WADI HEDAJA 1 AND 2: A CHRONOLOGICAL ASSESSMENT BASED ON UNEARTHED ARTIFACTS

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1. Introduction

We have surveyed the Bronze Age cairn fields at Mt Bishri in central Syria in our previous work [Adachi 2013; Adachi and Fujii 2009, 2010a, 2010b, 2015, 2016; Fujii 2008, 2009; Fujii *et al*. 2009a, 2009b; Fujii and Adachi 2010] (Figs. 1 and 2) with the following results: 1) cairn fields at Mt Bishri were constructed during the Early and Middle Bronze Age, 2) their construction can be divided into four phases, and 3) these cairns were connected with the presence of large pastoral nomad groups. The four phases of cairn construction seen in this area can be summarized as Phase 1, during which cairns comprise a large cist with external, internal, and peripheral walls; Phase 2, during which cairns comprise a large cist but no peripheral wall; Phase 3, during which cairns comprise a small cist without external and internal walls; and Phase 4, during which cairns have no cist (Fig. 3) [Fujii and Adachi 2010: Fig. 8].

Although eight carbon (C)14 data points are available to evaluate the age of Phase 1 cairns, no such data are presently available for Phase 2, Phase 3, or Phase 4. It is therefore necessary to examine the objects that have been unearthed from these latter three phases both typologically and morphologically to clarify the date range evidenced by their techno-typological sequence.

In one example, a bird-shaped faience amulet and a toggle pin with a disc-shaped head were associated in a burial cairn 09 (henceforth BC-09) within the Wadi Hedaja 1 cairn field (henceforth Wadi Hedaja 1). However, as previous studies have suggested that the ages of these two objects are inconsistent (Adachi and Fujii 2008, 2010a), they are reexamined in this study, alongside a small jar with a straight neck that was also collected from BC-09 within the Wadi Hedaja 2 cairn field (henceforth Wadi Hedaja 2). On the basis of a typological and morphological analysis of this small jar, we present a redefined chronological assessment of these artifacts placing both BC-09 from Wadi Hedaja 1 and BC-09 from Wadi Hedaja 2 within Phase 2 of the Bishri Cairn Chronology (Fig. 3). As a result, eight C14 data points ranging between approximately 1950 calBC and 1600 calBC have been generated thus far for Phase 1 [Nakamura 2010: 127–128]. The aim of this paper is therefore to refine the dating of the Bishri Cairn Chronology by examining the objects that have been unearthed to date from Phase 2.

2. Wadi Hedaja 1

(1) The Bronze Toggle Pin and Bird-Shaped Faience Amulet from BC-09

Wadi Hedaja 1 was discovered in 2007 and excavated in 2008. This field comprises 14 cairns, including BC-09, where the bird-shaped faience amulet and toggle pin were unearthed, within the western part of segment A (Fig. 4). As the BC-09 cairn includes a large cist with interior and exterior walls but no peripheral counterpart, we have chronologically arranged this type within Phase 2 of the Wadi Hedaja 1 techno-typological sequence (Figs. 3 and 5).

Although heavily disturbed, the cist infills of this cairn were nevertheless relatively hard and indicate that it had not been recently looted by the time of excavation. However, the bird-shaped faience amulet was found above the inside wall of this cist (Fig. 5), likely moved from the floor because of looting-related disturbance.

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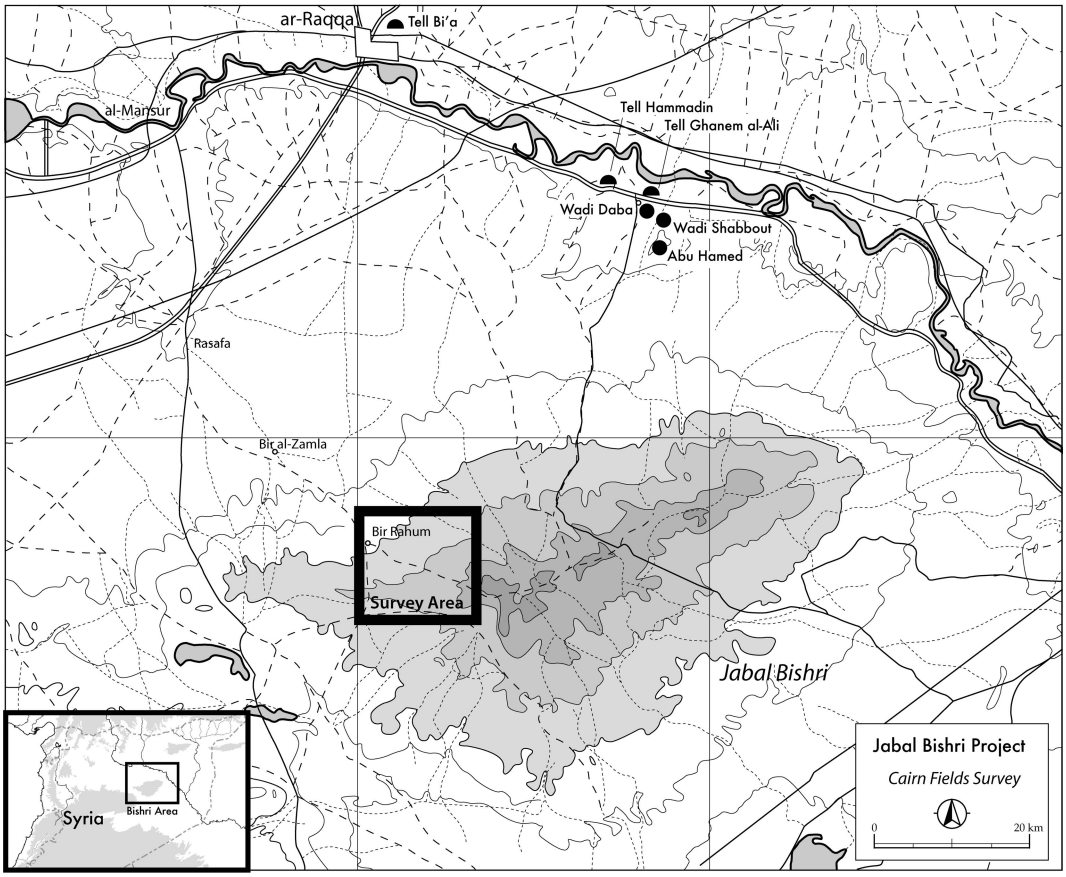

Fig. 1: Topographical map to show Mt Bishri and the area studied in this research [redrawn from Fujii and Adachi 2010: Fig. 1].

At the same time, the bronze toggle pin from this cairn was unearthed within the constructed layer between the inside and outside walls of the cist (Fig. 5). We therefore consider that this toggle pin was discarded for some reason during construction. We consider the relative dating of this artifact in this paper because it has a clearer archaeological context than the bird-shaped amulet.

(2) The Toggle Pin with a Disc-shaped Head

The toggle pin artifact that was unearthed from BC-09 is a special type because it has a disc-shaped head. The diameter of this disk is 0.9 cm; one section of the pin is round on its proximal end and oval-shaped distally. This specimen becomes slightly wider approximately 2.0 cm from its proximal end, and is perforated by a small hole in its widest section while the distal region is curved and has been broken. The toggle pin is approximately 6.4 cm in length (Fig. 6: 1).

It is noteworthy that a similarly shaped toggle pin was also unearthed associated with a bronze battle axe from a grave (G200) in the Chagar Bazar layer I (Fig. 6: 2). This grave was excavated by Mallowan [1947] and has been dated to between 1700 BC and 1600 BC. In later work, Curtis [1983] focused on the objects from this grave as part of a study on bronze battle axes; for the first time, he described the bronze pin from this grave as a toggle pin with a disc-shaped head and suggested that this kind of element had developed from the toggle pins with dome-shaped heads that are known from the Early Bronze IV in Syria and Palestine. Curtis [1983] also dated this Chagar Bazar toggle pin to between 2000 BC and 1800 BC, and suggested the presence of two distinct groups with disc-shaped heads, perforated and unperforated toggle pins.

A number of other perforate toggle pins with disc-shaped heads have also been collected from

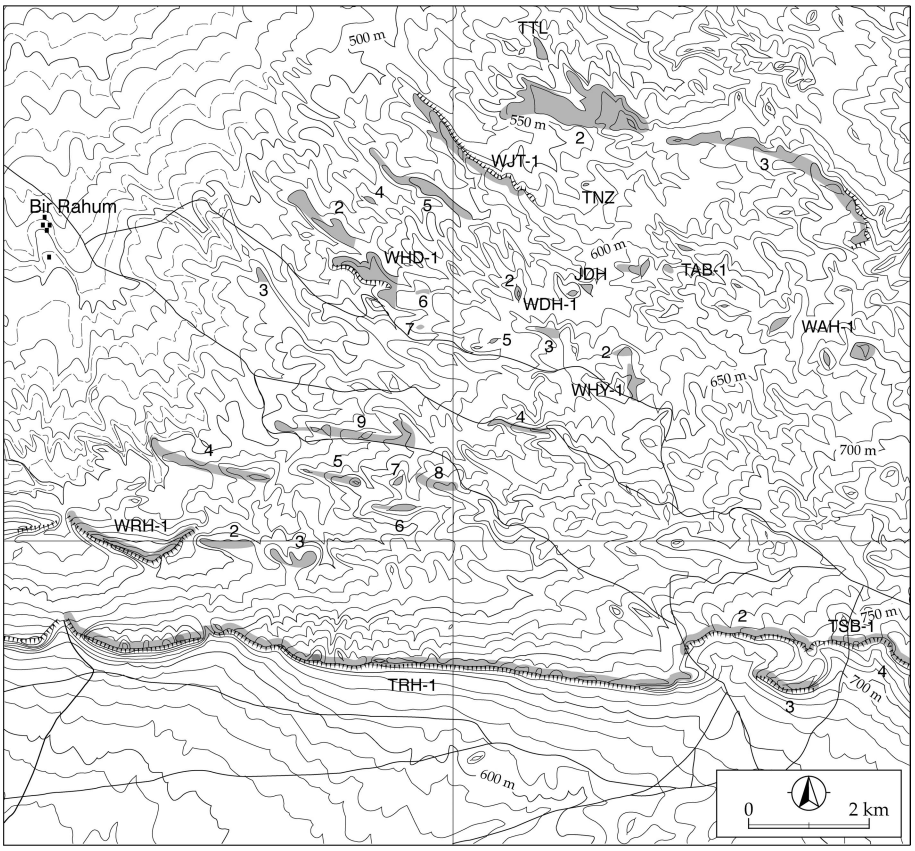

Fig. 2: Distribution of Bronze Age cairn fields within the area studied in this research [redrawn from Fujii and Adachi 2010: Fig. 2]. Abbreviations: TTL, Tell Tleha; WJT, W Jal al-Tur; WHD, W Hedaja; TNZ, Tell Nazha; JDH, Jal Daher; WDH, Wadi Daher; TAB, Tell Abrak; WAH, W Ahmar; WHY, W Hayuz; WRH, W Rahum; TRH, Tor Rahum; TSB, Tor Subiai.

the sites of Mishrife (Fig. 6: 3), Selenkahiye (4), Halawa (5), Qara Quzaq (6), Birecik Cemetery (7), and Byblos (8), while unperforated ones are known from Brak (9 and 10), Mersin (11), and Qara Quzaq (12), as well as from Birecik Cemetery (13 and 14). The object from Byblos has been dated to ca. 1750 BC [Tufnell and Ward 1966], while the toggle pin from Mersin has been dated to between 2000 BC and 1750 BC [Garstang 1953].

Curtis [1983] also suggested that unperforated toggle pins with disc-shaped heads can be dated to the Late Bronze Age while perforated examples with disc-shaped heads pertain to the early half of the second millennium BC. As the toggle pin from BC-09 is very similar to the one from Chagar Bazar, we can assume that both objects belong to the same period; as noted above, the toggle pin with a disc-shaped head from Chagar Bazar has been dated to between 2000 BC and 1800 BC.

Recently, however, Squadrone [2015: 324] demonstrated that perforated and unperforated toggle pins with disc-shaped heads from both Qara Quzaq and Birecik Cemetery can be dated to the early half of the third millennium BC. These new data mean that, in future research, the origin of toggle pins with disc-shaped heads must be take into account.

(3) The Bird-shaped Faience Amulet

An additional question is the age of the bird-shaped faience amulet. This artifact is made from whitish-blue faience, is partly covered with a bluish-green glaze (Fig. 7: 1), is larger than the other objects discussed below, and is mostly unimpaired, about 1.7 cm in length, 1.9 cm in height, and 0.8 cm in width. This object is swollen in shape and includes no detailed expressions (e.g. tail, legs, and

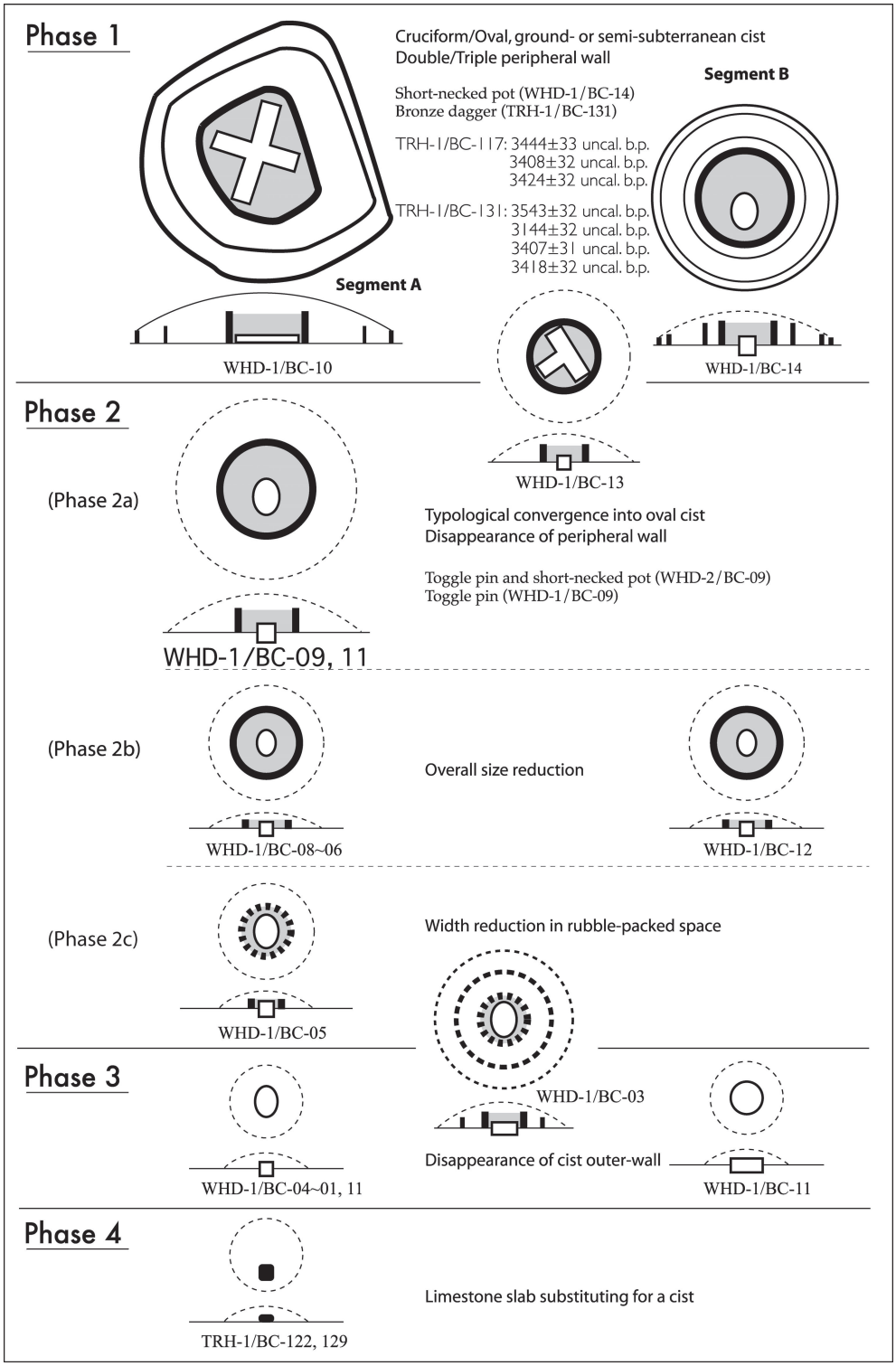

Fig. 3: Techno-typological sequences of Wadi Hedaja 1 [Fujii and Adachi 2010: Fig. 8].

wings), although its head is large, and the mouth and eyes are expressed by incised lines. This amulet might depict some kind of waterfowl as two further lines are also present in the lower part of the body, and a small additional hole, 0.2 cm in diameter, is perforated into the front central portion of this specimen.

Similar bird-shaped faience amulets have also been unearthed from the Bronze Age and Iron

Age in western Asia; Limper [1988], for example, collected a number of examples while examining objects from Uruk and suggested that bird-shaped amulets made of frit or faience were distributed across this region during the latter half of the second millennium BC [Limper 1988: 32].

The previous studies have suggested that toggle pins can be dated to the early half of the second millennium BC and that their bird-shaped counterparts can be dated to the latter half of the second millennium BC. This chronological difference makes it difficult to be certain about the dating of BC-09 in Wadi Hedaja 1. We therefore compared the bird-shaped amulet with similar artifacts from Tell Bi'a and Selenkahiye in order to further elucidate the age of this artifact. The results of this analysis suggest that the techno-typological sequence from Wadi Hedaja 1 can be dated to the early half of the second millennium BC.

Limper [1988] published a voluminous study on the ornaments from Uruk in which she referred to this bird-shaped amulet. We therefore compare specimens from Tell Bi'a and Selenkahiye, Central Syria, with Limper's study in order to further confirm the dating of the BC-09 bird-shaped amulet from Wadi Hedaja 1.

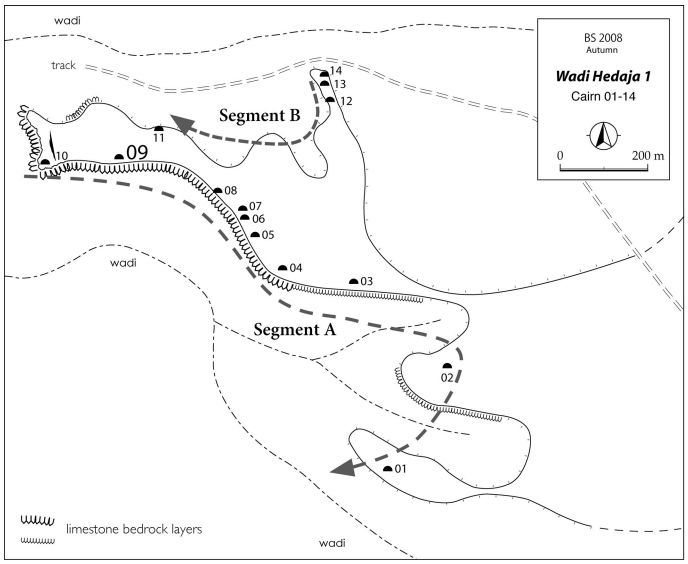

Fig. 4: Site map of Wadi Hedaja 1 [redrawn from Fujii and Adachi 2010: Fig. 4].

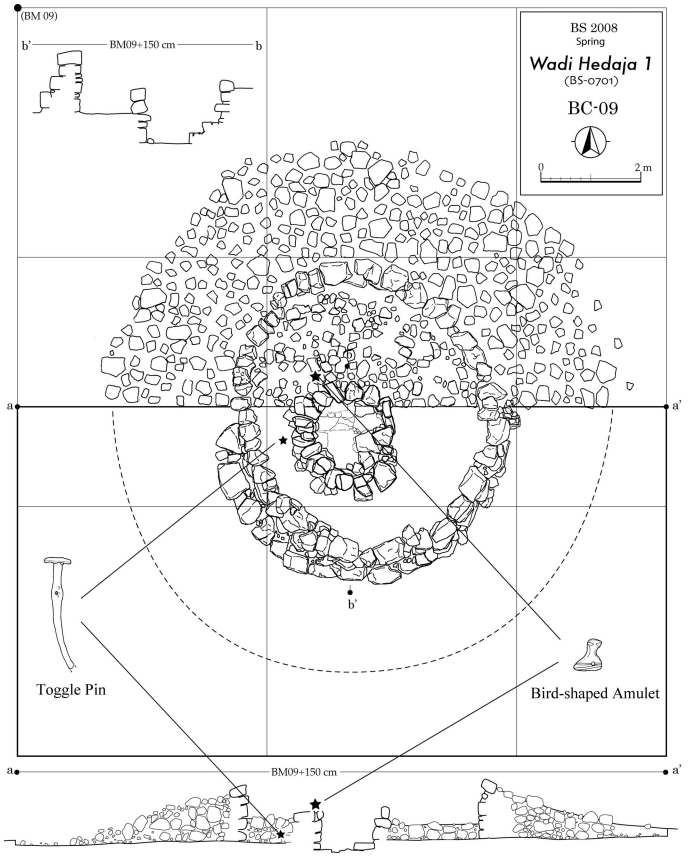

Fig. 5: Excavated positions of the toggle pin and the bird-shaped amulet from BC-09, Wadi Hedaja 1 [Adachi and Fujii 2010a: Fig. 5].

(4) The Miniaturization of Bird-shaped Amulets

The oldest amulet amongst the collection discussed by Limper [1988] was unearthed at Nuzi in northern Mesopotamia and dates to the 15th century BC; this example is 1.0 cm long and has a large eye and a long tail (Fig. 7: 6). Two similar bird-shaped amulets unearthed from Babylon come from the early Kassite period (dated to between the 15th century BC and the 14th century BC) (Fig. 7: 7 and 8). These artifacts are smaller than those collected from BC-09, Tell Bi'a and Selenkahiye; one is abstract in form and includes two body perforations (Fig. 7: 8).

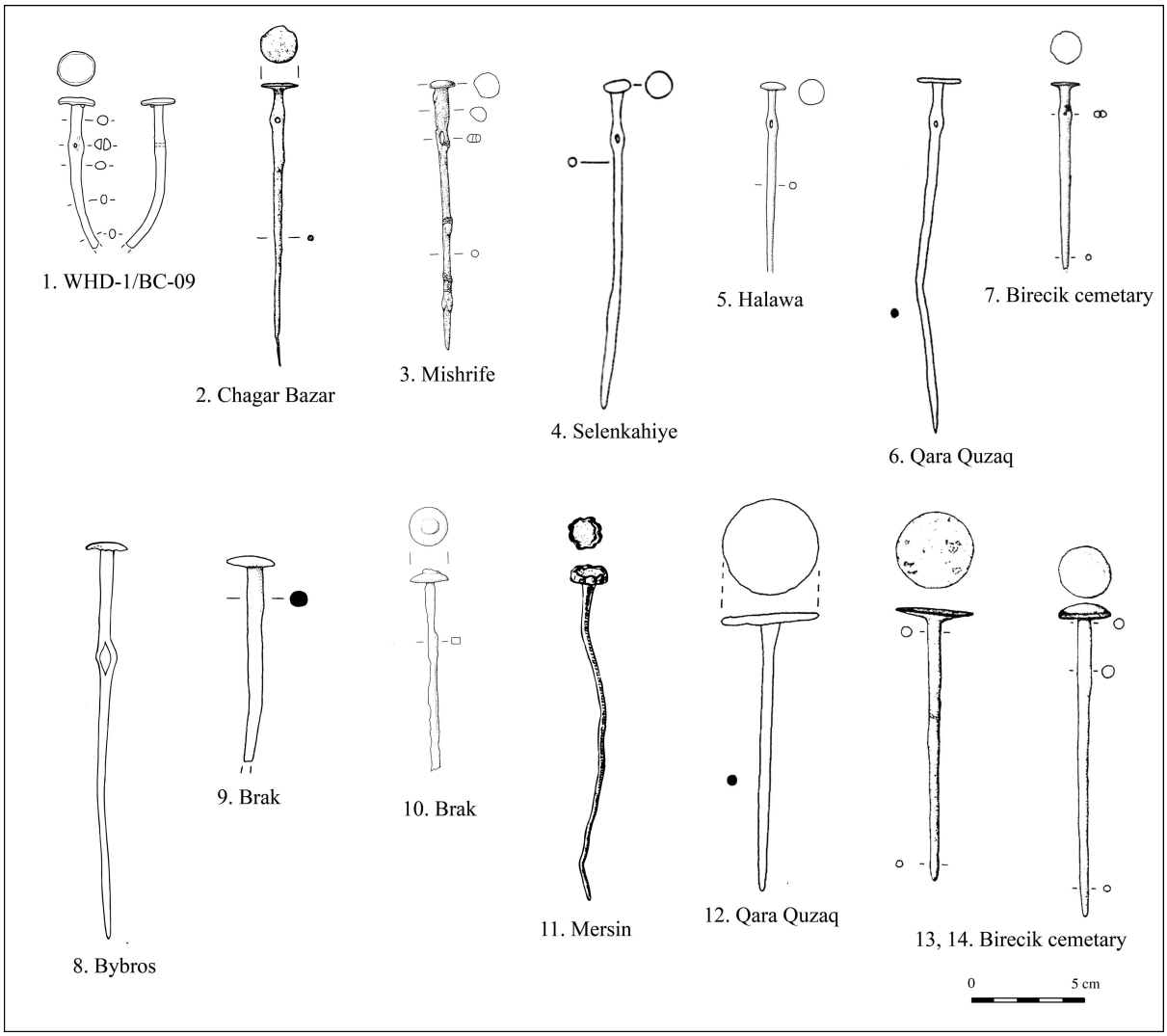

Fig. 6: Toggle pins with disc-shaped heads [redrawn from Adachi and Fujii 2008: Fig. 4]. 1, Wadi Hedaja 1, BC-9; 2, Curtis 1983: Fig. 1; 3, Novàk and Pfälzner 2002: Abb. 21; 4, van Loon and Meijer 2001: Fig. 4A.8B:7; 5, Orthmann 1989: Abb 27: 7; 6, Montero 2001: Fig. 7: i; 7, Squadrone 2007: Fig. 13:3:3; 8, Tufnell and Ward 1966: Fig. 10.42; 9, Oates *et al*. 2001: p. 577: 101; 10, Oates *et al*., 1998: p. 267: 24; 11, Garstang 1953: Fig. 149.12; 12, Montero 2001: Fig. 9: c; 13, Squadrone 2007: Fig. 13:3:1; 14, Squadrone 2015: Pl. 1:18.

Although not included in Limper's collection, a further bird-shaped amulet unearthed from Ur in southern Mesopotamia has also been dated to the Kassite period (Fig. 7: 9). Because this artifact is small (1.5 cm in length) and has two body perforations, it is similar to the amulet from Babylon.

A further example of a bird-shaped amulet unearthed from Choga Zanbil in southwest Iran also has two body perforations (Fig. 7: 10). This artifact has been dated to the 13th century BC and is 1.2 cm in length.

Currently available data therefore allows us to recognize that small bird-shaped amulets with two body perforations were present in both southern Mesopotamia and southwestern Iran during the latter half of the second millennium BC. Indeed, a similar example that dates from roughly the same time has also been unearthed at Tell Imlihiye in the Hamlin basin (Fig. 7: 11); this specimen is 0.9 cm in length and includes vague impressions of both a wing and a tail on a body, and another similar specimen has also been collected from Tell Alalakh in northwestern Syria and has been dated to the 12th century BC (Fig. 7: 12). This example is 1.1 cm in length and has no wing or tail on

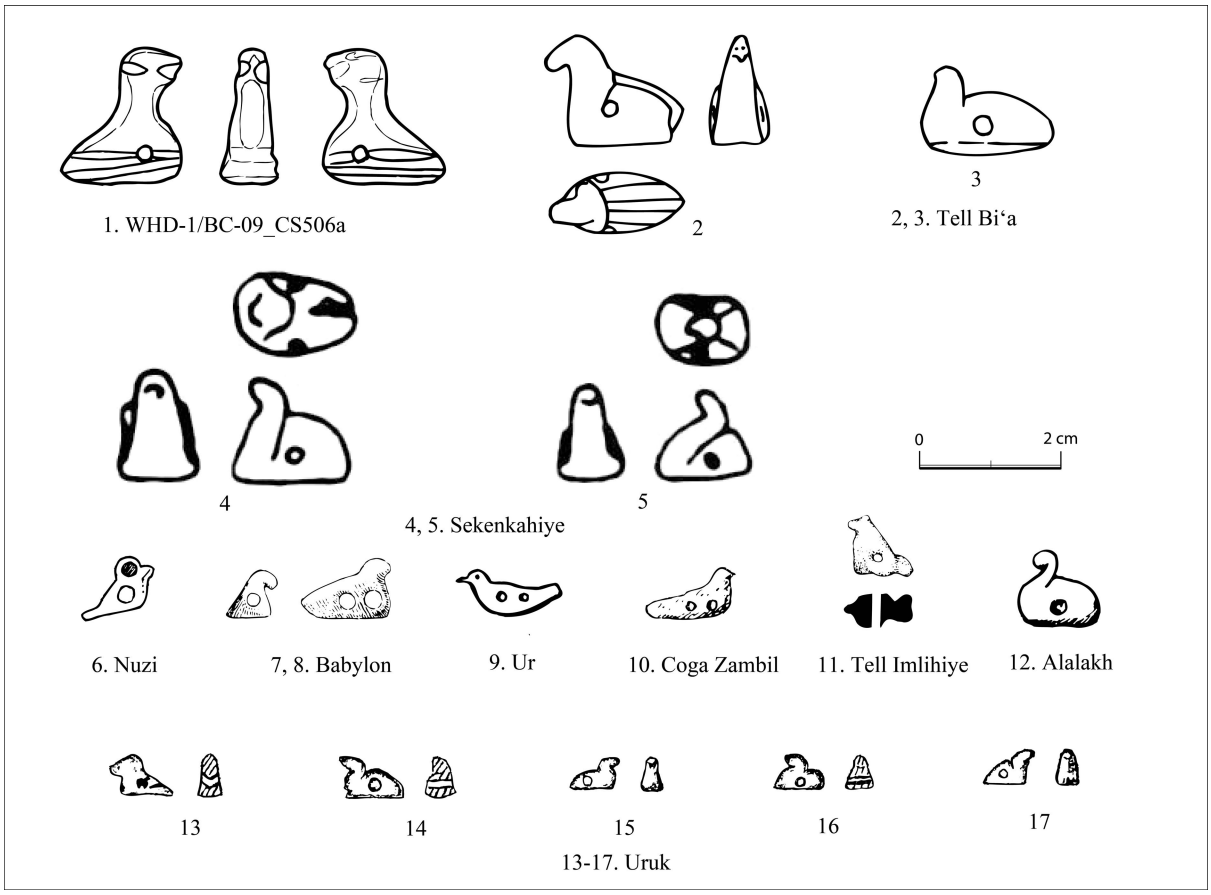

Fig. 7: Bird-shaped amulets [redrawn from Adachi and Fujii 2010a: Fig. 8]. 1, Wadi Hedaja 1, BC-09; 2 and 3, Bia, Strommenger and Kohlmeyer 1998, Taf. 41, 145; 4 and 5, van Loon and Meijer 2001: Fig. 4A.8A: 24; 6, Nuzi, Starr 1937, Pl. 120.ss; 7 and 8, Babylon, Reuther 1968, Taf. 48; 9, Ur, Woolley 1965, Pl. 36.U7507; 10, Coga Zambil, Limper 1988: Abb. 26; 11, Tell Imlihiye, Boehmer and Dammer 1985, Taf. 24; 12, Alalakh, Limper 1988, Abb. 26; 13 through 17, Uruk, Limper 1988, p. 122.

the body.

The bird-shaped amulets that are known from the latter half of the second millennium BC are mostly small; the majority of examples are approximately smaller than those from BC-09, Tell Bi'a and Selenkahiye. We therefore suggest that, from a morphological perspective, examples of these artifacts with two body perforations appeared during the latter half of the second millennium BC.

It is clear that further miniaturization of these artifacts also occurred during the first millennium BC (Fig. 7: 13–17), evidenced, for example, by a typical set of five amulets from Uruk. These specimens have been dated to the Neo-Babylonian period, range between 0.7 cm to 0.9 cm in length, have no wing or tail expressions on their bodies, and have heads that face diagonally upward.

(5) Dating the BC-09 Bird-shaped Amulet from Wadi Hedaja 1

Four bird-shaped amulets have so far been unearthed from Tell Bi'a and Selenkahiye (Fig. 7: 2–5). The graveyard in Bi'a is divided into seven groups (Grabgruppe 1–7), including groups 1–6 which have been dated to the Early Bronze Age III-IVa, and group 7 which has been dated to the Early Bronze Age IVb. As one amulet has so far been collected from group 4 (Fig. 7: 2), we can assume that this artifact can be dated to the Early Bronze Age IVa (latter half of the third millennium BC), while another amulet was found on the surface of graveyard U (Friedhoh U) at Tell Bi'a (Fig. 7: 3). As groups 1–7 occur within graveyard U, this amulet can probably be dated to the Early Bronze

Age III-IV [Strommenger and Kohlmeyer 1998: 110]; although this specimen is a little smaller that its counterpart from BC-09 and has a simplified head, the two amulets from Tell Bi'a are approximately similar in size to the specimen from BC-09 and are similar in terms of hole balance and perforation position.

The series of tombs at Selenkahiye can be divided into early and late graves; the known bird-shaped amulets were derived from tomb J, one of the late examples [van Loon and Meijer 2001: 4A190]. The series of late graves at Selenkahiye have been dated to between 2250 calBC and 2000 calBC [van Loon and Meijer 2001: 5A.226].

The available evidence therefore suggests that the four bird-shaped amulets so far collected from Tell Bi'a and Selenkahiye can be dated to the Early Bronze Age III-IV, inconsistent with Limper's [1988] suggestion that these artifacts were broadly distributed across Syria and Mesopotamia during the latter half of the second millennium BC. It is noteworthy that the four amulets collected from Tell Bi'a and Selenkahiye are about the same size as the example from BC-09, and that these five amulets are much larger than those Limper [1988] reported from Syria and Mesopotamia. It is therefore plausible to suggest that the large bird-shaped amulets discussed in this paper with lengths greater than 1.5 cm are older than their counterparts collected from the latter half of the second millennium BC.

(6) Discussion

There are two main outcomes of this study: 1) The perforated toggle pin with the disc-shaped head can be dated to between ca. 3000 BC and 1800 BC, and; 2) The large bird-shaped amulets greater than 1.5 cm in length are older than the objects collected by Limper [1988]. It is clear, in particular, that the BC-09 amulet is distinct from the objects collected by Limper [1988] and that it belongs to within the group of larger objects known from sites of this age. We therefore propose that the bird-shaped amulet from BC-09 can be dated to the same period as examples from Tell Bi'a, specifically to the latter half of the third millennium BC or later.

We now consider the dating of Phase 2 within the techno-typological sequence at Wadi Hedaja 1 in light of this new hypothesis. The C14 dates that have been generated for the cairns from Phase 1 [Nakamura 2010] suggest dates between approximately 1950 calBC and 1600 calBC. We therefore suggest that Phase 2 can also be dated to the early half of the second millennium BC, and therefore assume that the bird-shaped amulet from BC-09 can be dated to around the same time.

In the next section and below, we examine the dating of a short necked jar collected from BC-09 at Wadi Hedaja 2 to confirm the date range of the techno-typological sequence at Wadi Hedaja 1 and 2.

3. Wadi Hedaja 2

(1) A Small Jar with a Straight Neck from BC-09

We utilize a collection of small jars with straight necks from reported Bronze Age sites in this section to develop a chronological definition of this small jar group. Although our survey of the Bishri cairn fields has so far yielded just a handful of pottery examples, a number of almost complete jars have nevertheless been unearthed from BC-09 at Wadi Hedaja 2 as well as at BC-14 at Wadi Hedaja 1 [Fujii and Adachi 2010: fig. 7–1, 2]. Because the small jar with a straight neck from BC-09 was carefully produced, has a very thin wall, and is made of fine paste, we suggest that it was imported from another region.

It is noteworthy that BC-09 is located in the middle of Wadi Hedaja 2 (Fig. 8), and that the largest cairn within this site is BC-16, 16.0 m in diameter, and the second largest is BC-15, 6.5 m in diameter. Our focus, BC-09, is the third largest in size, 5.0 m in diameter, and all other cairns in the area range between 2 m and 4 m in diameter. The finds published to date from BC-09 include

pottery as well as a bronze toggle pin [Fujii and Adachi 2010: Fig. 7–12]. We augment this collection with a bronze arrowhead as well as some shell and stone beads from other cairns at the Wadi Hedaja 2 site.

The pottery recovered from the lower layer within the cist at BC-09 is clearly grave goods (Fig. 9). The internal and external surfaces of this piece of pottery are light brown in color, while the paste is fine and comprises a small amount of white and brown grit less than 0.5 mm in diameter; this specimen is 6.6 cm in height, 7.9 cm in rim diameter, and 9.6 cm in body diameter, and has a straight neck and sprayed rim. The body of the piece is slightly carinate, gradually narrowing from the body into a disc-shaped base (Fig. 10: 1).

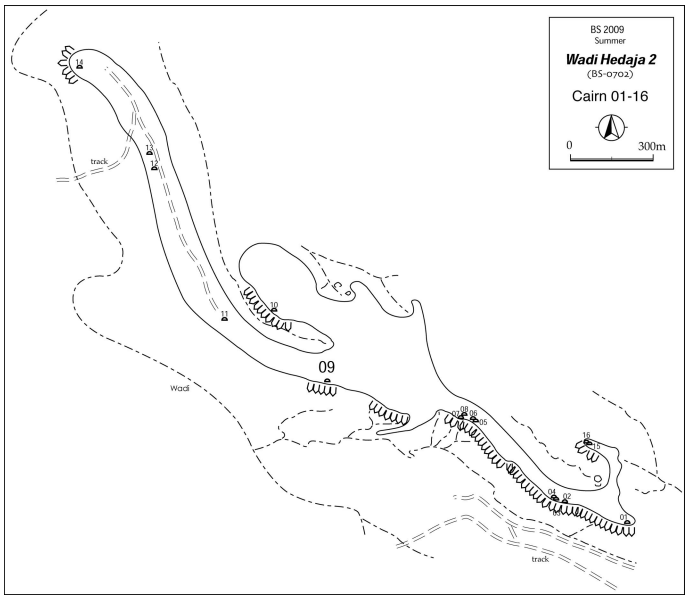

Fig. 8: Site map of Wadi Hedaja 2 (Adachi 2013: Fig. 4).

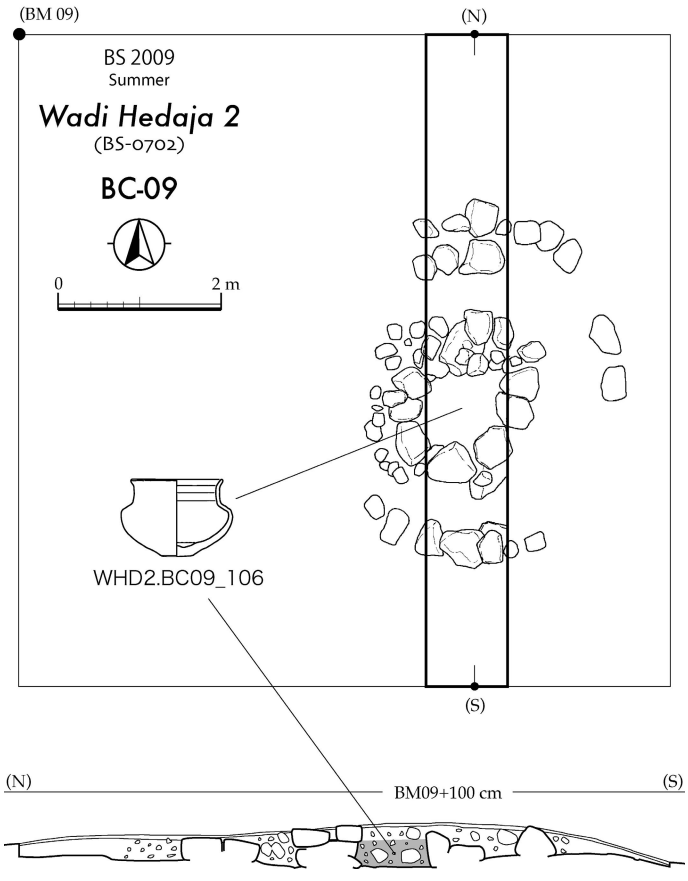

Fig. 9: Excavated positions of the small jar with a straight neck from BC-09, Wadi Hedaja 2 (Adachi 2013: Fig. 5).

(2) Similar Examples from Syria

A number of specimens similar to the pottery from BC-09 have also been excavated from the Syrian Middle Bronze Age.

Hammam et-Turkman (Fig. 10: 2)

This site is located in the middle section of the Khabur river, and has yielded an example of similar pottery from the VIIC period. This period has been dated to between 1700 calBC and 1600 calBC [Akkermans and Schwartz 2003: fig. 9.2]; the form of this similar pottery piece corresponds almost exactly with the example from BC-09 [van Loon 1988: Pl. 127–59] and has been described as a goblet [van Loon 1988: 409].

Tell Bi'a/ Tuttul (Fig. 10: 3–8)

This site is located at the confluence between the Euphrates and Balikh rivers, and has yielded a number of early and Middle Bronze Age palaces and tombs. Similar examples to those discussed above have been classified into pottery groups (i.e., Gräber Gruppe 8–11) and dated to the early half of the second millennium BC [Strommenger and Kohlmeyer 1998: 121–122]. Indeed, on the basis of a pottery analysis carried out at Tell Bi'a by Einwag [1988, 2002] Ceramic Complex 7

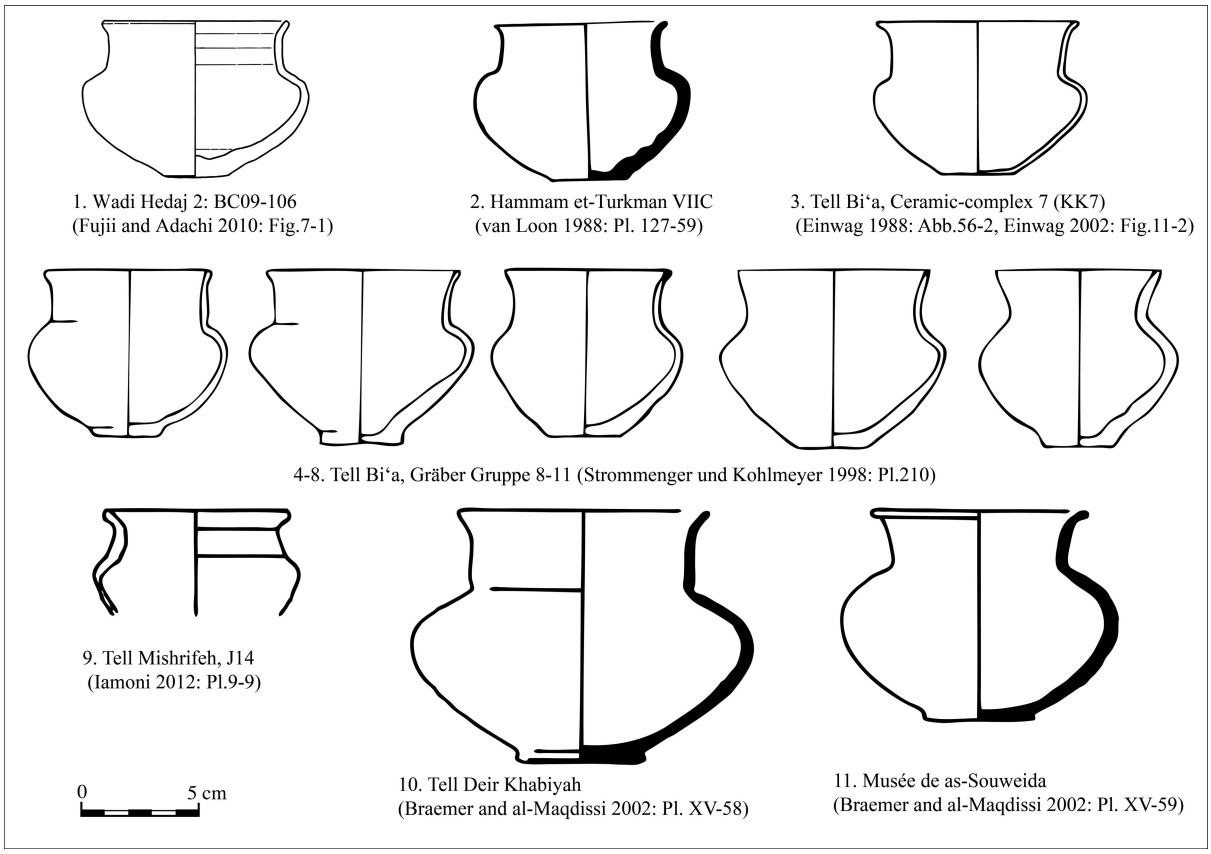

Fig. 10: Small jars with a straight neck during the Middle Bronze Age in Syria [redrawn from Adachi 2013: Fig. 6].

includes a number of similar examples to those excavated from BC-09 [Einwag 1988, 2002: abb. 56–2, fig. 1–2]. As Einwag [2002: 146] defined Ceramic Complex 7 as a link between Jahdun-Lim and Zimri-Lim at Mari, this complex can therefore be dated to ca. 1800 calBC.

Tell Mishrifeh/Qatna (Fig. 10: 9)

This site is located near the Orontes river in western Syria, has yielded a similar example to that known from Phase 14 (J14) within the central Operation J [Iamoni 2012: pl. 9–9], and can therefore be dated to the end of the Middle Bronze Age IIA [Iamoni 2012: 169], the 18th century BC. Although the example from this site has a slightly thicker wall and is smaller in size than the pottery from BC-09, it does correspond in form to with the locality under discussion. This example has been described as a biconical cup with a flared rim [Iamoni 2012: Table IV-1].

Tell Deir Khabiyah (Fig. 10: 10)

A similar example of pottery from a Middle Bronze Age II layer was collected from this site, 20 km to the southwest of Damascus. This example is a little larger than the pottery from BC-09 and has a distinct disc-shaped base; this example was described as a bols à profil en S [Braemer and al-Maqdissi 2002: Pl. XV-58].

An Example in As-Suwayda National Museum (Fig. 10: 11)

The As-Suwayda Governorate controls the southernmost region of Syria. Although the As-Suwayda National Museum houses another similar example of pottery, this specimen has a round body and so does not correspond precisely with the artifact from BC-09. This As-Suwayda example was collected from the Middle Bronze Age of Syria and was also described as a bols à profil en S [Braemer and al-Maqdissi 2002: Pl. XV-59].

(3) Conclusions

A number of similar examples to the BC-09 pottery specimen that correspond almost exactly in form have also been collected from the sites of Tell Bi'a and Hammam et-Turkman in Syria. These sites, however, do not correspond in age as they have been dated to approximately 1800 calBC and to between 1700 calBC and 1600 calBC, respectively. Nevertheless, although incompletely shaped, the Tell Mishrifeh example does closely resemble the specimen from BC-09, even though it has been dated to the 18th century BC. It is important that the Tell Mishrifeh pottery bridges the gap between the Tell Bi'a and Hammam et-Turkman specimens; on this basis, it is possible to conclude that the small jar group encompasses an age range between 1800 calBC and 1600 calBC.

4. Dating the Bishri cairn chronology

Our analysis of the toggle pin and bird-shaped amulet from Wadi Hedaja 1 does not lead to an exact date for Phase 2, but the small jar with a straight Neck from Wadi Hedaja 2 has enabled us to date Phase 2. Available evidence shows that Phase 2 within the Bishri Cairn Chronology can be dated to between 1800 calBC and 1600 calBC, as similar pottery examples to BC-09 have been

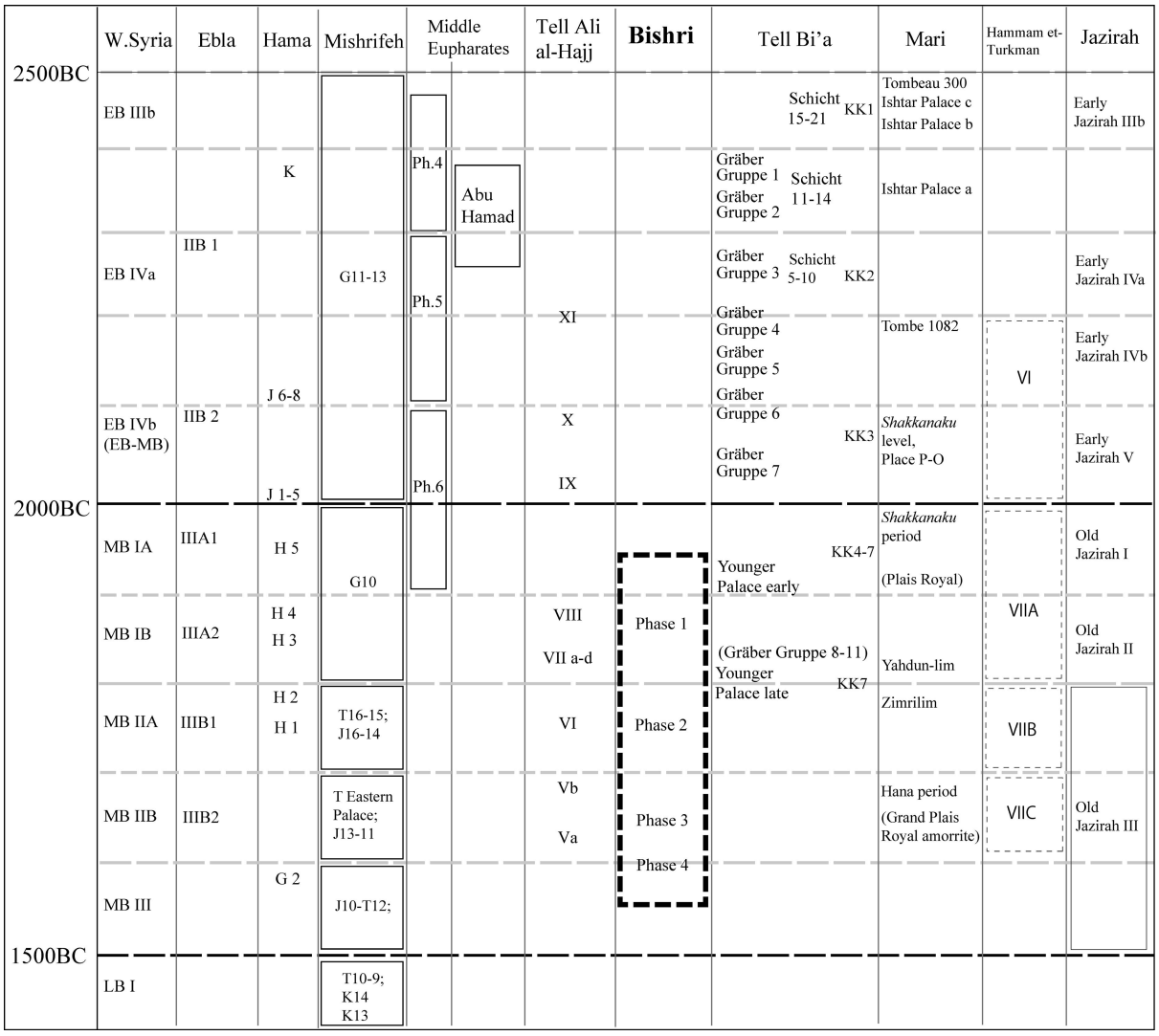

Fig. 11: Chronology of the Early and Middle Bronze Age, Syria [redrawn from Fujii and Adachi 2010: Fig. 13) [Akkermans and Schwartz 2003; Cooper 2006; Einwag 1998; Hempelmann 2002; Iamoni 2012: 169; Pons 2001; Lebeau 2000; Falb *et al*. 2005; Riis and Buhl 2007; Weiss 1990].

unearthed from sequences of the same age in Syria. Indeed, C-14 dates generated from Phase 1 encompass the period between 1950 calBC and 1600 calBC [Nakamura 2010: 127–128]; thus, as the pottery from BC-09 cannot be dated definitively to before 1800 calBC, we must consider that Phase 1 approximately encompasses the period between 1950 calBC and 1800 calBC, and therefore that Phase 1 and Phase 2 must have lasted between 150 years and 200 years. No evidence is presently available that can be used to elucidate the durations of Phase 3 and Phase 4; however, if the duration of Phase 1 and Phase 2 are applied to these latter phases, it is possible that the end of Phase 4 must have been during the latter half of the second millennium BC.

However, we conclude by suggesting that Phase 4 had ended by 1500 calBC (Fig. 11) in this region discussed in this report, because most of the known cairns from this phase as well as Phase 3 are much smaller than those from Phase 1 and Phase 2, and because no additional artifacts have been unearthed from the latter two periods [Fujii and Adachi 2010]. We also suggest that Bishri burial customs declined rapidly over the course of Phase 3 and Phase 4.

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