Rotary querns from Bīr-kotṣ-ghwaṇḍai (Khyber Pakhtunkhwa Province, Pakistan): archaeological and linguistic evidence

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1. Introduction

Rotary quern or hand-mill is a simple but successful device consisting of two circular stones fit together with an upper mobile element, called the hantle, comprising one of the stones (i.e., the upper stone) in a projection handle. It was used to grind grain into flour for domestic purposes. Grain is generally fed through a central hopper and ground between the faces of the two stones. These implements (i) some decades ago were common in South Asia, and Swat valley to be made. The sound of the upper stone resolving last to grind the daily fare from the early morning signature sound in traditional village houses. In Swat valley is one of the surrounding areas settled by Pathan people, rotary quern is called mūted and it is still employed in remote villages where commercial or communal mills (chālkiyan) are absent or impossible to use due to scarcity of water or electricity.

2. Rotary querns in South Asia: an innovation came from the West

In South Asia the oldest and most elementary implements used since Neolithic for grinding grains have been plain and saddle querns. Nevertheless, from the Early Historic period a new implement for processing cereals appears changing food processing practices. The revolution in innovation of applying the hand-powered mechanism of rotary motion to the grinding process produced the rotary quern. This device is an important technological innovation of the ancient world and the first major application of rotary motion since the invention of the potter's wheel. Rotary quern was probably invented in the western Mediterranean during the 5th century BCE and from there it spread out later thanks to the ancient Greek and Roman armies and merchants. They reached some regions of South Asia, particularly the Swat valley during the Early Historic period, and they have been used up to recent times.

3. Bīr-kotṣ-ghwaṇḍai: a urban settlement in the mountains

Bīr-kotṣ-ghwaṇḍai (Barikot, hereafter BKG) has become a major excavation project since 1974. The excavations have provided evidence from the 2nd millennium BCE until the 13th-14th century CE with a mid-1st millennium CE culminating with the abandonment of the site towards the end of the 3rd century CE. The project was financed and directed by Luka Maria Olivieri and carried out by the ISMEO Italian Archaeological Mission in Pakistan in collaboration with the Directorate of Archaeology and Museums of Khyber Pakhtunkhwa.

4. Rotary querns at BKG: the archaeological evidence

Data from BKG evidence that rotary querns started being used only in Kathiawar and were employed along with plain and saddle querns, which remained the dominant grinding tools. From the chronology point of view, rotary querns appear during the Macrophase 4 (c. 500-200 CE) and the Macrophase 5 (500-1000 CE) starting from the second millennium BCE. Even though saddle-shaped instruments decrease over time in favour of plain types, isolated single rotary querns suddenly disappear after the abandonment of the urban settlement; in fact, in the later village-type setting during the Macrophase 4, ordinary querns are the dominant grinding tools. The trend recorded at BKG is consistent with data from other South Asian sites where rotary querns are present only after the first century CE and are distinctive of urban contexts.

5. Some comparisons and considerations about rotary querns

Rotary quern is not a native traditional technology in South Asia, and it has been associated to international trade. Most probably this technology has been imported from the Mediterranean and the West, and most of the rotary querns were found in contexts not far from the coast all over South India. The import of such tools started at earliest towards the end of the 1st century BCE during the Saka-Parnian period when it appeared the first substantial large scale contact with Roman India. The presence of rotary querns increased all over South Asia during the Kushan period, when commercial trade with the West reached their peak.

As far as the shape and technology evolution is concerned, the specimen of BKG matches the evidence from Sirkap and Seistan, since in the later types, the vertical handle tends to substitute the type with horizontal axis. The grinding stones were well shaped in proper India and in a big metropolis of the north-west like Sirkap, it started being common at BKG as well, as a typical axo-synthetic phenomenon. The impact of rotary querns to BKG and Swat valley is associated to a phase of “Kushanisation” (for “Indo-Parthian”) that occurred to Macrophase 4 and 5, when pottery forms and techniques, come of form, technology, and luxury objects were imported or emulated the forms in vogue in the Deccan plateau, where the same trend had their main centres.

6. Linguistic notes on rotary querns

The word mūtedo (a machine, i.e., any artificial contrivance for processing work, an engine; fabric, framework, staging, stage, wheel, water engine, military machine) is known in Greek as “μύθρα”, “μυθραῖον” of “μυθραῖος”, a form of “μυθρός” (from Greek mūthros 'mutter'). The mūther is now an adjective related to the Latin mūthros, common in the Indo-Aryan and Kafir languages. We do not know the exact moment of entering into Pathan of this lemmatized, it should be successor to mūther, with resulting adaptation of the semantic fields: water- and the first- and hand-mill the second.

7. Concluding remarks

In conclusion, it must be stated that South Asia mūtedo represents a lemmatized from Latin mūthros. In this situation, the Romans, while bringing a new type of implement for grinding cereals, the mūther, brought with them also its denomination, which could have been retained by some populations in the north-west. We do not know exactly when and where the Pathans acquired the mūther denomination; they should have found the mūther and its denomination still living among the local population. The two terms, mūther and mūtedo, could be thus lemmatized from different sources but of the same epoch (or the later even) and it cannot be excluded that the mūther should have occurred in the very beginning of their arrival and consistance. As a consequence of the lack of a well-established tradition, there would have been no necessity to have its same name, like mūther-mūther, and also be lemmatized in Pathan mūtedo, which highlights nowadays its ancient and foreign origin.

Reference


Acknowledgment

The paper is based on the research, partly funded by the two projects "Altes und Neues in Langzeitarchäologie" (projects manager: Sabine Maria Gau) and on the grants of the Year 2017 of the German Archaeological Institute (DAI). The author would like to thank two anonymous referees for their comments on this article.

Fig. 1. Map of the middle Swat valley with the location of Bīr-kotṣ-ghwaṇḍai.
Fig. 2. The hill of Barikot and the location of the excavation BKG-1 (Gogolj et al., 2013).
Fig. 3. Tombs of BKG-5 (a) and 11 (b).
Fig. 4. Man and saddle querns from tombs BKG-1 (Johansen, 2013).
Fig. 5. Haniadara and ceremonial stones from tombs BKG-4 (G. Mushinsky) and BKG-6 (Mushinsky, 2013).
Fig. 6. Rotary querns at BKG (L. G. Mushinsky).
Fig. 7. Grave (1996) in tomb BKG-15, 1-2-4 Macrophase 4 and 5 (glass GA).
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