

**FEASTING WITH THE DEAD ON THE EUPHRATES:  
STABLE ISOTOPE ANALYSIS OF CARBONIZED RESIDUES ON  
EARLY BRONZE AGE CERAMICS FROM THE CEMETERY  
NEAR TELL GHANEM AL-‘ALI**

Shogo KUME\*, Yoshiki MIYATA\*\* and Seiji KADOWAKI\*\*\*

### Introduction

Feasts for the living and the dead associated with funerary rituals have extensively been observed across the world from antiquity to modern times. In the ancient Near East, early evidence for feasting has been demonstrated at a burial context in the Epipaleolithic period (ca. 12,000 B.P.) before the appearance of agropastoral economy [Munro and Grosman 2010]. The social significance and the roles of feasts for the living and the dead in the process of funerary rituals have intensively been discussed by cultural anthropologists and archaeologists. They often explain that feasting is used to promote the maintenance and the success of socioeconomic and political status of the bereaved among their family/kin groups and the community [Hayden 2009].

On the other hand, funerary rituals would reflect emotional responses of the bereaved people, suggesting unique views of life and death or the netherworld in a particular community [Metcalf and Huntington 1991; Uchibori and Yamashita 2006]. The notion of ancestor veneration that includes practices of periodic feasting for caring of the souls of the dead would be familiar to people from East Asian countries. For example, feasting with the souls of the dead in front of a grave is still being witnessed in part of Japan [Shintani 2009]. Likewise, the notion of ancestor veneration that involves feasting for the living and the dead has been confirmed in ancient Mesopotamia. As has been demonstrated by written sources after the 2nd millennium BC, the dead was commemorated through the offering of food and drink on regular occasions that was called as *kispu* in the Akkadian language. The sources also reveal that the rituals took place at grave [Tsukimoto 2010].

Archaeological methods to reconstruct feasts in antiquity have not yet been established in a comprehensive way. However, archaeologists have attempted to reconstruct past feasting activities based upon archaeological records like the consumption of large quantities of animal remains, archaeological contexts of uncovered food and drinking vessels, and iconographic sources of banquet scenes. Recent developments of various chemical analyses also allow us to identify consumed foods and drinks during the feasting, and to locate the actual place where such events have occurred within archaeological contexts [Hayden and Villeneuve 2011].

Previous studies to attest ancient Mesopotamian *kispu* from archaeological contexts have also been conducted in parallel with the approaches of feasting studies described above. For example, archaeological evidence for *kispu* is including; (1) the consumption of large quantities of animal remains in chambers of massive royal tombs; (2) a large amount of food and drinking vessels discarded in burial chambers; (3) cooking pots and storage jars uncovered from burial chambers; (4) identification of consumed foods and drinks by organic residue analysis of buried ceramics or sediments in burial chambers. Using such multiple archaeological evidence, archaeologists have suggested the existence of *kispu* ritual described in written sources [e.g. Pfälzner 2004; Pollock 2003;

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\* Eurasian Cultural Exchange Center Project, Tokyo University of the Arts, 12-8 Ueno Koen, Taito, Tokyo 110-8714, Japan

\*\* Venture Business Laboratory, Organization of Frontier Science and Innovation (O-FSI), Kanazawa University, Kakuma-machi, Kanazawa, Ishikawa 920-1192, Japan

\*\*\* Nagoya University Museum, Nagoya University, Furo-cho, Chikusa, Nagoya 464-8601, Japan

Schwartz 2007].

However, the following several issues still remain uncertain despite the previous efforts by archaeologists. First, there is a question when *kispu* ritual appeared in the Near East. Past studies have generally focused on archaeological evidence after the 2nd millennium BC, when written sources obviously demonstrate feasting with the dead in funerary contexts. For this reason, it still remains uncertain whether such feasting was practiced in the preceding periods before the 3rd millennium BC.

Second question will be social status of the deceased who were subject to *kispu* ritual. Past studies have focused on archaeological evidence from tombs with rich grave goods in which elites might be buried. Likewise, written sources also record feasting for caring of the elite dead. For this reason, it still remains uncertain whether *kispu* ritual was a typical practice only for elites or a common funeral tradition in ancient Mesopotamia despite their social status.

Third, there seem to be an essential methodological problem. Archaeological evidence from burials that demonstrate consumption of foods and drinks does not necessary suggest practices of the periodic feasting for caring of the dead. The evidence might have simply shown the offering of foods and drinks when the dead was buried.

Recent excavations at Wadi Daba burial area in Syria in the 3rd millennium BC have provided archaeological datasets to shed new light on the archaeology of *kispu*. This paper briefly describes the results of stable isotope analysis and  $^{14}\text{C}$  dating of charred materials from the inner surface of a cooking pot discovered from the site, considering potentials to identify foods and drinks consumed during the ritual.

### Cemetery near Tell Ghanem al-‘Ali, Syria

Wadi Daba burial area near Tell Ghanem al-‘Ali on the Syrian Middle Euphrates (Fig. 1) is a burial

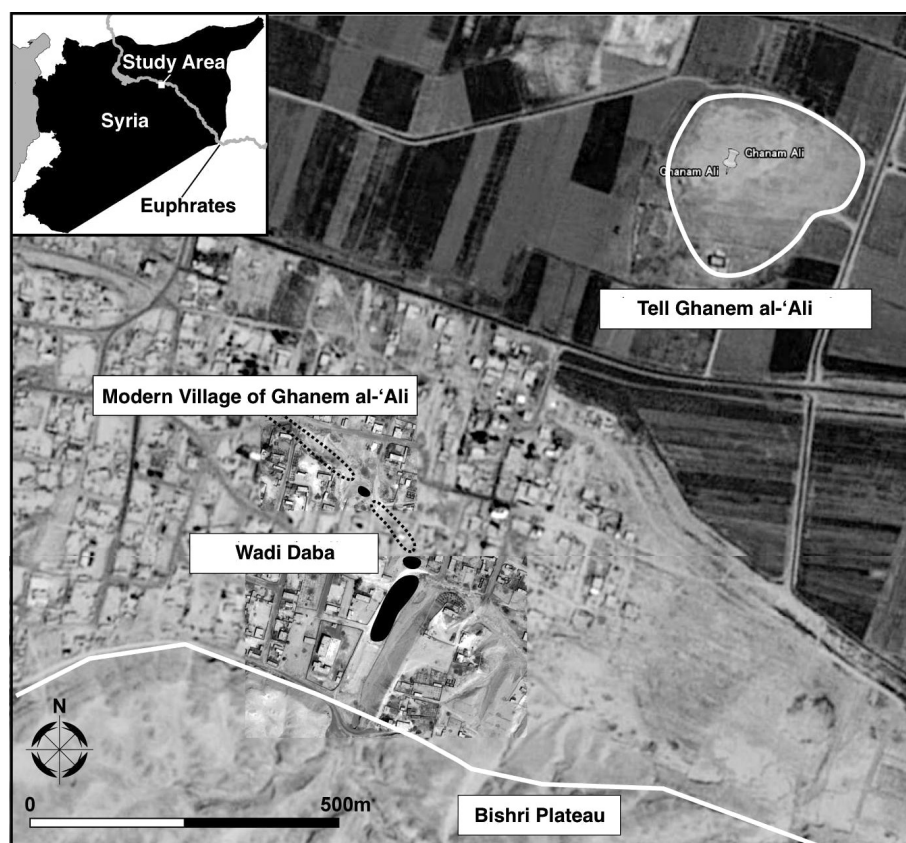


Fig. 1 Locations of Tell Ghanem al-‘Ali and Wadi Daba burial area.

cluster of shaft and chamber graves (Fig. 2) dated to Early Bronze Age III-IVA periods (ca. 2450–2300 cal. B.C.). Excavations were conducted by the Syrian-Japanese mission led by Katsuhiko Ohnuma from 2009 to 2010, and a total of eight graves have thus far been confirmed [Kume *et al.* 2011]. Among them, only two infant graves were discovered under the condition of un plundered, but other six graves were also well preserved, containing considerable number of finds represented by ceramics and human remains. On the other hand, there were no graves that contain distinguished grave goods. In addition, individual graves did not demonstrate remarkable differences in terms of the assemblages of the finds. These results suggest that the deceased of the burials were more or less ordinary people. Ceramics from the graves include food and drinking vessels consist of spouted jars and open or closed bowls, various sizes of jars for storage, and cooking pots. An accumulation of numerous numbers of various types of ceramics discovered in the burial chamber of Grave WD1C-01 at the site (Fig. 3) imply that the appearance of *kispu* ritual dates back to the 3rd millennium B.C., and that the practice was a common funeral tradition despite their social status of the deceased.

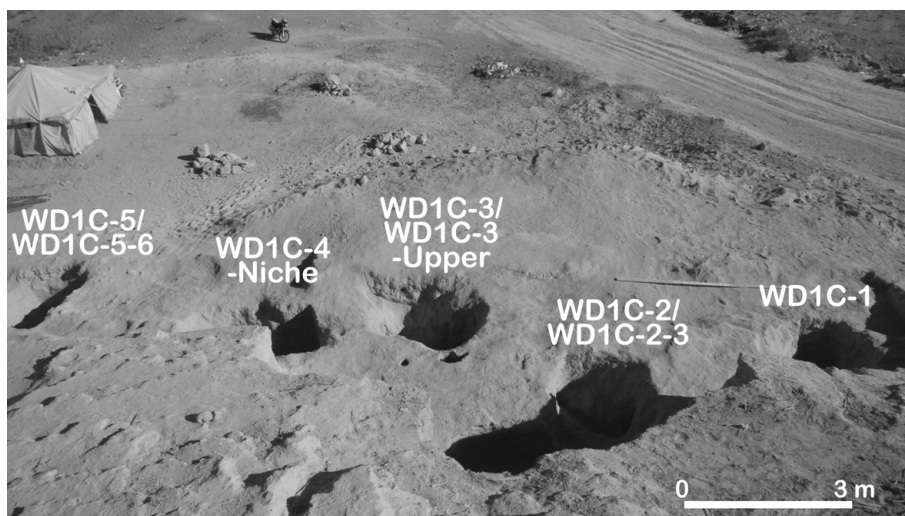


Fig. 2 Distributions of the entrances of shaft and chamber graves at Wadi Dava Area 1C.



Fig. 3 Accumulated ceramics in the burial chamber of Grave WD1C-01.



## Materials and Methods

Stable isotope analysis and  $^{14}\text{C}$  dating of charred materials from the inner surface of a cooking pot (Fig. 4) that was discovered from Grave WD1C-01 of Wadi Daba burial area were conducted.

After the charred materials adhered onto the inner surface of the cooking pot were collected by a micro-spatula, the sample was treated by a conventional acid-alkali-acid (AAA) treatment [Miyata *et al.* 2009]. In brief, the collected charred materials were ultrasonically cleaned in Milli-Q water and acetone. Then, carbonate of the sample was dissolved and removed in a water bath heated at  $60^\circ\text{C}$  by 1N HCl. Subsequently, humic acid from soils was dissolved and removed by 0.1N NaOH and 1N NaOH. The sample was then removed secondarily generated carbonate and neutralized by 1N HCl heated at  $60^\circ\text{C}$ . Last, the sample was washed with Milli-Q water and then dried.

The carbon and nitrogen isotope compositions and contents of the carbonized materials after the AAA cleaning treatment were measured by SI Science Co., Ltd., Saitama, Japan, using Model Flash EA1112 DELTA V Advantage ConFlo IV System (EA-IRMS) of Thermo Fisher Scientific Inc. A  $^{14}\text{C}$  date of the sample converted to  $\text{CO}_2$  gas was measured by AMS laboratory of Beta Analytic Inc., Florida, U.S.A.

## Results

The result of  $^{14}\text{C}$  dating of the charred materials from the inner surface of the cooking pot was  $3890 \pm 40$  B.P. ( $1\sigma$ ). Calibrated age of the  $^{14}\text{C}$  age (2470–2210 cal. B.C;  $2\sigma$ ) corresponds to the periodization of the ceramic group. The result of stable isotope analysis demonstrated that the carbon and nitrogen isotope composition of the charred materials are not consistent with the typical isotope composition of a single component (Fig. 5).

Nevertheless, several lines of evidence suggest that the principal component of the charred materials was  $\text{C}_3$  plants (gramineous plants except several types of millets) whether the materials were derived from a single ingredient or multiple ingredients. First, in case that the charred materials were derived from a single ingredient, this isotope signature suggests that the principal component of the charred materials was a  $\text{C}_3$  plant or a terrestrial mammal. However, C/N ratio of the charred materials showed a quite large value of 17.9, suggesting that the ingredient was not animal products (C/N ratio = less than 10), but a  $\text{C}_3$  plant. Second, in case that the charred materials were derived from multiple ingredients, this isotope signature suggests that the principal component of the charred materials was a mixture of marine products,  $\text{C}_3$  plants or terrestrial mammals. However, the value

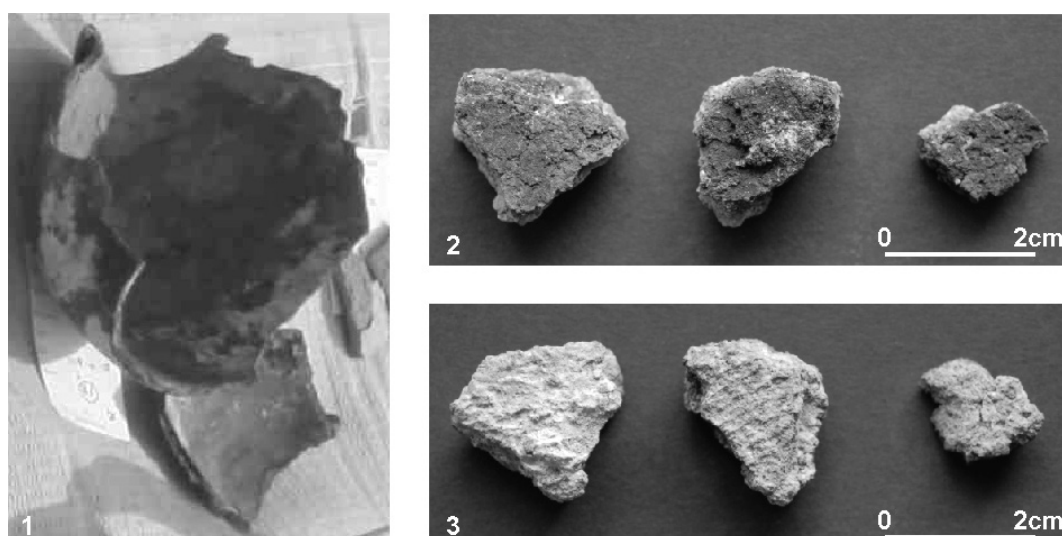


Fig. 4 Analyzed cooking pot with charred materials from Grave WD1C-01 (1. Overview; 2. Charred materials adhered onto inner surface; 3. Outer surface).

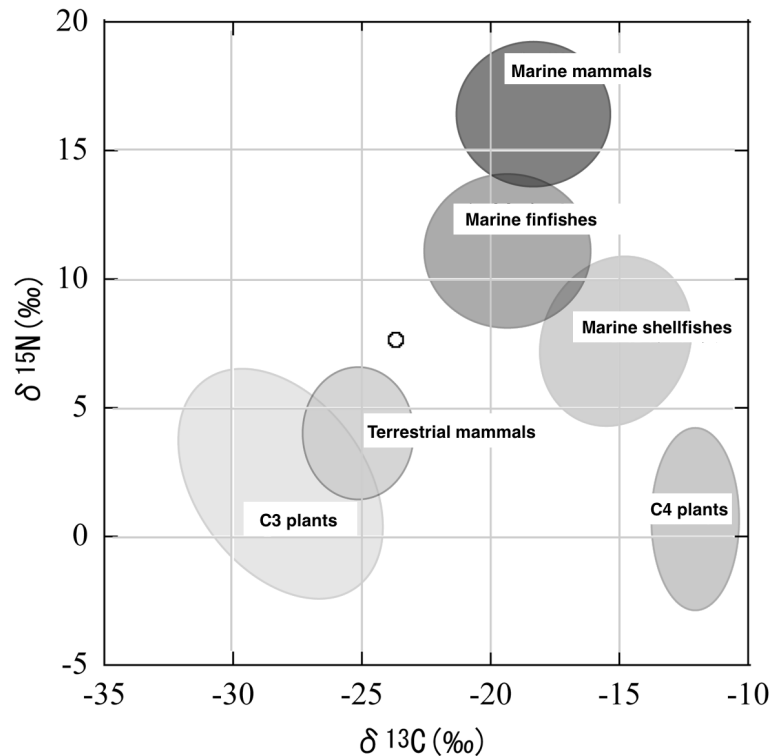


Fig. 5 Isotope plot of the analyzed sample (circle) with standard isotope ellipses (see Miyata *et al.* 2009).

of C/N ratio described above suggests that terrestrial mammals were not mixed into the multiple ingredients. In addition, it is not likely that the ingredients have included marine products, since the result of  $^{14}\text{C}$  dating of the charred materials corresponds to the periodization of the ceramic as has been described above. If marine products were included in the ingredients, the marine reservoir effect would have affected the acquired  $^{14}\text{C}$  date, giving an apparent date that is several hundred years older than the true date.

### Some remarks

Our attempts to attest *kispu* ritual in ancient Mesopotamia still remain at preliminary stage, since we have not yet adequately answered above-described several questions and problems on the ritual in archaeological context. Towards the archaeology of *kispu*, further methodological developments to identify the actual places and the periodic patterns of feasting at grave might be needed. Nevertheless, the result of stable isotope analysis and  $^{14}\text{C}$  dating of charred materials from the cooking pot associated with the burial showed potential for identification of prepared and consumed foods during the ritual. Obtained data indicates that foods derived from  $\text{C}_3$  plant were most probably prepared and consumed at Grave WD1C-01 of Wadi Daba burial area. The result would be required to test from other methods like lipid analysis of the ceramic sample in the future. However, the prepared and consumed foods and drinks at the grave can be discussed in detail through comparison with macrobotanical data obtained from the nearby settlement of Tell Ghanem al-‘Ali [Akashi 2011] or other contemporary settlements as well as cooking recipes described in written sources [Bottéro 2004].

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