening is greater than the diameter of the body. Whilst only one example of this has been found at Ywa Htin (Vil-7), form C6 is well represented at other protohistorical sites in Burma - notably at Myo Hla where some 20 such vases have been discovered (Pautreau et al. 2004: 53 and 92-94) (Fig. 5). This is a crude, hand-made pot (which closely resembles an egg cup!), roughly fashioned from a ball of clay and coarse grain sand (numerous fingering marks). The great alteration of surfaces can be explained by a too short firing (or by taphonomic conditions). The identifying of sand (addition of sand or naturals inclusions) haven't been determined yet. C6 pots have been found at Kokkokahla (Ko Ko Kyaing 2003: 61), and, although have been dated by Burmese archaeologists from the Bronze Age, by their shape and owing to the absence of stratigraphical information, they may well be from the Iron Age. We do not know exactly what their function was, but we can suggest that they may have been used in the course of a funerary ritual.

#### Group D: vases with perforated seal

This group is represented by the cylindrical or semicylindrical vases, the opening of which has been sealed



Figure 4: Nyaung Gon burial site, Myanmar, Iron Age. Vase S3-3, type C1 (excavations MAFM, 2007; drawing and photographs Ch. Maitay, MAFM).



Figure 5: Samples of pottery vessels from the C6 type (drawing Ch. Maitay, MAFM).

and perforated with a circular pattern (Fig. 2). As far as we know, there are two main forms at Ywa Htin. The D1 form is represented by cylindrical vases with a small, slightly flared, hollow base, rectilinear sides, no neck, rounded lip (Fig. 2b and c). The opening is blocked by a clay pebble pierced with an orifice. Two lugs – or strips – are perforated horizontally or vertically and fixed above the mid point of the body. One such example is mentioned in an article on the Samon Valley (Win Maung 2003b: appendix C, fig. 9). D2 form corresponds to cylindrical vases with rectilinear or slightly flared sides, with no neck and with a complex rim (Fig. 2a). Both the base and the rim have been perforated by two series of four holes. The diameter of the base. The base has been made by pinching-in the lower part of the body. It differs from the latter item in featuring two series of four small perforations facing each other on the base and on the rim. One such example is on display at the Pagan Museum (YH-PAG-3). Some of these pots are often dated from the Bronze Age (Ko Ko Kyaing 2003: 61), but, like C6 form, in the absence of stratigraphical data they cannot yet be dated with precision. We can merely infer that shapes featuring a high pedestal (form variants C1-b2, C2-b2...) or a "baroque" shape (form variant C2-c) may be linked to the Iron Age period.

#### Making and Firing

As shown by the concave and convex fractures of the fragments as well as by the irregular thickness of the sides, the vases were made by hand, from a cylinder or a sheet of clay. Traces of fingering were also found on the inside of certain vases: at Ywa Htin (Pautreau dir. 2007: fig. 82), Ohh Min (Pautreau *et al.* 2005a) or Nyaung Gon (Pautreau *et al.* 2007). Although the use of a slow potter's wheel was not the norm many characteristic traces have been found (fine, narrow, horizontal striations, sides of regular thickness) (Fig. 6a and d). These can be seen principally on the necks and on the rims of the pottery – pot-bellied vases and shallow bowls – on both the inner



Figure 6: A few macroscopic and microscopic observations can launch the debate on the production techniques of the Bronze Age and the Iron Age vases in Upper Burma. Ceramics from Ohh Min burial site, Myanmar, Iron Age. a, b and c: Vil-73; d and e: Vil-4 (excavations MAFM, 2005; drawing Ch. Maitay, MAFM).

and outer surfaces. Similar marks have been found elsewhere: Iron Age burial sites at Hnaw Kan (Pautreau *et al.* 2001b) and Myo Hla (Pautreau *et al.* 2004). Nexts researchs will try to know if low wheel appears, in Burma, with the Iron Age cultures. No fast wheel traces have been observed on this corpus. Unlike some South-East Asian Iron Age necropolises – Ban Wang Hai in Thailand for example (Pautreau *et al.* 2001a) – cord-wrapped beaters have rarely been used in finishing-off the vases. This method of shaping is still used today to even off the sides and to decorate surfaces. Nowadays – and probably during the Bronze and the Iron Ages – pots could also be given a smooth or burnished finish using a river pebble or piece of wood as a finishing tool.

Firing was mostly by oxidising or by oxidisation-reduction (brown or orange coloured surfaces), which indicates that sufficient oxygen was present. In most cases, the oxidising was only partial, hence the characteristic grey-black colouring of the sherds ("sandwich" sections). Firing in a stack – a technique still employed today in South-East Asia – was the method used for the vases studied in Upper Burma and in other regions of South-East Asia. Fire clouds can be seen on the underside or on the lower parts of the body of the larger specimens – especially among the Group A vases.

Analyses of potsherds are still at an early stage. From a macroscopic and technological perspective, these ceramics are characterized by their homogeneity (Maitay 2005). The Samon pots contain elements of a purely mineral nature. The temper employed was somewhat rough, very present and well mixed into the clay mould. The tectosilicates (quartz and feldspaths, including plagioclases) constitute the greater part of the mineral content. We can already infer a local and domestic production (short distance trade), but the number of samples is too limited to define clay groups and trace the provenance of raw material (during the excavations, it was impossible to compare sherds with local clays deposits). Brian Vincent's work (Vincent 2004) and ethno archaeological studies have demonstrated, in most of case, the local origin of such materials.

#### Decoration

As can be seen in the Bronze Age and Iron Age ceramics unearthed at Nyaunggan (Nyunt Han 1999: 33), Hnaw Kan (Pautreau et al. 2001: 99), Myo Hla (Pautreau et al. 2004), or Ywa Htin (Pautreau dir. 2007: 48), decoration is extremely rare. Where it does exist it consists of smooth cords, series of perforations (in Ohh Min, fig. 7d), or of shallow grooves, and is to be found on the upper part of the vases. The presence of slip, which could have sloved porosity problems (if it applied on internal surfaces) or had a decorative fonction (surfaces are smooth and homogenous), has been observed on several vases, but no traces of painting have been found. Thin sections can not allowed to determinate if it's a real slip (by enduction) or a self-slipping, made by burnishing before firing (Gibson, Woods 1997: 249-251, fig. 203 to 206). Some pieces show evidence of a black deposit of a probably organic origin on the external and, more commonly, internal surfaces.



Figure 8: Funerary ceramics S23, Nyaung Gon burial site, Myanmar, Iron Age (excavations MAFM, 2007; drawing Ch. Maitay, MAFM). S23-2, S23-5 and S23-6 are decorated with shallow grooves (type B1).



Figure 7: Ornamentation of Iron Age ceramics, Samon Valley, Myanmar. a, b and c: smooth cords; d: smooth cord and series of perforations (excavations MAFM; drawing Ch. Maitay, MAFM).

At Ywa Htin site, ornamentation consists of smooth cords (Fig. 7a, b and c) or of shallow grooves (Fig. 8, S23-2, S23-5 and S23-6), and is to be found on the upper section of the vases. Only one item displays marks made by a cord-wrapped beater on the entire external surface of the body (pot-bellied vase S36-1). The hypothesis that the vases were covered in slip has also been put forward here (problem of porosity of the sides), but no single specimen from Ywa Htin provides clear evidence of this technique which is commonly found at several Metal Age sites in South-East Asia (Bang Chiang, Thailand) and in Burma (Letpanchibaw, Ohh Min, Myo Hla...).

#### Square motifs

Three shallow bowls discovered in Nyaung Gon burial site have been fashioned, on the external part of the base, with series of incisions that form geometrical patterns. The H4-1 pot displays a partial pattern made up of twin lines bisected by an oblique one (Fig. 9a); the S3-3 pot shows a kind of ladder-shapped pattern (Fig. 4), and the S31-1 pot shows a cross located on the rotation axe of the vessel (Fig. 9b). The purpose of these signs remains enigmatic (potters marks, accounting system...). The localisation of these incisions (signs can't be seen on the external part of the base) and their hasty realisation (incisions are fast maded) can



of the base ornamented with square motifs incisions in the clay. Nyaung Gon burial site, Myanmar, Iron Age (excavations J.-P. Pautreau, 2007, MAFM). a: H4-écuelle 1; b: S31-1 (drawing Ch. Maitay, MAFM).



be discounted a decorative function.

#### Conclusion

The Bronze and Iron Age potteries of the Samon Valley display many common features, both in form and decoration, as well as in the clays used and the methods employed in their making These similarities would indicate a fairly homogenous common origin, even though certain particularities may be observed depending upon the site or phase of occupation. Petrographic studies could provide further information concerning the provenance of earthenware productions (see Brian

Vincent studies and bibliographies in Vincent 2004). Future investigations (excavations, surveys, laboratory analyses...) will have to pursue collaboration between Burmese and foreign teams, in order to established a more precise chronology of the material cultures of South-East Asia<sup>1</sup>.

#### Note

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