
Painted Grey Ware Culture: Changing Perspectives

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Abstract: Painted Grey Ware culture is one of the significant archeological cultures of northern India. It has been a subject of attraction and debate among scholars. The most crucial aspect about this culture has been its chronology and its proposed relation to the Mahabharata. The issue of its authorship is equally important. This article discusses all these issues afresh in the light of the new radiocarbon dates obtained from various sites and the first author's detailed archaeological survey in the Mathura region, a core area of Painted Grey Ware culture. This article voices for a change in the accepted chronology of this culture and takes back its antiquity by many centuries. A proposition is also made about the place of origin of this culture which differs from the earlier propositions.

Keywords: PGW, OCP, BSW, NBPW, Grey Ware, Mahabharata, Radiocarbon Date

Introduction

Fine grey ware painted with black paintings is known as Painted Grey Ware (PGW) and is considered a marker pottery of a cultural phase termed after it as Painted Grey Ware culture. It is a deluxe ware which continued to be so for more than thousand years. The main concentration of PGW is in the area of northern India which covers core area of four Mahajanapadas namely Surasena, Panchala, Kuru and Matsya. To Ghosh, the distribution of PGW sites coincided with the Madhyadesa as defined by Manu; an area which extends from the Himalayas in the north to Vindhya on the south, Vinasana on the west to Prayag on the east (Ghosh 1994: 26). The PGW not only precedes the period of Mahajanapadas but as per available information was also present during that period of *circa* sixth century BCE, often with an overlapping with another deluxe ceramic tradition known as Northern Black Polished Ware (NBPW).

Authors of PGW

One important question mark still remains about the authors of PGW culture. A time bracket of about 1000 - 500 BCE was proposed for this culture which corresponded with the conceived timeframe of the then later Vedic period. It was considered a so called Aryan culture and later, finding of iron by archaeologists in the PGW deposits

confirmed its Aryan association since iron was considered as being strongly connected with the Aryans. Presence of horse in PGW complex (Lal 1954-55: 109) also supported PGW's association with the Aryans (Gaur 1994: 38). Now, a big question comes to fore when archaeologists like B.B. Lal say that the Harappan culture was a Vedic civilization (Lal 2001). The archaeological scenario at present does not confirm in totality any view, but, one would like to know the reason for such a difference in material remains of two cultures if both belong to the same stock. From the study of Vedic texts, it is clear that the early and later Vedic cultures were not different in their material culture and life style but rather in their religious and philosophical beliefs. It is quite surprising that when Lal proposes Vedic affinity of the Harappans, he still is not ready to change his Aryan doctrine of PGW people as for him the PGW is entering the doab region from the west; he even favoured a similarity between grey ware of Thessaly in Greece and PGW (Lal 1954-55: 147). Scholars in the past have categorically rejected any similarity between the grey ware of Seistan, Gandhara Grave culture and PGW (Gupta 1994: 46-64; Gaur 1994: 44), so there does not remain a possibility of any Aryan wave coming to doab region from the territory of modern day Pakistan. After carefully examining the Shahi Tump pottery at Central Antiquities Collection, Purana Qila and the PGW one can say that there is some similarity in their fabric, both potteries are very light in weight indicating similarity in the technology of making and are painted black on grey surface. But, the differences in both the potteries are cultural as the overall appearance and painted designs on them differ a lot. There is also a possibility that the Shahi Tump pottery was exported from the PGW zone on the special demand from Shahi Tump as that pottery was only used to be put inside the burials. The import of PGW from Shahi Tump to PGW zone is not possible just because of the fact that in the PGW zone the pottery was being used in ordinary life, i.e., in regular usage whereas at Shahi Tump, it was only for burials and the quantity of such pottery is very limited in numbers there. Though, one important fact about the Shahi Tump grey ware is its early dating which goes back to the first half of the third millennium BCE (Chakrabarti 2004: 124). So, here also it seems that the two pottery traditions have different origin but possibly somehow the technology might have got transferred from one to the other, and obviously it would have been from the side of the older stock to the newer stock.

Another important aspect which has been overlooked by the scholars till now is the presence of plain grey ware (though thicker in fabric than the finer PGW) in the mature Harappan context at a number of sites including Harappa and Mohenjodaro, sherds of which are available in the Central Antiquities Collection, Purana Qila. Along with this plain grey ware, black slipped ware pottery from Harappa and Mohenjodaro is also kept in CAC, Purana Qila but somehow scholars are afraid of calling it by this name, rather they use the term black polished ware for it. From Kunal in Haryana, similar grey ware is reported from the early and mature Harappan contexts which continued during the later PGW culture. In fact, Kunal is a site which is providing a continuity of plain grey ware from the early Harappan times to the PGW times with appearance of finer variety of grey ware in the PGW cultural strata. Black painting is also found on

many of this finer variety pottery, making it painted grey ware. The technology of making light weight fine pottery was known to ancient Indian way back in *circa* 3000 BCE and even earlier as one can observe it in the Nal polychrome pottery from Baluchistan. The same trait of making light weight pottery is observed in the ceramics of PGW cultural phase, though such ceramics were in small percentage in comparison to the commonly used plain grey ware and red ware of thicker fabric. The Nal polychrome pottery seems to be the deluxe ceramic of that cultural phase and so is PGW. Except for the similarity in the technology of preparing light weighted ceramics, there is no other similarity between the Nal polychrome and the PGW pottery.

T.N. Roy divided standard PGW into four fabrics (A-D) and questioned the idea of considering PGW as a safe criterion for dating (Roy 1987: 43-54). He might have been right in his postulation because PGW has been found to form a small percentage of total pottery assemblage at most of the sites. One does not know that just the entry of few sherds of PGW in one site's pottery assemblage can actually help in its dating because PGW is covering a wide chronological span and is in all probability evolving from the earlier existing pottery tradition.

Those scholars who say that the Harappans were indigenous folks and the PGW were the Aryans who came from outside India must be asked what differences the cultural material of both the cultures show which can put the former as non-Aryan and the latter as Aryan. If one emphasizes on the presence of iron in PGW strata, then one also needs to keep in mind a number of sites in Punjab and Haryana where no iron is reported from PGW strata. Can this mean that the people who were using PGW pottery and were contemporary to Harappans (late Harappans to be on a safer side) were non-Aryans but became Aryans with the entry of iron in that culture in later times. Interestingly, at Alamgirpur, iron artefacts were reported from the lower PGW strata (which overlapped with the Harappans), but somehow the excavators did not emphasize upon this fact (Singh *et. al* 2013: 53). One also needs to keep in mind that the extension of PGW is limited up to Cholistan area of the erstwhile Bahawalpur State in Pakistan and Gandhara area has not shown a single site of PGW affiliation. Though, there is Gandhara Grave Culture's grey ware in the Gandhara region, it has totally different connotations because of being associated with a grave culture and without having paintings in black pigment. Even from the excavations at Taxila there was no reporting of PGW. In the north, as per J.P. Joshi (1993: 229-237), the spread of grey ware of PGW affinity is limited to Jammu area (Manda) and we don't find any pattern of archaeological sites indicating spread of PGW in Jammu area from the Gandhara region. While Vibha Tripathi proposes that the PGW culture came to doab region from the Indo-Pakistan border areas when the mighty Sarasvati dried up (Tripathi 2012: 3), J.P. Joshi proposed that the PGW of Haryana-Punjab area was earlier one and from there it entered into the northern Rajasthan, i.e., Indo-Pak border areas of Ganganagar and Bikaner districts (Joshi 1993: 232). In the absence of radiocarbon dates from either region from the important sites, it is difficult to accept any particular point of view. But the recent excavations at Karsola Khera in District Jind of Haryana (Shinde and Sengar

2011: 179-212) might indicate that the view expressed by Joshi is more plausible. As per the excavators (*ibid*: 194) there appears to be a gap between the late Harappans and PGW cultures at Karsola and considering the nature of pottery at the site, it appears that the late phase of PGW is present as opposed to the early phase, which was found at Bhagwanpura. Similarly, there is no continuity of cultures between the Harappans and PGW at Tarakhanewala Dera and Chak 86 in the presently available record (Trivedi 2009) as is the case with above-mentioned site of Karsola Khera where Shinde and Sengar (2011: 194) cite a break between the two cultures and favour a much later date between 800 - 600 BCE for the PGW. This late dating of PGW at sites in this region is also supported by the dates from Chak 86 (Trivedi 2009: 242) where the two radiocarbon dates from the PGW horizon are 650 $\pm$ 130 BCE and 215 $\pm$ 185 BCE. Not much emphasis can be laid on these two dates just because the three radiocarbon dates from Tarkhanewala Dhera (a Harappan site at few metres distance) fall between 1100 and 650 BCE (*ibid*) which are unacceptable for the Harappan period at the present stage of our knowledge. Here, it may also be added that Mughal (1982: 86-95) could locate only 14 PGW sites among 414 archaeological sites in the Cholistan area and these sites were limited to the north-eastern part of Cholistan and were situated in the middle of the former Hakra river bed. These sites came into existence once the river was completely dried up and the late Harappan sites had ceased to exist. The area of all these sites was less than 4 hectares except Satwali which covered an area of 13.7 hectares. Mughal's survey in a way indicate that the PGW sites were much later in date than the decline of Late Harappan and the smaller size of sites supports a late arrival of PGW using people from the east to utilize the dried up bed of Hakra.

The site of Bhagwanpura was a different case where the PGW and the Harappans (late Harappans as per Joshi) had a clear overlapping and the excavator was brave enough to say so, though, he also added that the Harappan presence at the site was late. R.C. Agrawala who did a lot of work in Bharatpur and Jaipur districts, on the basis of his exploratory results proposed that the core area of PGW seemed to be Bharatpur district and the direction of the spread of culture should be outwards from there (Agrawala 1994: 73-79). Now, after the first author's extensive explorations in the Braj region, we have a good idea of PGW settlements in the area (Gupta 2013). The Braj region for sure presents the most dense settlement pattern in the entire sub-continent and the area west of Yamuna has to be the core area of the PGW where the minimum area required for the presence of a PGW settlement comes out to be just about 16 sq. km. Tehsils of Chhata, Mathura-Sadar and Mant in district Mathura and Deeg and Kumher in Bharatpur district are very dense in PGW settlements and in district Hathras, there is an alignment from near Sasni up to Hathras which has high concentration of PGW sites. But in areas of district Bharatpur where the distance is more than 40 km from Mathura city and the soil is comparatively less fertile because of changing topographical conditions, the concentration of sites declines considerably but still that might be at par with other areas of doab region which have high concentration of PGW sites.

Now, we have quite solid grounds to speak about the authors of the PGW culture. The PGW using people were indigenous to the area where their settlements are found in high density, i.e., the Braj region. They did not come from outside. Their pottery technology seems to be an advancement over the pre-existing Black Slipped Ware and plain grey ware technology, so they were in continuity of the earlier folks who used Black Slipped Ware with grey core and plain grey ware. Were they Aryans or non-Aryans should not be discussed in present day circumstances since there was no race as Aryans which entered India from outside. Indigenous people of this land itself called themselves Aryas.

Chronology

The chronology of the PGW culture has been a subject of debate and speculation since it first came to light. Lal (1954-55:5-151) was the first to give it a time bracket of 1100 to 800 BCE mainly based on his presumption of associating this culture with the Mahabharata and possible date of war for him being about 900 BCE. The chronology of the PGW cannot stand in isolation rather it is dependent on the chronology of the cultures which pre-dated it, co-existed with it or succeeded it. The first culture which was found to be pre-dating the PGW was the Ochre Coloured Pottery (OCP) at Hastinapura but was vaguely given a date of pre-1200 BCE (*ibid*). Now, since a number of early dates of PGW, Black and Red Ware (BRW) and NBPW have come to light, it does not seem reasonable to give such a late date to the OCP. The OCP at Jodhpura near Ganeshwar in Rajasthan long back gave dates of about 3000 BCE (Agrawala 1982: 160) and the thermoluminescence dates from Atranjikhhera, Lal Qila, Jhinjhana and Nasirpur range between 2650-1500 BCE (Gaur 1987: 38). Unfortunately, charcoal samples for dating purpose could not be collected from various OCP levels, so, we do not have radiocarbon dates. Most of the OCP deposits have been found to be water borne and not much evidence regarding their habitation could be unearthed. The pottery, in spite of being black on red, was considered as ochrous red ware because of leaving ochrous colour on rubbing. MDN Sahi (2007:155-164) has very rightly put forth the chronology of the OCP culture in pre-Harappan times by associating it with Hakra phase about 3700-3000 BCE. Before Sahi, R.C. Gaur had strongly advocated OCP people being the pre-Harappans who migrated eastwards (Gaur 1987: 33-42). Mohammad Rafique Mughal after analysing the OCP at CAC, Purana Qila has mentioned that the pottery contained Hakra ware (Mughal 2015: 131). A somewhat similar observation was made by Durrani and Farid Khan of Peshawar University who after examining the pottery from Atranjikhhera and Lal Qila at Aligarh in 1989 suggested that similar pottery is found in cartloads at several sites in north-west Pakistan which belongs to pre-Early Harappan levels (Sahi 2007: 162). More than 125 OCP settlements are reported in Aligarh district alone (*ibid*: 157), that means that the core area of OCP culture may lie somewhere near it with prominent presence in the nearby districts of Uttar Pradesh. In Saharanpur and Muzaffarnagar districts, the reported OCP/ Late Harappan sites are 99 and 50 respectively (*ibid*). Copper hoards considered to be associated with the OCP culture should also fall in the same time

bracket. At most of the sites in the PGW zone, PGW is found to be preceded by a culture which is represented by Black Slipped Ware (BSW) and unpainted Black-and-Red Ware pottery. Both the pottery types also continue during the PGW cultural phase but sharply decline in percentage during the subsequent NBPW phase. Whether BSW and BRW cultural phase should be called by the name of latter, is an issue to be discussed further. Observing the resemblance of PGW with BSW and the presence of BSW only in north Indian sites unlike the BRW which has much wider presence, the use of term BSW culture might be a better option for this particular phase.

Now, we may have a look at some early dates from few sites which favour an early chronology for the PGW culture. Very important evidence comes from the site of Kampil recently excavated by D.P. Tiwari (2014: 196). The dates from BSIP, Lucknow which are quite consistent, are as follows:

OCP phase : 3322 BCE
 BRW phase : 3170 +-170 BCE
 PGW phase : 2310 +-120 BCE and 1360 +-90 BCE for the lower and upper levels.

The other site from where two consistent dates from the PGW horizon have come to light is Gosna in District Mathura where the author under the supervision of B R Mani had collected charcoal samples in 2010 (Gupta 2014: 12). The dates (courtesy Ashutosh Saxena) are:

BSIP 3800 : 2160 +-180 BCE
 BSIP 3760 : 2170 +- 180 BCE

Another site from where early dates from PGW levels came to light is Abhaipur in District Pilibhit but somehow the excavators discarded these dates as these did not fit in their expected chronology for the PGW period (Misra 2006: 83). The dates are:

PGW phase : 1730 +- 260 BCE (2440-1700 BCE calibrated)
 PGW phase : 5000 +-100 BCE (5940 +-5690 BCE calibrated)
 PGW-NBPW overlap phase : 1140 +- 140 BCE (1470-1170 BCE)

The other dates from the site are: 1330-870 BCE calibrated for the PGW phase, 450-150 BCE calibrated for the PGW phase and 1470-1170 BCE calibrated for the BRW phase. The excavators chose the first date for the PGW and the third date for the BRW phase respectively. Here, one question may be raised, is the interpretation of scientific dates dependent on the choice of the excavator? The sixth millennium BCE date for the PGW horizon might actually be an aberration caused by sample contamination but the other two dates fit in the chronological framework as has come to light from recent dates.

Bateshwar in District Agra had also given a very early date for the PGW horizon (IAR 1975-76: 42-43) which was never taken into consideration because of its being too early. The date was 3130 +- 240 BCE.

An early date from Mathura was also not taken into consideration by the excavator M.C. Joshi since it did not fit his idea of dispersal of NBPW to Mathura from the east (Joshi & Sinha 1978-79: 39-44). It has to be kept in mind that at that time no early dates for the NBPW were known and NBPW was believed to have originated in Bihar and eastern U.P. The dates from the NBPW level were (*ibid*):

PRL 334 (Early Level of NBPW)	: 730 +- 150 BCE uncalibrated
PRL-333 (Late Level of NBPW)	: 610 +- 150 BCE uncalibrated
PRL-336 (Mid Level of NBPW)	: 660 +- 100 BCE uncalibrated

After calibration the early dates for the NBPW phase would be near 900 BCE. If the large size of Mathura as a PGW settlement is taken into consideration, one can easily date PGW at Mathura to the earliest phase of PGW at the beginning stage and that would go much beyond the date of 900 BCE. Here mention may also be made of early NBPW dates from Ayodhya, Juafardih, Gotihwa, Vaisali, Rajdhani, Agaiabir, Ganwaria and some other sites in mid Ganga valley which take back the antiquity of NBPW between 1300 to 1000 BCE.

The other important dating evidence for the PGW culture has come to light from Alamgirpur where PGW is interlocked with the mature Harappan in Period IB that has been dated to 2200 BCE (calibrated) for its beginning (Singh *et al.* 2013: 54). The recent dates from Hulas (Dikshit *online*: 162) of 2560 +- 155 and 2005 +-115 (uncalibrated date of BCE) from the possible Harappan context (previously thought as Late or post-Harappan) also support an early beginning for the PGW as the chronology of various periods, particularly the Period II (PGW) would change if the chronology of Period I is shifted back by about 800 years. Recent archaeological investigations of the Harappan site of Rupnagar (Ropar), Punjab are also important for the chronology of PGW (Prabhakar and Ansari 2015: 154-164) since as per the excavators the Harappan/ Bara level at Ropar can be dated between 2400-2100 BCE. At the nearby site of Sanghol, an overlapping between the Bara culture and the PGW had previously come to light (Margabandhu *online*: 9). The early dating of Bara culture further suggests a push back for the dating of PGW.

The evidence from Kunal is also very important where one notices the early and mature Harappan presence as well as PGW presence (*IAR* 1994-95: 26). Early presence of antecedent PGW might be limited to slightly thicker grey ware of PGW affinity. In the absence of detailed data of a proper scientific excavation at the site, many conclusions from the site are still unclear but the site definitely had both Harappan and PGW presence.

There are 205 PGW sites in Mathura district alone reported by the author. By no means can it be accepted that all these sites came up into existence at the same time. There might have been few very early sites which grew up from the preceding OCP and BSW cultures. Many of the sites would have come up during the developed PGW phase and the rest might have come up into existence during the late phase of the PGW. Without

excavations it is difficult to talk about the phases but with the recent dates, the earliest phase might be considered to have begun about 2300 BCE and the late phase as late as 700 BCE. If this is actually the scenario, then the PGW might be the longest surviving pottery tradition in Indian archaeological history.

PGW's Association with the Mahabharata

It was Prof. Lal who suggested such an association based on the finding of PGW in the earliest levels at most of the Mahabharata related sites. Besides, the finding of PGW in the earliest horizons, other arguments for this association were the finding of iron in PGW deposits (not at Hastinapur but at other sites) and possibly also the suggested timeframe of this culture at Hastinapur. But there are certain problems in accepting this association, first of these is the finding of OCP as the earliest culture at many Mahabharata related sites like at Hastinapura, the capital of Kuru, Ahichchhatra and Kampilya (northern and southern capitals of Pauravas of Panchala). Even at Katra (Mathura), there was a cultural horizon representing pre-PGW (grey ware only) stage with handmade red ware pottery which must have been either OCP or an associated pottery level (IAR 1954-55: 15-16). It has also to be kept in mind that Mathura is surrounded on all sides by OCP sites like sites of Bharatpur, Agra and Aligarh districts, so non-reporting of OCP from a densely inhabited Mathura should not be taken as a negation of OCP presence. For the growth of 205 PGW settlements in Mathura district, there must have been some earlier cultural precedence. For few other Mahabharata related sites, there might be the problem of excavation at the right spots. Even at Hastinapura, the OCP was not found in a stable cultural state. The Mahabharata was a period of continuous warfare and the limited weaponry evidence from PGW horizons does not favour it whereas Copper hoards are associated with OCP on a secure ground and the Copper hoard implements might be indicative of an atmosphere of warfare. Such an advanced copper technology was also the need of the hour.

If PGW is considered to be Mahabharata related pottery, then two important areas of Mahabharata times pose questions. The one is Girivraja (Rajgir), the capital of Jarasandha which was an important city of the Mahabharata times but has not provided any PGW evidence. Second is the area of Dwarka in Gujarat which was the capital city of Krishna. If Mahabharata is an historic event, then the migration of people from Mathura to Gujarat is also a historic fact and we don't find any evidence of PGW indicating a movement from Mathura to Dwarka. The last PGW site found in that direction in Rajasthan is Gondi in Ajmer district.

Lal's proposal of associating the PGW of Kausambi with the migration of Nichakshu (Lal 1954-55: 5-151) is also questionable now. Slightly degenerated nature of PGW at Kausambi with a possible later date than Hastinapura might just be a regional archaeological phenomenon and has nothing to do with the supposed migration of Kuru folk to Kausambi. If there was a migration then there cannot be such a change in the quality of pottery, otherwise the degeneration should start from the sites lying in

between if that migration took a longer duration. There was too much of speculation involved in Lal's suggestion.

Now, we can also have a look at what Lal had to say in the Aligarh seminar on PGW. Lal had remarked "If it is found that it is the Ochre Colour Ware that occurs at most of the Mahabharata sites the claim of Painted Grey Ware will have to go. Otherwise it stands." (Lal 1994: 22) Now in the present state of archaeological evidence OCP seems to be a stronger contender for the Mahabharata association and the time period of 3700-3000 BCE proposed by Prof. Sahi also supports such a contention. It has to be noticed that OCP is just a strong contender, not a sure choice.

Conclusion

Finally, we have to say that the chronology of the OCP, BSW and PGW phases needs to be reaffirmed with more and more collection of samples for radiometric dating. No prior conclusions need to be drawn about any movement or dispersal pattern unless we get a clear picture. Firstly the Aryan Invasion Theory and then the shifting of river channels paradigm have affected the archaeological scenario of northern India very badly. We have to look at all the data afresh.

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