

Sepulchral Commodification: the Rituality of the Ba`ja Daggers

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Frameworks, General

This contribution elaborates on sepulchral commodification as related to a distinctive Late Pre-Pottery Neolithic B (Late PPNB) burial good, the Ba`ja flint daggers, and their exchange, social, ritual, and symbolic contexts. These frameworks also reflect the various biographic contexts of life and death the daggers directly or indirectly can have passed through, represented by the domains and regimes associated with

- find contexts (including chrono-stratigraphy),
- off-regional procurement (manufacturing and exchange),
- (questions of) pre-burial function,
- social constitutionality (structures) of the Ba`ja community and their
- sepulchral rituality and symbolism (acts of de- and ex-commodification).¹

The commodification and rituality of the Ba`ja Daggers cannot be considered in isolation from the determinant cognitive frameworks that governed the social structures and the ritual and

symbolic regimes in the Late PPNB village of Ba`ja. However, this contribution's limited space led to some restrictions on our otherwise holistic approach, not following all aspects of the daggers' ontological contextualities. In the final publication (Gebel forthcoming a), they are integrated by *The Southern LPPNB Rituality Module*, which is part of the *Southern LPPNB Transdisciplinary Holistic Research Framework* trying to secure emic insights into households and death in Ba`ja. Here, only the various dispositions and dimensions passively and actively served by and with the Ba`ja Daggers are considered. The *Southern LPPNB Transdisciplinary Holistic Research Framework* is the epistemic core of the Project *Household and Death in Ba`ja* (www.bajahouseholdanddeath.de). It aims to operate and integrate the manifold information and interpretations through this testable epistemic system.

The first intentionally fragmented piece of these rare, exotic, and sophisticated artefacts was uncovered in the collective Burial DG1 in Area D (2001). Two further, almost complete daggers were found in Area C in the collective Burial CG1 (2005) and in the single Burial CG10 of a possibly male young adult (2016). The strictly symmetrical and bifacially flaked flint daggers are a new Late PPNB tool type, representing a most distinctive and elsewhere not yet attested artefact type (Gebel *et al.* 2022a). They allow for meaningful statements on off-regional procurement and high-skill technologies, demand networks, the de- and ex-commodification of burial objects (respectively subjects), ritual behaviour and symbolic properties, social differentiation, and more. The daggers' highly specialised production most likely occurred in the eastern (or western) steppes. Their well-preserved primary burial contexts also testify to the intentional damaging of the daggers, most probably related to burial rites. The daggers' contextual and

¹ This work uses particular concepts and terms by which the early Neolithic social structures and their cognitive and ontological domains and regimes are approached. These were elaborated and explained in Gebel 2010, 2013, 2014, 2017; Gebel *et al.* 2022b. Here, only a shortened definition of this contribution's central term, commodification, is re-presented: Commodification in early productive milieus is understood as the capacity to make tangible and intangible things subjects of common acceptance and value by (re-) production and use, and to receive, obtain, and maintain social values through this. It flourishes by milieus of confined reciprocity and – at least – incipient social stratification; they initiate interrelated and self-promoting systems in their environmental, technological, social, cognitive, and ritual milieus. It creates complex and prolific and thus growth-sensitive material and immaterial subsystems, regimes, and identities.

biographic analysis provides essential and sound emic insights into Ba`ja's Late PPNB community, commodification regimes, social constitutionality, or structures, respectively.

The daggers are presented in this Volume 2 of the *Household and Death in Ba`ja* final publication, particularly for their capacity to promote the Late PPNB identity and social hierarchy/ differentiation debate related to topics like the ascription of identity and status or ritual de- and ex-commodification, and related symbolic behaviour. The techno-typological aspects of the daggers were treated in Gebel *et al.* 2022a, as were the results of the experimental study by Denis Štefanisko; these technological and replicative features and aspects receive only a summary comment in this contribution (*cf.* below). The replicative research confirmed that the technical skill levels attested with the daggers are not attested with Ba`ja's household levels in "semi-specialised" flint production (Purschwitz 2017).

Find Contexts, Chrono-Stratigraphy

All three Ba`ja Daggers² come from primary contexts of burials (see Gebel *et al.* 2022a: Table 2; Benz *et al.* this volume Part 2), dating to the latest of the Late PPNB occupations in Ba`ja (late 8th/ early 7th millennium BCE), and indicating their substantial – if not principal – sepulchral ritual territoriality.³ All three daggers were found complete except for the impacts related to their ritual ex-commodification (*cf.* below).

² Two Ba`ja Daggers are displayed in the new Petra Museum (F.no. 32182.119 from Burial DG1) and in the Jordan Museum in Amman (F.no. 52024 from Burial CG1); Dagger F.no. 92019 from Burial CG10 is stored in the premises of the Department of Antiquities in Wadi Musa.

³ A fourth dagger attested at Ba`ja might be the medial fragment represented in Fig. 7 (F.no 22165), found in Square D12, Loc. 50, representing a cultural layer immediately above a Late PPNB floor in Room DR6. Most likely the fragment originates from a burial. It is not unlikely that the fragmentation is intentional and relates to the funerary ritual as this is the case for the dagger in Fig. 4. Whether the burination (starting from one of the two breakage surfaces) took place in a sepulchral context cannot be determined; a dagger's burination at least is attested with the piece of Fig. 6. Its secondary use, however, identifies the piece as a burin on a Ba`ja Dagger fragment and probably attests – from a biographical point of view – to the final use of the piece as a tool outside the sepulchral context.

In the following, only summary information is presented on the daggers find contexts and chrono-stratigraphy; for the stratigraphical and contextual details – including the physical anthropology, the intramural cemetery map – *cf.* Benz *et al.* this volume Part 2 and the references therein.

The first dagger was found in four pieces in Area D's collective chamber Burial DG1 (Figs. 1, 4). The chamber was built by stone slabs, wall-stone borders, and a pavement inserted along a small room's inner walls (DR26.2; Fig. 1A). The earlier room had a mural with an abstract motif (Gebel 2002) on its eastern wall, which might indicate a preceding special meaning of this locality. For now, little can be said about the likelihood that Burial DG1 also belongs to an intramural cemetery in excavation Area D, as this is attested to the lowermost stratigraphy of Area C.

The other two daggers were burial objects of the collective small room pit Burial CG1 inside Room CR35 (Fig. 2A), and from the single cist-type Burial CG10, having an upper and lower part in the northwestern corner of Room CR35 (Fig. 3). Both burials are part of the Ba`ja's later Late PPNB intramural cemetery of excavation Area C's Phase CII in Ba`ja (Gebel *et al.* 2006, 2019, 2020; Benz *et al.* 2019, 2020) which was terminated by an earthquake. Here, the intramural cemetery occupies several smaller rooms, most of which were housing (*sic!*) single, double and multiple interments of sub-adults; the three collective Burials CG1, CG11, and CG12 hosted several adults and several young subadults and infants (*cf.* Benz *et al.* this volume Part 2; Gresky this volume). The burials of Area C often penetrated floors and entered the natural layers/ former basin fills on which Ba`ja's architecture rests.

The chamber of Burial DG1 (Fig. 1) contained several superimposed skeleton layers with no (preserved) evidence of burying episodes. The minimum number of 12 individuals included three-four subadults/ infants. The proximal and medial dagger fragments (3 pieces; Fig. 4) were found in scattered positions/ locations, embedded in the lower third with the dislocated (pushed aside) human bone deposits above the burial's stone pavement:⁴ The dagger is not assignable

⁴ The tip of the dagger was found years later by M. Schultz in the find bags of the grave's human remains. It was mounted digitally in Fig. 4 by C. Purschwitz, as can be recognised by the slightly different colouration of the fragment.



Fig. 1 Collective chamber Burial DG1 in Room DR26.2 (primary context: D11/12/21/22: 26, later Late PPNB occupation): A-B *in situ* medial fragment of intentionally fractured dagger (F.no 32182.119), resting in the lower part of burial deposits: secondary position. Note the pigmented burial sediments and bones. (Photos: H.G.K. Gebel, Ba'ja N.P.)



Fig. 2 Collective small room pit Burial CG1 in Room CR35 (primary context: Loc. C10:152, later Late PPNB occupation): A-B *in situ* complete dagger (F.no 52024), resting on its edge: secondary position? Note the pigmented burial sediments. (Photos: C. Purschwitz, Ba'ja N.P.)

to a specific skeleton. Other burial objects were arrowheads (type similar to that in Burial CG1), a basalt macehead, two types of mother-of-pearl ring-shaped paillettes, more than 80 beads (mostly *Tridacna* and “greenstone”), and two sandstone ring fragments. Liquid red pigment was flecked over burial(s), colouring also burial objects; red pigment lumps and yellow ochre were left in the burial, too.

The pit of Burial CG1 (Fig. 2) also contained several superimposed skeletons/ skeletal parts, representing six individuals (three are juveniles/ young adults, two infants and a newborn). The

upper bone layer was covered by a large broken sandstone slab (c. 50 x 100cm) and contained a mano end fragment and a limestone vessel's sherd with remains of a mixed red pigment (Gebel this volume). The unbroken dagger rested unrelated and upright on its long side (Fig. 2B) in the grave sediment. Other burial objects were: four arrowheads similar to the type in Burial DG1, four-five bone beads and c. 15-16 other beads, one “hairslide”/ large bone spatula, and one sandstone ring fragment. Burial CG1 also showed the use of liquid red pigment spread over corpses and burial objects, part of which used the stone vessel's sherd mentioned above.

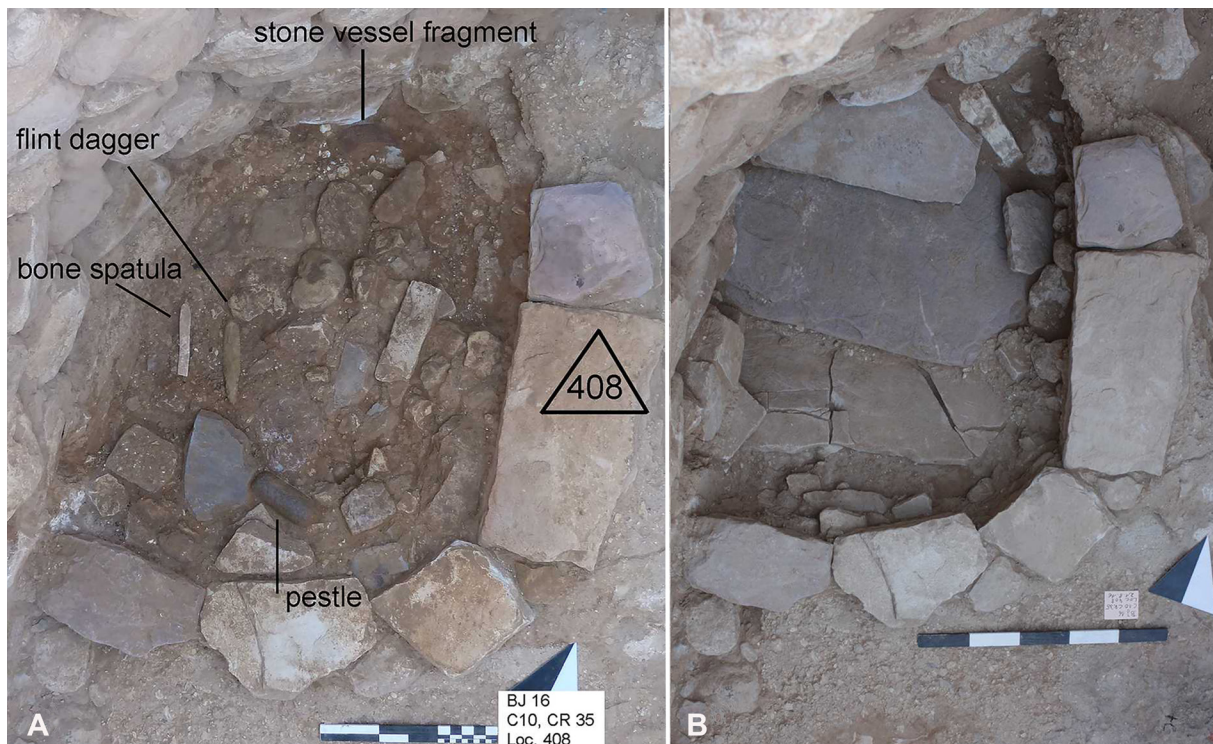


Fig. 3 Single cist-type Burial CG10 “Usaid” in Room CR35 (primary context: Loc. C10:408, later Late PPNB occupation): A *in situ* dagger (F.no 92019), embedded with other burial objects in the upper hard gravel/ mortar bed above the B stone slab cover protecting the burial underneath. (Photos: M. Benz, H.G.K. Gebel, Ba’ja N.P.)

The cist-type single Burial CG10 hosted a possibly male, young adult (25-35yrs; “Usaid”) in its lower part, who was separated with his personal (?) burial objects by a stone pavement carrying an upper part with more burial objects (with status-related or ascribed burial objects?) sealed in a hard gravel/ mortar bed (Gebel *et al.* 2017; Benz *et al.* 2019). The lower part with the inhumation contained an *in situ* smashed basalt macehead, the upper left arm ring made of one mother-of-pearl and four marly rings, an upper right arm ring made of several pieces of mother-of-pearl, “greenstone” beads and fragments, and various other items (a carnelian and a *Tridacna* bead, two heavily leached Conidae fragments, one red pigment stone, and one sandstone *mano* fragment). Except for the red pigment stone in between the fingers of the individual’s right hand, no evidence for using red pigments is attested in the grave. The dagger rested in the gravel/ mortar bed of the burial’s upper part, which also protected an unbroken basalt pestle, a sandstone vessel fragment, two short arrowheads, an unbroken large bone spatula, a sandstone *mano* fragment and a small grinding slab.

The burial objects’ cache of CG10 is a unique feature in Late PPNB grave architecture,

represented by a separated gravel/ mortar-sealed burial cover with more burial objects, including a dagger. The insertion of the burial objects into a consolidated mixture of gravel and mortar and the additional protection of the grave underneath by a stone pavement resembles the “bunker containment” of Burial CG7 (“Jamila”), deserving special research attention. This segregation of two object associations contrasts with the collective Burials CG1 and DG1 where none of the objects (except for a few ornament items) can be clearly attributed to one individual.⁵

⁵ This separation of burial objects could also indicate a divided burial ritual, in which first the corpse was buried with its personal objects. In a following act, which must not be related to the actual burial, the status was ascribed by establishing the upper cache and depositing the dagger and other items. It may relate to an individual having unique properties or abilities, *e.g.*, willpower/ courage, social or martial skills/ leadership or healing qualities, unique/ special mental or spiritual properties, bodily appearance, performance capacities *etc.* Sepulchral and social “messages” by added objects/ gifts may not only be driven by primary norms of respect, empathy, *etc.* They can be the results of ongoing post-funeral negotiations, a matter that must also be expected especially for *primi inter pares* burials (Benz *et al.* 2019).

The different use/ treatment of the daggers in their sepulchral contexts also has to receive special attention: While the dagger of collective Burial DG1 was deliberately broken during the sepulchral events and was found scattered in the burial, the dagger of collective Burial CG1 remained intact and was just placed at or pushed to the northeastern border of the burial pit. The tip of “Usaid”’s dagger received a “decent” burination, before it went into Burial’s CG10 upper cache.

Type and Technology, Manufacturing Areas, Comparisons

The bifacially flaked and partially serrated flint daggers from Ba`ja are a yet unknown distinctive artefact type that is easy to discriminate from other Middle – Final PPNB/ PPNC bifacial classes of penetrating cutting and butting long implements.

Our typological definition of the Ba`ja flint daggers emphasises the following exclusive typological, morphometrical, affordance features and characteristics:

- a pronounced and set-off or “suggested” double-edged handle zone; double-edged symmetrical blade and handle zones with very flat-convex-/ straight edge courses; clearly pointed basal and distal ends,
- “strictly” symmetrical: longitudinal axis symmetry for the faces and widths’ cross-sections, following an intended pointed flat biconvexity for all sections,
- average lengths/ medial widths/ medial thicknesses of around 200mm/ 40mm/ 10mm; with a blade/ “cutting” zone that has about double the length of the handle zone,
- final shaping by full-covering bifacial parallel scalar pressure/ direct soft hammer flaking on both faces (cortex areas may remain), often resulting in intended (partial) serrated edges,
- initial manufacturing steps created a raw form expected to be similar to those of the replicative study (*cf.* Štefanisko in Gebel *et al.* 2022a); unlikely to be made from a large blade blank,
- representation of a fragile artefact suggesting the use and capacity to penetrate by a pushing impact (dagger) rather than penetrating by cutting (knife); edge serration results also technologically from the parallelism of bifacially invasive flat retouches.

This definition excludes all knife classes made on large blades without being symmetrically shaped by full-covering bifacial parallel pressure/ direct flaking, even though they may show a handle zone. Further, it excludes bifacial parallel scalar pressure-/ direct soft hammer flaked foliates, foliate knives, non-pointed foliate-type items or other bifacially (parallel-) retouched flint tools from the Late PPNB – Final PPNB/ PPNC as we know them *e.g.*, from Basta (Gebel *et al.* 2022a: Fig. 5,1-3). The classes to be discriminated from the Ba`ja Dagger are presented in Fig. 6 in Gebel *et al.* 2022a; more on techno-typological and chronological comparisons is discussed below.

The morphometrical and technological features of the type, *i.e.*, the shapes and dimensions of the three daggers, show highly standardised norms (Table 1, Figs. 4-7), for which we avoid the term “tool”, since there is no evidence that they were implements of daily use (*cf.* below):⁶ Lengths range between 185-210mm, the upper central (blade) widths and thicknesses range between 31-41mm/ 9-10mm. Thicknesses at the handle/ blade junction vary between 31 and 42mm/ *c.* 10mm. Handles tend to be slim, more bulky and much less pronounced and have no or only a slight serration. The daggers’ strict symmetry of all three dimensions and of the straight-biconvex edge courses and pointed ends are particularly striking. The length ratio between handles and blades is about 1:2.

Technologically, the manufacturing of a Ba`ja Dagger is very sophisticated and demanding (*cf.* also the manufacturing stages described by Denis Štefanisko in his replicative study presented in Gebel *et al.* 2022a; *cf.* also below). The very last stage of lateral bifacial thinning, creating the pieces’ final shapes, must have been performed by either pressure or direct soft hammer flaking, or a combination of both. The

⁶ The long “shark-toothed” cutting edges of the Ba`ja Dagger cannot easily be assigned to practical use. Aside from being quite fragile for a close-range weapon, the serration would have hindered the penetration capacity. For the same reasons, it cannot be assumed that they were tools for sustained cutting or even sawing. Unlike the replaceable elements of composite sickles, a used and long serrated edge of a dagger cannot be kept refurbished easily. These practical reasons also do not make the Ba`ja Daggers appear to be utilitarian. On the other hand, the impractical and serrated edges of the daggers increase the showiness and fierceness of the artefact.

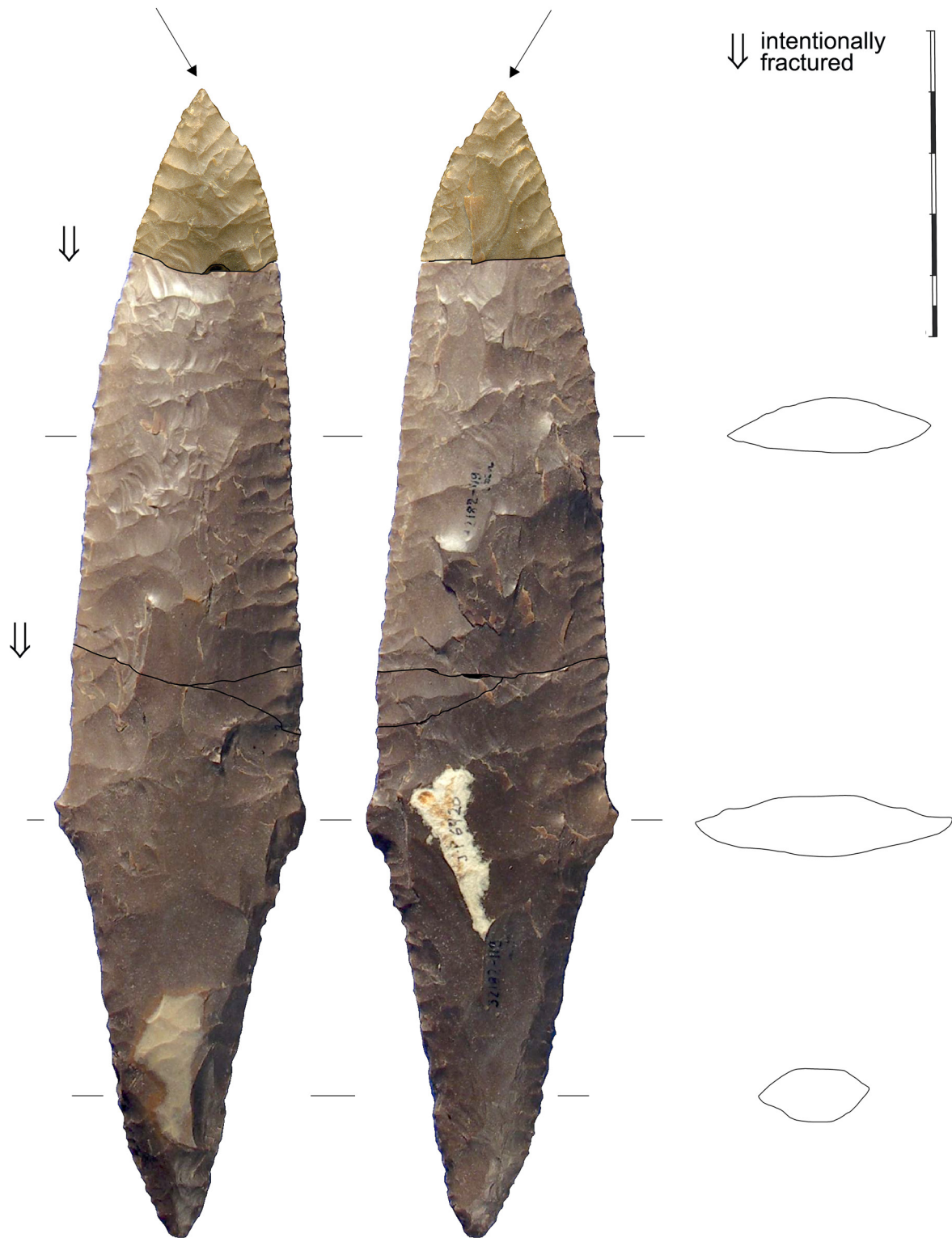


Fig. 4 Ba'ja Dagger (F.no 32182.119) from collective chamber Burial DG1 in Room DR26.2 (primary context: Loc. D11/12/21/22:26, later Late PPNB occupation). (Photos and drawing: H.G.K. Gebel, Ba'ja N.P.)



Fig. 5 Ba'ja Dagger (F.no 52024) from collective pit Burial CG1 in Room CR35 (primary context: Loc. C10:152, later Late PPNB occupation). (Photos: H.G.K. Gebel, drawing: C. Purschwitz, H.G.K. Gebel, Ba'ja N.P.)



Fig. 6 Ba`ja Dagger (F.no 92019) from single cist-type Burial CG10 "Usaid" in Room CR35 (primary context: Loc. C10:408.4, later Late PPNB occupation). (Photos: H.G.K. Gebel, drawing: C. Purschwitz, Ba`ja N.P.)

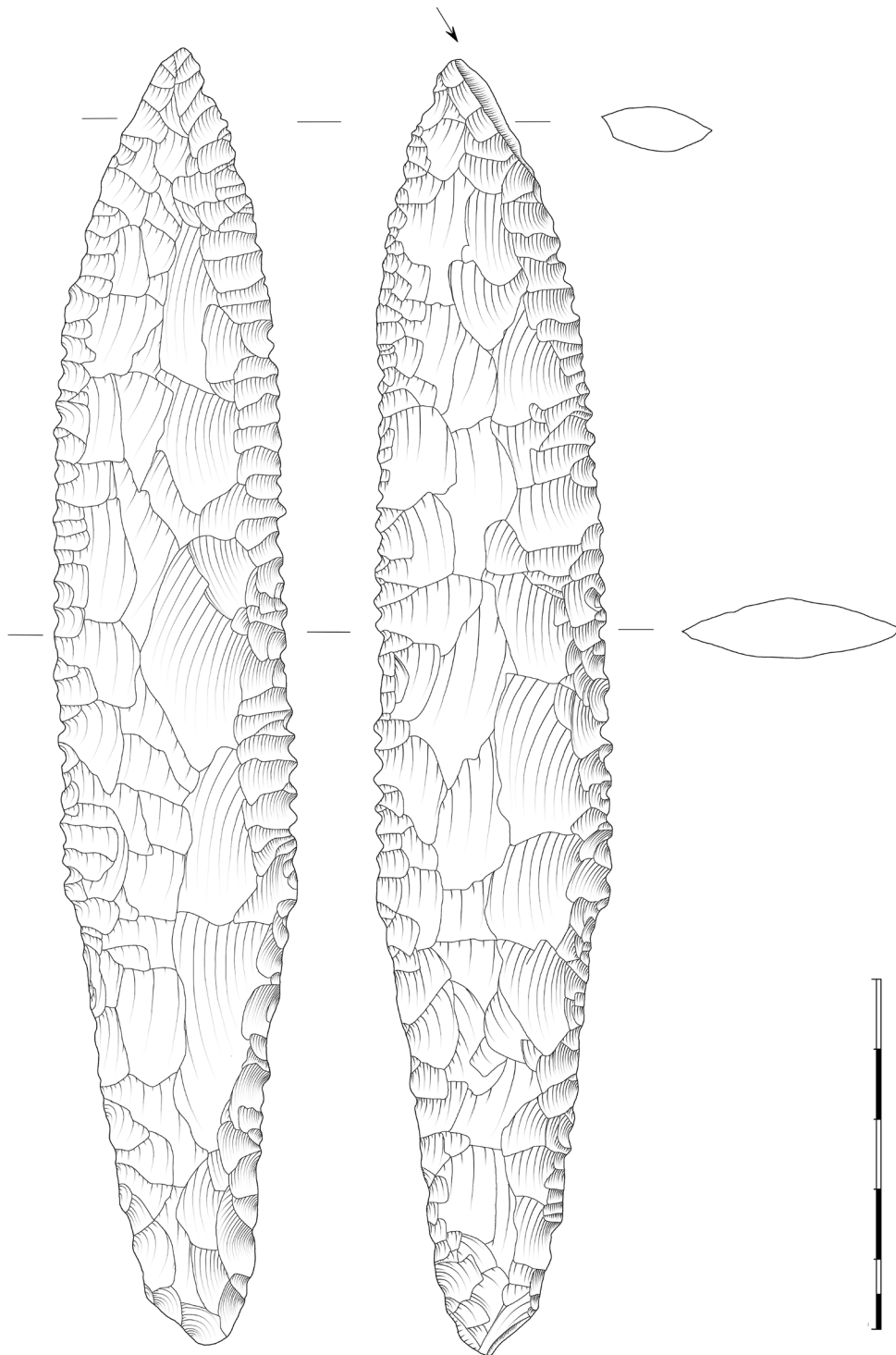


Fig. 6 *continued*

Table 1 Ba`ja Daggers: Information on dimensions, raw materials, shapes, and impacts (locations of section measurements: cf. Figs. 4-6; thickn.: thickness).

Dagger's Field and Burial No. (Fig.)	Measurements (mm)	Raw Material, Shape/ Proportions, Damages
Ba`ja Dagger F.no. 32182.119 Burial No.: DG1 (Fig. 4)	length: 188 medial- distal section width/ thickn.: 33/ 9 section width/ thickn: at handle/ blade junction: 42/ 10 basal section width/ thickn.: 18/ 9	<i>raw material:</i> non-local/ regional raw material (Eocene?); from thin tabular (seam) flint body; colour: dark brown with some variation; lustrous surfaces; cortex remnant: thinly abraded, originally pock-marked cortex, remaining natural fractures with slight desert varnish?, weathering clefts; quality: slightly fine-grained inhomogeneous matrix of opaque raw material, manageable – very manageable flaking ability <i>shape/ proportions:</i> length ratio between handle and blade: c. 1:2; handle set off from blade by protruding nose; handle thicker than blade; rather perfect symmetries; straight to very flat-convex course of blade and handle edges; intended straight longitudinal axis slightly bended <i>final retouching:</i> bifacial parallel pressure flaking with areas of near-edge and areas of invasive flat retouches: extensions disturbed by erratic humps on both central faces that were/ could not be removed during preceding soft hammer percussion; no or restricted serration of edges <i>impacts (Late PPNB):</i> intentionally broken (“bending fracture”); burination of the tip (accidental? “dropping damage”?)
Ba`ja Dagger F.no. 52024 Burial No.: CG1 (Fig. 5)	length: 210 near-tip section width/ thickn.: 11/ 4.5 upper medial section (blade) width/ thickn.: 38/ 10.5 lower medial section (blade) width/ thickn.: 41/ 9 basal end's section width/ thickn.: 16/ 6.5 Gebel: “the masterpiece among these daggers!”	<i>raw material:</i> non-local/ regional raw material (Eocene?); colour: blueish grey/ reddish light brown/ whitish grey with considerable variation; no cortex remnants; dull surfaces; quality: slightly fine-grained semi-homogeneous matrix of opaque raw material, unidentified smallest dark-red inclusions, manageable – very manageable flaking ability, partial (in-soil?) patination <i>shape/ proportions:</i> length ratio between handle and blade: c. 1:2+; handle zone not pronounced, “suggested”; blade zone highlighted by pronounced continuous serration; pointed ends at tip and basal have similar sections; perfect symmetries; straight to very flat-convex course of blade and handle edge <i>final retouching:</i> perfect bifacial parallel (partially scalar) pressure flaking by near-edge and partly invasive flat retouches over preceding negatives from soft hammer percussion; pronounced continuous serration (blade zone) <i>impacts (Late PPNB):</i> unbroken <i>preservation:</i> vertical dropping during lab recording process resulted in a “burination” at the basal edge
Ba`ja Dagger F.no. 92019 Burial No.: CG10 “Usaid” (Fig. 6)	length: 185 near-tip section width/ thickn.: 15.5/ 6.5 medial section width/ thickn.: 31/ 8.5	<i>raw material:</i> non-local/ regional raw material (Eocene?); colour: greyish – greenish beige with some variation; dull surfaces; no cortex remnants; quality: slightly coarse-grained rather homogeneous matrix of opaque raw material, unidentified small inclusions, manageable – very manageable flaking ability <i>shape/ proportions:</i> length ratio between handle and blade: c. 1:2+; handle zone not very pronounced (“suggested”), but has a thicker section; blade zone highlighted by rather pronounced and rather continuous serration; rather perfect symmetries (except the upper blade area) with more bulky sections if compared with the relative slenderness of the piece; straight to very flat-convex course of blade and handle edge; slight and partial edge serration <i>final retouching:</i> bifacial parallel pressure flaking by near-edge flat retouches, resting over the larger negatives (from preceding soft hammer percussion?) <i>impacts (Late PPNB):</i> burination of the tip (accidental? “dropping damage”?); retouch damage at the tip and at the base (by pre-funeral handling of the piece?)

highly skilled regular positioning of the parallel flat retouches created attractive even surfaces and the edges' serration. For more technological details *cf.* Table 1 and Gebel *et al.* 2022a.

The replicative study for the *chaîne opératoire* of the Ba`ja Daggers (Štefanisko in Gebel *et al.* 2022a and Fig. 10 therein) identified 4 (5) major stages of production:

Stage 1: Raw material selection

Stage 2: Establishment of bifacial platform and primary reduction

Stage 3a: Initial bifacial thinning and shaping

Stage 3b: Advanced bifacial thinning and shaping

Stage 4: Final shaping and edge serration.

According to the replicative study, three major types of fatal/ ruining knapping accidents must have been frequent in experimental dagger production: 1) hinge/ step terminated flakes resulting from bad platform angles and/ or from insufficient stroke energy; 2) unintentional overshots with too much energy or/ and a failed positioning of the blow, removing part of the opposite edge; and 3) snap fractures resulting from either blows missing the platform or a bad support resulting in additional bending stress. It must be expected that direct soft hammer flaking was possibly less invested in Late PPNB daggers' Stage 3b production to minimise the risk of breakage. This danger of labour and material loss through applying the soft hammer is especially given for Stage 3b with its limited error correction potentials, an issue also pointed out by Phil Wilke in his commentary on the Ba`ja Daggers.⁷

⁷ It was an astonishing result of D. Štefanisko's replicative study to understand to what extent skilled direct soft hammer flaking can be involved to produce the daggers, a matter also confirmed by distinguished chipped stone experimental expert Phil Wilke. Phil Wilke by letter, 30 Sept. 2019: "This kind of work is very, very difficult to do if it is entirely done by percussion except, I believe, for the final edge work to get straight margins before doing the denticulations, or minor 'teeth' on the margins. The trouble with this kind of work is trying to keep the piece from breaking when hit near the ends, and one of these is over 20 cm long. I don't know how one person could do it. The well-known Danish daggers ... are pressure flaked, and this can be done without undue worry for breakage like there is no real 'shocking' of the workpiece as there is in percussion flaking. One might bind the workpiece to a splint of wood, holding it very tightly that way, while working by percussion on a short segment of one entire margin of the work piece. ... These items conjure up thoughts of prestige markers?, grave accompaniments for afterlife?, anything but actual work. They are a true enigma."

Keeping in mind that the Ba`ja Dagger is rare and its production must have been extremely time-consuming, skill-demanding, and highly failure sensitive, we assume that they were not subject to "ordinary/ daily" use: The use for cutting or stabbing is seen as being impossible: Their edges would turn dull rapidly (in contrast to the razor-sharp edges of naviform blades), or they would break immediately. Furthermore, carrying them permanently is highly risky and would have been a constant fracture risk and resulted in dulled edges, too. We must expect that the daggers were kept stationary/ stored and not moved much. D. Štefanisko's study on household activities reflected by the chipped stones' tool wear of Ba`ja, as well as insights received by his replication work, made him expect that the Ba`ja Daggers had no practical function beyond being ritual objects in sepulchral environments, or – at the utmost – display objects in living environments.

Different flint raw materials were used for the three Ba`ja Daggers (Table 1). They are not represented among the regional raw materials groups attested in Basta and Ba`ja (*cf.* Muheisen *et al.* 2004; Purschwitz 2017; Parow-Souchon and Purschwitz 2020). Thus, we expect that their raw materials are of non-regional origin, probably from farer Eocene geozones. The total lack of dagger production waste (half-fabricates, the typical debitage including the chips) in Ba`ja and Basta and of the respective skill levels (at least) in Ba`ja supports our understanding that both raw materials' acquisition and manufacturing of the daggers took place in specialised workshops outside the region. Most likely, the late 8th millennium BCE's steppes east of the southern Jordanian Highlands, *e.g.*, the Greater Ma`an/al-Jafr regions of the southeastern Badia, were the origins of the raw materials and daggers. However, the western steppes of the an-Naqab or even the Sinai shouldn't be excluded as resource and production regions. The networks of Ba`ja's transhumant inhabitants exploiting the eastern steppes may have had demand and exchange contacts with workshops in such regions, or a locally confined exchange may have let the items reach Ba`ja. At any rate, we see the daggers as a "steppe/ desert signal" in Ba`ja's exchange system (*cf.* Fig. 8).

Supported by radiocarbon, stratigraphical, and contextual data (Purschwitz and Benz forthcoming), the burials hosting the Ba`ja Daggers date to the latest Late PPNB occupation of the site. This means that they might have occurred

only by the end of the 8th millennium BCE and may have continued as long as the cultural demand for them existed: Because of their rarity, it cannot be said whether the Ba`ja Daggers were still produced and in demand in Final PPNB/PPNC times. It cannot be excluded that daggers with features like exclusive direct percussion, less parallel and scalar retouching and less symmetrical shapes gained terrain in the southern Levantine Final PPNB/PPNC, together with all sorts of knife types, and that the Ba`ja Daggers disappeared from the exchange networks.

Regarding regional and off-regional technological comparisons from the Middle PPNB to the Final PPNB/PPNC: Fig. 6 in Gebel *et al.* 2022a tries to identify the techno-typological position of the Ba`ja Dagger within a general categorisation of Middle PPNB – Final PPNB/PPNC bifacially/unifacially flaked cutting and butting long implements (knives/daggers/foolates and related, including the tile implements). As rich as the Middle – Final PPNB/PPNC evidence for “relatives” of the Ba`ja Daggers is, “floating type transitions” make it challenging to distinguish classes and types of the bifacial “long implements” (e.g., Crowfoot Payne 1983; Gopher 1989; Goring-Morris *et al.* 1994; Garfinkel and Dag 2001; Rokitta-Krumnow 2013). The literature contains efforts to compare the yet incomparable, including the temptation to compare quite distinct bifacially non- or “semi”-parallel flat-retouched knife and foliate classes and types. We are aware that the actual types of long implements with bifacially worked edges developed their own diversity from the “liveliness” of their use; thus, Fig. 6 in Gebel *et al.* 2022a pragmatically and formally systemising the general classes must be used with caution.

Only a few specimens of the other long implement classes – knives/daggers/foolates – were found in Ba`ja (e.g., Gebel *et al.* 2022a: Fig. 5,5-7). F.no. 102042 (Gebel *et al.* 2022a: Fig. 5,5) is the unifacially retouched handle of a presumed knife/dagger found displaced in the context of a Late PPNB collective burial inside Room CR17 (Loc. CR17:109). The items F.nos. 32158 and 32183 represent the class of Tuwailan-type of bifacially flaked foolates/knives/daggers; they may come from eroded Final PPNB/PPNC layers depositing on Late PPNB house ruins (Loc. F11:8 and baulk Squares F11/12), and originally may have belonged to burial inventories.

No clear comparators appear to exist regional or off-regional for the Ba`ja Daggers, including Late PPNB Basta (except for the medial fragment published in Gebel *et al.* 2022a: Fig. 5,4). Many sorts of long cutting/butting implements are known from late Middle PPNB, Late PPNB and Final PPNB/PPNC tool kits, but many of their technological and morpho-typological features, as well as their skill levels, do neither match those of the Ba`ja Daggers nor do they show this explicit contextual relation to burials (*cf.* the examples provided in Gebel *et al.* 2022a: Beidha B/C, Wadi Jilat 26, Wadi Abu Tulayha, ‘Ain Ghazal, Motza, Atlit Yam, sites with Tuwailan-type daggers).⁸ Among the technologically similar bifacial parallel flat-retouched foolates and foliate knives from Basta (e.g., Gebel *et al.* 2022a: Fig. 5,1-3), a significant variance of forms is observed (we still lack such evidence for contemporaneous Ba`ja). The new excavations at Final PPNB Motza revealed “hundreds of bifacially retouched knives/daggers, in most cases fashioned from long thick blades, with the cortex entirely removed by extensive scalene flaking, followed by the modification of the working edges by pressure retouch” (Vardi *et al.* 2020). The rich Motza evidence is most helpful in differentiating the Ba`ja Daggers from the other (Final PPNB) knife/dagger classes and in gaining further insights on procurement and chronology; some of the Motza daggers apparently show traces of desert varnish.

Another site that has become important for comparison is later Late PPNB Jabal al-Khashabiyeh in southeastern Badia. The industry of the site occupations associated with kites/kite hunting appears to be a distinct regional techno-complex, named Ghassanian, by the project (Crassard *et al.* 2022). The primary production of Khashabiyeh is strongly reminiscent of Late PPNB Basta, as this is true for the primarily used (local) raw material at Khashabiyeh. Since this type of raw material is also attested with the bidirectional workshops at Basta, processed here on an industrial scale (presumably at supra-household levels), the question of the nature of contacts/exchange between sites like Khashabiyeh and the mega-sites of the Jordanian Highlands has become an urgent issue. The same is true for the sandstone

⁸ A cursory overview on Middle – Final PPNB on flat retouched flint daggers and knives from other parts of the southern Levant and the northern Levant/Mesopotamia illustrates even more how multivariate the evidence we have is and the need to identify their distinctive features for the individual dagger/knife classes and their commodification.

rings being well attested in Khashabiyeh. So far, the tool kits of the Khashabiyeh sites show no Ba`ja Daggers (pers. comm. W. Abu Azizeh and R. Crassard) but “bifacial tools shaped on local chert by direct percussion with soft stone hammers”, “some ... are finished by pressure flaking”. The technologies of the Khashabiyeh foliates and foliate knives at least prove the capacity to produce Ba`ja Daggers, supporting our notion that the daggers come from specialised workshops in the former steppes (Fig. 8: *cf.* the regions of the Late-Final PPNB Pastoral and Pastoral-Venatorial Socio-Economies).

Understanding the off-regional procurement (manufacturing and exchange) of the Ba`ja Dagger is essential to comprehend their use’s ritual and social meaning. They might have carried connotations coming from outside the immediate Ba`ja community, as we have more signals of such in the Late PPNB – Final PPNB/ PPNC layers of the site.

Biographic Stadia and Commodification Acts

When translating the contextual evidence of the daggers into a meaningful understanding of their social, ritual and symbolic roles and functions, our biographical and commodification concepts (Gebel 2010) become the essential source for generating insights; from these perspectives, the Ba`ja Daggers are to be seen as burial subjects (*cf.* below).

Critical biographical stages of the Ba`ja Daggers so far identified are:

- Acquisition/ procurement of raw materials
- Manufacture
- Regional exchange
- Pre-funeral use
- Sepulchral commodifications and deposition
- Archaeological excavation and studying.

For the sake of brevity, we offer here a keyword-manner summary of the biographical sequence with embedded interpretation in parts already addressed by Benz *et al.* 2019.

Procurement Sensu Raw Material Acquisition: non-local/ non-regional raw material (supposed to have taken place in the steppes east or west of the southern Jordanian Highlands).

Manufacture: non-local/ non-regional production/ workshops in the steppe areas (which must not necessarily mean that the skills for parallel and direct soft hammer flaked bifacial items were

not available at “industrial” lithic centres like *e.g.*, Basta); manufacturing relates to the commodification of a prestige-giving (for the manufacturers) high-skill and time-intensive product.

Procurement Sensu Exchange: via (the pastoral?) networks existing into the eastern (or western) steppes; prestige by obtaining a prestigious commodity; at this biographic level, daggers become commodities of destination; they must have also become precious for arriving unharmed in the demand area (for being delicate and unique: damage risks through transport).

Pre-Funeral Use: only slight polish on surfaces and at the edges visible (from protecting cloth/ leather wrapping?: pers. comm. D. Štefanisko); unlikely to have been used as a tool; also became precious for arriving unharmed in the demand area (for being delicate and unique: transport risks); “having”/ “owning”/ controlling – an eye-catching commodity of destination – may have provided exclusiveness/ demanded a certain status (*e.g.*, bearers of a particular political or ritual function, group leaders, certain family/ household members): also in that respect daggers had agency;⁹ in their pre-funeral existence, respectively their living environments, the Ba`ja Daggers most likely had social and symbolic functions (performative/ display, prestige and otherwise status-giving functions); were mainly procured and kept to become a burial subject; no indications that the daggers were inheritable objects.

Sepulchral Re-, De- and Ex-Commodifications (Succeeding Acts): one dagger was fractured/ de-commodified during burial rituals (all four parts inside Burial DG1), like this is true for other de-commodifications attested with the burials (*e.g.*, arrowheads with snapped-off tips or the *in situ* smashed macehead in CG10); de-commodification by burinations attested with two daggers is debated; depositions of daggers represents ex-commodifications (Burial CG10: including its sealing into a mortar-gravel bed, covered by a plaster layer); as a commodity of destination meant to be received by/ ascribed to the dead: could mean that the dead’s status entitled to receive the dagger, or that the dagger had to ascribe a certain status to the dead; by

⁹ A socially effective formal display of the daggers must not necessarily be postulated: For the agency effect – including the status-giving and -supporting –, it is only important that the community and its groups know of the presence of the dagger in the possession of the entitled person.

the burial practices a dagger's agency turns – in addition – from that of a sepulchral ritual object to a sepulchral ritual subject (a re-commodification); was possibly also ascribing prestige to those who were entitled to use and submit it during the ritual: The dagger becomes a ritual agent and object of de-commodification to manifest and terminate the dead's status (co-active sacrifice meaning/ purposes not excluded); by the symbolic termination of the dead's functions by acts of breaking (burinating?) the dagger; since not removed/ removable? from the burial, the act of burying the dagger represents a kind of ex-commodification (although it remains known that it is there and in what condition); occasionally needed in case of debated terminations/ de- and re-commodification? (among other reasons): sealing of these testimonies by stone covers/ stone slabs/ mortar beds/ plaster is done to avoid that the meaning of the re-, de- and ex-commodification of a dagger (or other burial objects) is disturbed/ cancelled by the removal of the subject(s) from the cache.

Further Re-Commodifications (i.e., the Re-use of Former Ritual Equipment): cf. the example Fig. 7 and Footnote 3; the loss of a dagger's affiliation with a dead in a collective grave due to re-arrangements of corpses should not be understood as an act of re-commodification: however, there is a different perception for a burial object losing its affiliation in a grave as compared with sealed in/ protected relations of burial objects and a dead (example CG10).

Latest Re-Commodification by Archaeological Study: means the agencies and commodification the Ba`ja Daggers provide to those excavating and studying the Ba`ja Daggers and their various contexts (promoting knowledge, academic reputation *etc.*).

There is no biographical evidence from the archaeological contexts that the Ba`ja Daggers played a significant role outside their sepulchral contexts, despite that they must have provided prestige to producers and “bearers”/ curators. Their main power seems to have come from their capacity to act in sepulchral contexts, including the high arousal and prestige they create if they are broken/ damaged and subsequently locked away in a burial (kind of ex-commodification; Gebel *et al.* 2022b). Is it in the symbolism of these acts – which simultaneously signify the confirmation or manifestation of status and taking/ terminating/ banishing status at the same time – that we find the real purpose of these artefacts? Needless to say, in front of their biography, daggers represent – at any rate – commodities of metamorphosis (Gebel 2010). Further research has to be invested in the question of how the acts of de- and ex-commodification for daggers relate to other such actions of terminating values in Ba`ja's community (*e.g.*, the termination of households/ household items, cf. Gebel *et al.* 2019). It is interesting to understand that these destructive and terminating acts were directly targeting present objects – inherited households/ household items



Fig. 7 Ba`ja Dagger fragment (F.no 22165) possibly originating from a burial and being reused as a burin (from Room DR6, secondary context: Loc. D12:50, later? Late PPNB occupation; cf. Footnote 3). (Photos: H.G.K. Gebel, Ba`ja N.P.)

– while daggers apparently had to be procured and loaded before, with a symbolism referring to a special person and his/ her role. Taking out this role from continuing life cycles – while formally confirming a terminated status to help the dead stay members of the community in another social function – makes the daggers an essential ritual subject of relevance in the ritual template (Benz *et al.* 2019). Ex-commodified daggers appear to be mentally unremovable testimonies of (personified) status manifestations, and the ritual confirming that.

By all these considerations, we should expect that the general idea of breaking and terminating a function must not have concerned all of the rare Ba`ja Daggers, and that there must be reasons for that. More so, breaking and terminating may have also been followed with other materials for less prominent dead, such as joining already broken items to the burial for less prominent dead, or by *e.g.*, adding freshly snapped-off arrowheads to a burial. In following Final PPNB/ PPNC times, less prestigiously elaborated daggers may become more common and take the role of the Ba`ja Daggers (Gebel *et al.* 2022a: Fig. 6).

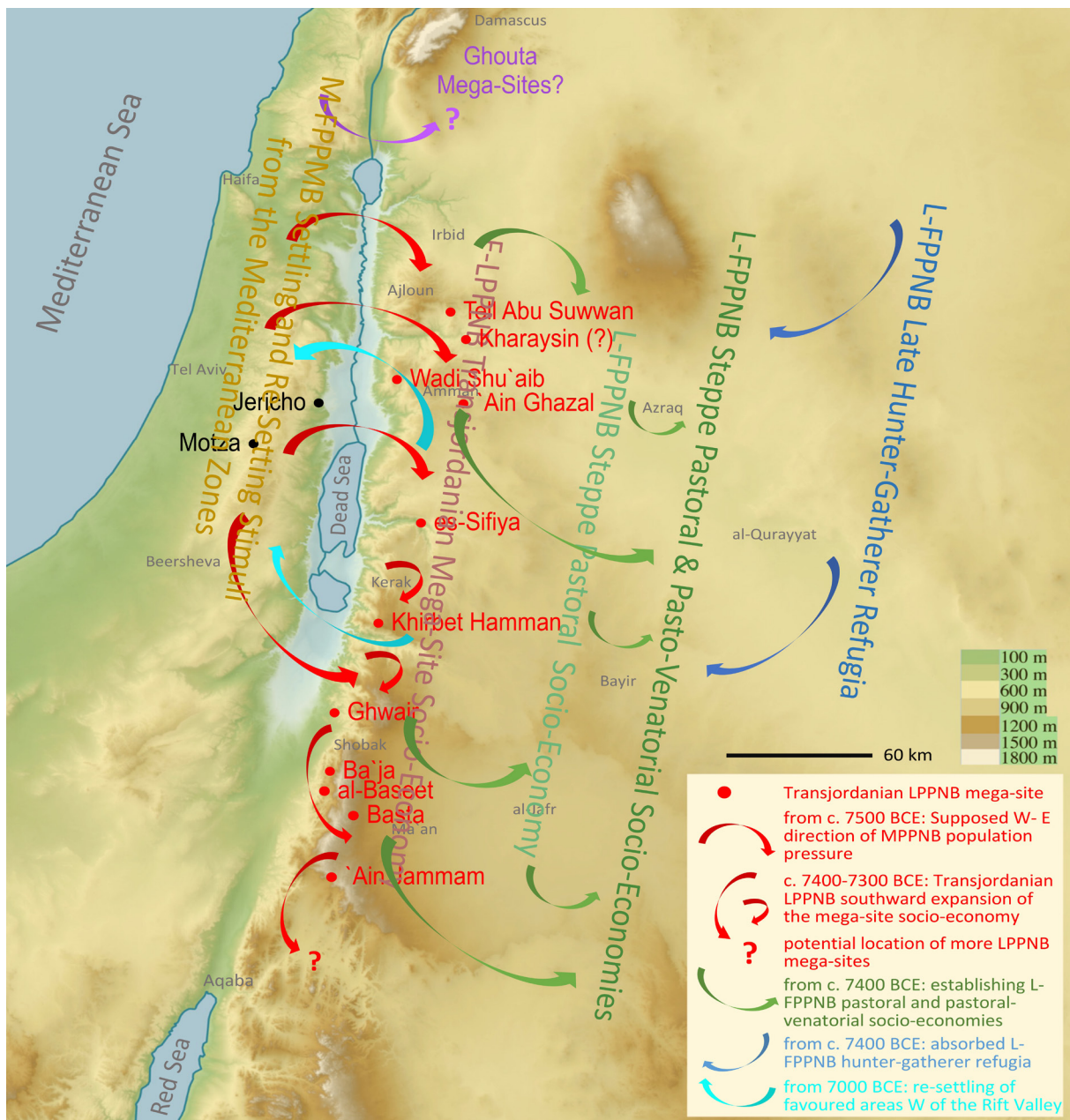


Fig. 8 The Late – Final PPNB mega-sites' interaction spheres. Updated understanding (first draft for Gebel forthcoming b). (Graph: H.G.K. Gebel, Ba`ja N.P.)

Cultural and Ritual Contexts, Social and Symbolic Frameworks

The Ba`ja Daggers are embedded in the milieu of productive commodification, which self-reinforcingly culminated during the Late PPNB, mutually promoting the securing and controlling of the natural, social and cognitive resources in large parts of the southern Levant. This took place to a hitherto unprecedented extent while many traits of these commodification regimes still show inherent traits of the preceding late foragers' value systems. Late PPNB commodification in the southern Levant, especially in the Transjordanian Highlands, is characterised by hypertrophic acceleration and agglomeration processes (e.g., settlement layout, crafts, population dynamics, social differentiation, exchange systems, etc.). It finally ended in many regions – from 7000 BCE – by the collapse of its fast-growing systems, i.e., the Late PPNB mega-sites in the Transjordanian Highlands through not finding the solutions in time for the consequences of that hypertrophic development (Fig. 8; Gebel 2010, forthcoming b). This decline was possibly fostered by emergent alternative lifeways in the steppes, like advancing pastoralism and “industrial” hunting with kites, aside from impacts resulting from over-exploitation of near-settlement habitats and adverse climatic developments. The late Late PPNB must have been a period of intensified steppe contacts, an exchange through which we see the Ba`ja Daggers arriving in the settlement. Would it be conceivable that the Ba`ja Daggers also represent a brought-in norm of the steppe for the dead, who had connections to, or came from the steppe? The socio-cultural frameworks of the Ba`ja Daggers offer a rich base for speculations in this period of transformation at the Late PPNB-Final PPNB/ PPNC junction ...

At any rate, the Ba`ja Daggers are seen as an expression of securing and controlling social and cognitive resources: We interpret them as subjects of social differentiation and manifestation in the sepulchral regime, and most likely also in life. This interpretation also results from the overall view on the sepulchral activities in Ba`ja and Basta (cf. also Gebel *et al.* 2022b; Benz *et al.* this volume Part 1), and the related findings of the living social system and its cognitive dispositions: The sepulchral spheres of that time most likely were an essential part of social life, especially insofar that most dead remained physically and above all psychologically, part of

the community's extended households, by being “locked” in their intramural cemeteries.

Another important aspect in understanding the social and cognitive frameworks of the Ba`ja Daggers, is the period's societal constitutionality. We assume that this was ruled by habitus conventions and group selves shared by individuals (for the explanation of this social type cf. Gebel 2017), all of them functioning by relatively informal but fierce ritual and symbolic regimes (as opposed to the external and similarly fierce northern regimes marking the other end of the habitus-ideocracy polarity, cf. Gebel 2017; Gebel *et al.* 2022b).

We could not identify pre-funeral social, cognitive or practical roles for the Ba`ja Daggers, apart those resulting from their initial commodification (production) and the supposed agency they gave and received by their pre-funeral existence (performative and prestige-/ status-providing commodity; cf. the paragraph above on Pre-funeral “Use”). It remains open whether the dead “receiver” of a dagger was also the living “bearer” of the dagger, or if the dagger was obtained for the funeral and had a period of performance and status support for an entitled “curator”. If the daggers would have been personally owned and transferable (e.g., inheritable) items – like e.g., the *khanjars* in sub-recent and today's southeastern Arabia, carried for documenting malehood and prestige to be shown, we would expect a more common and broader contextual evidence for them. Our current hypothesis is that they were status-marking and status-giving items supporting the social and memory function of the mutually approved bearer/ recipient (commodity by status) for especially the sepulchral sphere. We explicitly do not exclude performative and status-giving functions of the daggers for their pre-funerary existence. These arguments lead to our interpretation that – given the still relatively egalitarian social environments at Ba`ja (Gebel 2017) – a dagger was assigned to leading/ important community members, *primi inter pares* (Benz *et al.* 2019).

Among the acts that must have been related to a sequential funeral rituality and its symbolism, two of them explain the fundamental role of daggers: 1) the act of physically transforming the dagger's function and power, i.e., by breaking it into pieces or possibly by snapping off/ burinating its tip; and 2) the act of depositing the dagger by attributing it to the

entitled dead. As explained before, under the biographic and commodification properties and traits of the Ba`ja Daggers, these funeral-related acts of de- and ex-commodification also represent a fundamental shift for the meaning of the daggers: Through both acts, they also became subjects – *sensu* a mean or a tool – of status transfer, whereas they were objects of a living world before. Needless to say, this shift requests a re-commodification, meaning to make the object of power/ force and performance a subject of funeral rituality and its termination symbolism. These (needed) fine-tuned distinctions are visible only by applying the commodification concept.

Single cist-type burial CG10 (“Usaid”) is unique in a sense beyond what was described in Benz *et al.* 2019: The other two daggers (Burials CG1 and DG1) lost their affiliation since succeeding burials in the collective burials let the daggers dissociate from the skeleton of the entitled person (like it is true for all collective burial objects). This was hindered in the case of CG10 in the strongest terms: Here, the dagger was fixed and sealed – with other burial objects – in a separate hard gravel/ mortar bed under a plaster floor and above the actual burial’s stone cover (Table 2). Does this mean that the dagger and its testimony had to be prevented from being manipulated or removed? And is it also the reason why an “outsourcing” of the dead into a single burial took place, a collective burial was avoided? If it was a debated status affair occurring with the funeral, this would make Burial CG10 even more unique. The other burial objects also testify to the outstanding character of CG10’s individual.

Acts of testifying and burying terminated power and functions (Benz *et al.* 2019) are also attested by other funeral inventory (arrowheads with snapped-off tips; the macehead fractured *in situ* in CG10; fragmented items such as stone vessel sherds, handstones, and possibly the deliberately fractured burial cover slabs, as observed with many children burials). They reflect similar cognitive dispositions like visible in Ba`ja’s life domains (habitation, production, rituality and exchange regimes). They testify that more acts and behaviour are driven by isolating/ banning and terminating or manipulating powers and forces and by the agencies of the things related (Gebel 2002).

In terms of symbolism: As it is evident by the three findings, daggers entered by their

deposition a protected area, but did they become unremovables? Two of them remained at least accessible in their open collective sepulchral environment (while one was fractured). It cannot be ruled out that daggers were later removed from burials. But this appears unlikely since at least other findings from Ba`ja and Basta seemingly attest to an untouchability of objects holding agency from “the former others”/ the – even unknown – predecessors. Still, this evidence relates to common objects and materials (Hermansen 1997; Gebel 2002). These considerations make the sealing of objects in the upper cache of Burial CG10 even more conspicuous.¹⁰

Conclusions

We surmise from the former statements that the Ba`ja Daggers were in the broadest sense *commodities of destination* or *diversion*, and late in their biography *de-* and *ex-commodities* (*cf.* Gebel 2010; *cf.* also Appadurai 1986: 16), *i.e.*, the daggers were primarily made for being exchanged and procured for being used in the context of burying rituals to finally being interred with the dead. The Ba`ja Daggers represent an essential source of primary and sound emic insights into Ba`ja’s Late PPNB community, its commodification regimes, social and ritual-symbolic constitutionalities, prevailing deathlore, and otherworldly ontologies (Gebel *et al.* 2022b; Gebel forthcoming a).

The following theses-type summary statements on the Ba`ja Daggers’ order the pieces of evidence along their biographic sequence, refer to the domains and regimes they are associated with:

1. Ba`ja Daggers are extremely rare and so far found only in burial contexts of a later occupation of the Late PPNB in Ba`ja. Other kinds of bifacially flaked daggers started to appear from the later part of the Middle PPNB. In the Final PPNB/ PPNC, the Tuwailan-type daggers/ knives/ foliates may have taken over the ritual competence of the Ba`ja Daggers in more common ways.

¹⁰ More questions are related to the daggers’ symbolism: prestige due to exotic provenance/ biographies? Was there an original symbolic meaning transferred/ not transferred from the production area? Would the flint knappers of Ba`ja be “entitled” to produce such daggers themselves? Is the dagger production related to exclusive rights?

2. The Ba`ja Daggers appear to be part of the ritual inventory of the Late PPNB villages' sepulchral regimes, which are controlled by the social and cognitive frameworks of a strict societal habitus and (the Late PPNB confined relational) group selves' constitutionality (Gebel 2017; Gebel *et al.* 2022b), controlling any social expression by a supposedly fierce informal rituality and symbolism (Benz 2017).
3. The daggers' raw material acquisition and manufacture at specialised workshops occurred outside regional contexts. Most likely, the workshops performed the complete production near flint sources in the eastern steppes (*e.g.*, the Greater Ma`an/al-Jafr regions); tabular flint sources may have been preferred.
4. Ba`ja Dagger manufacturing was a time-consuming, skilful, risky task and possibly a prestigious specialisation. Especially the near-final stages, using combined bifacial direct soft hammer and pressure flaking, were sensitive to successfully achieve the intended full coverage of both faces by parallel (and scalar) retouching without breakage; pressure flaking most likely was the preferred albeit less risky method once possible in the operational chain. Skills studied by experimental work indicate that the experienced craftspersons must have produced these items frequently in larger quantities, most likely supplying larger and distant demand areas.
5. Dagger production creates a commodity with high commodification potential in several domains of Late PPNB life and death; it unites the essential traits of both a commodity of intangible destination and of metamorphosis (to become a subject in sepulchral environments), *cf.* also the definitions by Appadurai 1986. Biographically it moves through all stages a commodity can go through: commodification, de- and ex-commodifications, re-commodification.
6. For the Late PPNB villages, the procurement of the daggers probably came *via* the pastoral connections they had with networks existing in the steppe or of which they had become a part. Suppose inhabitants of Ba`ja were also inhabitants or users of the steppe, a direct transfer of the daggers to Ba`ja may have taken place. Otherwise, local trade via third agents may have let the daggers arrive in Ba`ja. At any rate, these artefacts should be seen as a "steppe/ desert signal".
7. If not before, at least by the arrival of a dagger in the village, it becomes an eye-catching commodity of destination. The three daggers appear not to show clear signs of use/ wear, except that one has a slight polish on the surfaces and at the edges (probably from protecting wrapping during storage). Since the daggers were fragile and not repairable when broken, they must have also become precious for arriving unharmed in the demand area.
8. The daggers were not an item of daily use. The daggers should be interpreted as primarily prestige/ status-marking and -providing items before the advent of social hierarchisation; they rather were a tool of social differentiation: contrary to Basta (incipient social hierarchisation?), Ba`ja possibly remained on the level of a segmentary community/ of social differentiation which situationally assigned its leaders/ leader groups, possibly representing a flat-topped chiefdom at the utmost. If the daggers at this stage of their biography were personal *sensu* a "dividual" property (Gebel *et al.* 2022b) at all, they also would have had a "silent" performative, prestige-/ exclusiveness-giving and status-supporting purpose for the one(s) entitled to have or control them, before they became a sepulchral subject and burial object.
9. As said before, it remains unclear if and how the Ba`ja Daggers passed through acts of re- and de-commodification during their contact with village life. However, after getting re-commodified as a burial object and sepulchral subject, they can – but seemingly must not – become symbolically de-commodified by destructive measures (breakage during burial ritual, burination?), followed by a (kind of) ex-commodification through depositing it in a burial: while it becomes invisible by this type of ex-commodification, it does not lose its testimony and retains a transformed agency by everyone who knows that "it is there". The question of whether specific ritual actors used the daggers to kill animals during the sepulchral rite has yet to be followed.

10. The buried daggers are vital documents for a confirmed and/ or ascribed status to the dead which was terminated by “burying power” of a *primus inter pares* (Benz *et al.* 2019). Other fragmented or destroyed burial objects may symbolise other traits ascribed to – or “commenting” – the dead, as do the empathies attested with burial gifts or furnishings for infants and children in Ba`ja (Benz 2020; Benz *et al.* 2023, this volume Part 1).
11. Daggers inside burials may have had an untouchable status and may have been understood as not removable. Debated terminations/ de- and re-commodification may have existed and led to protection measures for a burial (the most substantial cases attested with Burial CG7 “Jamila” and CG10 “Usaid”).
12. The re-use of daggers/ dagger fragments from disturbed burials may have occurred, resulting from spatial reorganisation and social disconnection from the dead (Footnote 3).

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