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# PSEUDO-SETTLEMENT HYPOTHESIS: EVIDENCE FROM QA' ABU TULAYHA WEST IN SOUTHERN JORDAN

Sumio Fujii[1]

Abstract

When a series of structural remains is found at the same level or layer, it is generally identified as a settlement. This identification, though quite reasonable in the *sown*, is not always true in the desert, since the formation of some desert sites includes a unique aspect that is exemplified by the Layer 4 structural complex at Qa' Abu Tulayha West in southern Jordan dated to the Late Neolithic and Early Bronze Age. This complex, though seemingly like a small settlement, may be understood as the final, overlapping picture from a structural unit that comprises a burial cairn and a pseudo-house that was gradually added onto. Given this, it follows that the complex represents an elongated cemetery that was established in the desert by early pastoral nomads.

The purpose of this paper is to discuss the formation process of the Layer 4 structural complex at Qa' Abu Tulayha West with a view to advancing the pseudo-settlement hypothesis. If this hypothesis is accepted, it would provide an archaeological clue to the origin and development of pastoral nomadism in the Levant. It is all the more worth testing because a zooarchaeological approach is often unavailable at desert sites due to the poor preservation of animal bones.

Résumé

Lorsqu'une série de restes architecturaux est découvert dans un même niveau ou couche, celle-ci est traditionnellement qualifiée d' « installation ». Cette identification, bien que relativement raisonnable dans le *sown*, n'est pas toujours valable pour le désert, car la formation de certains sites du désert comprends un aspect unique, démontré ici par la couche architecturale 4 à Qa' Abu Tulayha Ouest, au sud de la Jordanie, datée du Néolithique récent / Âge du Bronze Ancien. Ce complexe, bien qu'étant apparement un petit établissement, pourrait aussi refléter une unité architecturale, qui comprends des inhumations sous cairn et un *simuli* de maison, qui lui a été graduellement ajouté. Partant de là, il en découle que ce complexe représente un long cimetière construit dans le désert par les premiers pasteurs-nomades.

L'objectif de cet article est de discuter le processus de formation du complexe architecturale de la couche 4 à Qa' Abu Tulayha Ouest en vue d'argumenter l'hypothèse d'un pseudo établissement. Si cette hypothèse est acceptée, alors elle apporte une solution archéologique à l'origine et au développement du nomadisme pastoral au Levant. Il est d'autant plus important de vérifier cela, qu'une approche archéozoologique est souvent impossible du fait de la mauvaise conservation des restes animaux.

Key Words: Pseudo-settlement hypothesis, Cemetery, Early nomads, Southern Jordan

Mots Clés: L'hypothèse d'un pseudo établissement, Cimetière, Premiers nomades, Sud de la Jordanie, Néolithique ancien / Âge du Bronze Ancien

## Introduction

When a series of structural remains is found at the same level or layer, it is generally identified as a settlement. This identification, though quite reasonable in the *sown*, is not always true in the desert, since the formation of some desert sites includes a unique aspect that is exemplified by the Layer 4 structural complex at Qa' Abu Tulayha West in southern Jordan. This complex, though seemingly like a small settlement, may be understood as the final, overlapping picture from a structural unit that comprises a burial cairn and a pseudo-house that was gradually added onto, unit by unit as people returned. Given this, it follows that the complex represents an elongated cemetery that was established in the desert by early pastoral nomads.

The purpose of this brief paper is to discuss the formation process of the Layer 4 structural complex at Qa' Abu Tulayha West with a view to advancing the pseudo-settlement hypothesis. If this hypothesis is accepted, it would provide an archaeological clue to the origin and development of early pastoral nomadism in the Levant. It is all the more worth testing because a zooarchaeological approach is often unavailable at desert sites due to the poor preservation of animal bones.

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## The Site

Qa' Abu Tulayha West was first recognized during our preliminary survey in 1995 (Fujii 1996). Since the first season in 1997, there have been a total of four excavation seasons (Fujii 1998, 1999a, 1999b, 2000a, 2000b, 2000c, 2001). The site is situated in the northwestern part of the al-Jafr Basin in southern Jordan (Fig. 1). The surrounding topography is characterized by Hammada, abraded flint pavement desert. The site lies on a gentle hill between Wadi-Ruweishid in the northwest and a small salt-pan, Qa' Abu Tulayha, to the southeast. The environmental conditions are today very harsh. It is extremely hot and dry in summer and very cold and stormy in winter. The annual average precipitation is less than 50 mm; neither perennial water sources nor shrub stands are found in the vicinity of the site. The site consists of two structural complexes, one in the northeastern area and one in the southwestern area. So far, the northeastern area has been in the focus of excavations (Fig. 2-4). To date, the following three cultural complexes have come to light:

1. Layer 4, tentatively dated to the Late Neolithic, a complex represented by a series of two-rowed upright slab walled, rectangular structures;
2. Layer 3, probably dated to the Early Bronze Age, a complex represented by large, round to oblong, or even composite-style structures (e.g., Structures 01, 03, and 07) and several core concentration areas;
3. Layer 3, again probably dated to the Early Bronze Age, a complex represented by small, oblong, Jafr-blade workshops (e.g., Structure 1001 below the gentle hill).

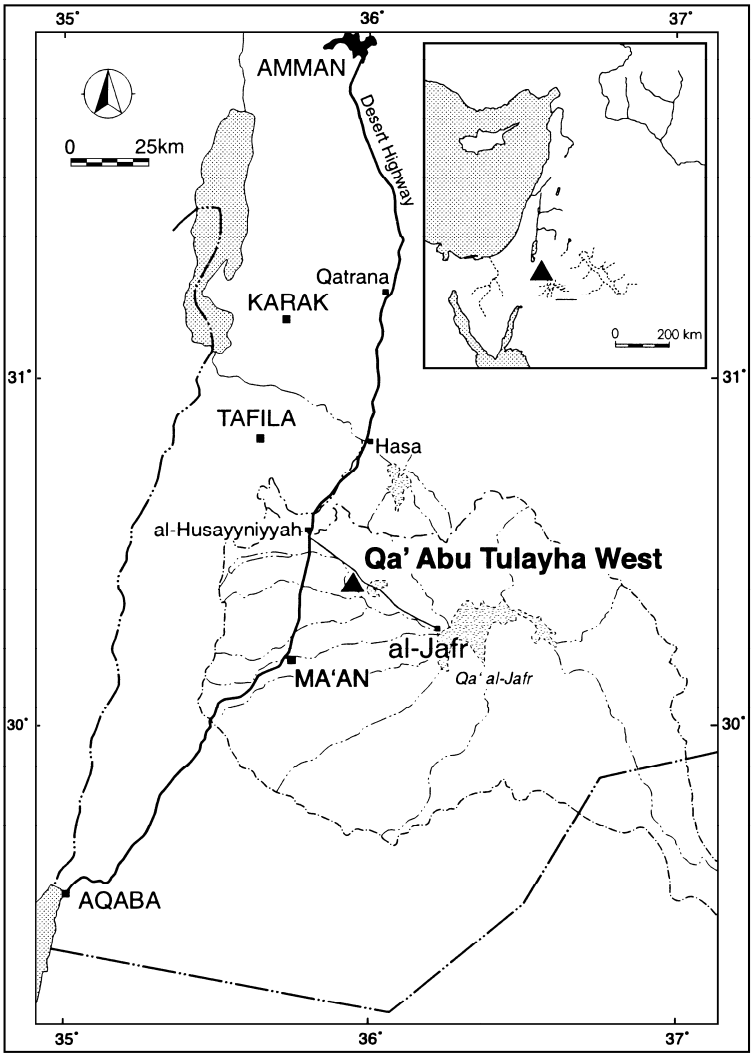


Fig. 1. Location Map of Qa' Abu Tulayha West.

The Layer 4 complex, our main concern here, is located along the southeastern edge of the hilltop, thus, facing Qa' Abu Tulayha - possibly, the main water source in those days for the inhabitants. A general similarity of structural remains and artifacts (e.g., proto-tabular scrapers and red painted, hand burnished pottery sherds), coupled with negative evidence (i.e., the total absence of PPNB naviform cores and bidirectional blades on the one hand, and Chalcolithic to Early Bronze Age typical tabular scrapers on the other hand), probably indicate a date in the Late Neolithic. However, final conclusions must await further excavations and the $^{14}C$ dating now in progress.

The following discussion is focused on the formation process of this unique complex. To begin with, the techno-typological characteristics of this complex will be briefly summarized and then a few questions will be addressed in order to clarify the formation process with a view to advancing the pseudo-settlement hypothesis. Lastly, there will be a brief discussion about the archaeological implications of this hypothesis.

## The Layer 4 Structural Complex

To date, some thirty units of two-rowed upright slab walled, rectangular structures have been identified either during excavation or during cleaning of the Hammada surface (Fig. 5). They form three long chains: the Northern, the Central, and the Southern Continuum. Each continuum, roughly oriented northeast to southwest following the contours of the land, consists of at least five to twelve structural units that are connected with each other on both sides. The total length of a continuum varies from 30 m to 60 m depending on the number and size of the structural units it comprises.

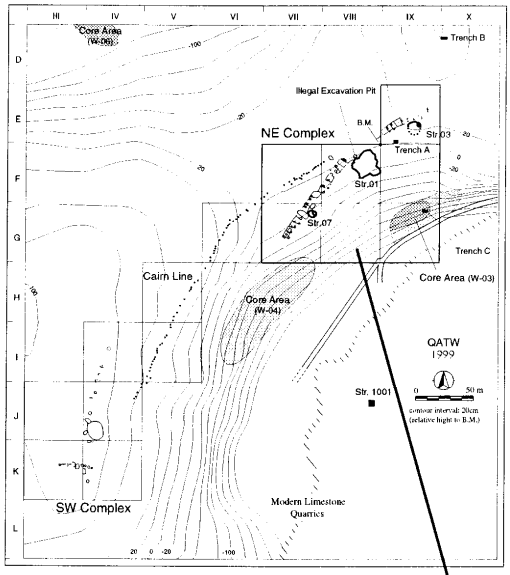
These structural units, ca. 3 to 7 m wide and ca. 5 to 8 m deep, are characterized by the homogeneity in their general plan. First, a narrow entrance opens to the southeast, the lee side with respect to the predominant wind direction in this area, and is often equipped with a curvilinear windbreak wall at its northeastern side – a point of similarity with the Late PPNB structure at Dhuweila, eastern Jordan (Betts 1998: Fig. 3.15), for example. Second, apart from a few exceptions (e.g., Unit A in the Central Continuum), a unit always consists of one main room on the right and a few small cells at the left rear. No special treatment of floors has been recognized. Third, the southwestern corner of a facade is usually disturbed by one burial cairn, a key to the formation process of a continuum.

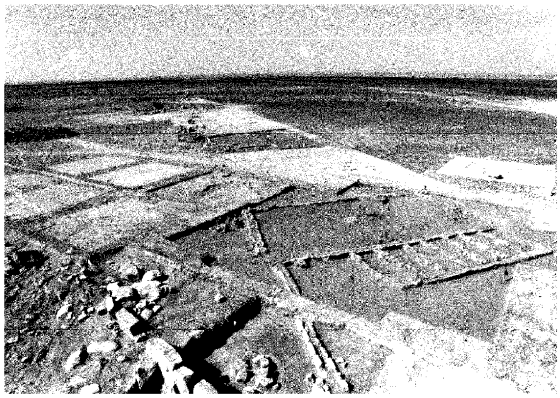
Technologically, these structural units are unique in that a long bank, ca. 0.5 to 1 m wide and ca. 20 to 30 cm high, was constructed following the expected plan of a unit, and then two-rowed (or sometimes one-rowed) limestone and/or flint slabs were inserted deep into this bank with their tops slightly protruding onto the surface. It is, however, unlikely that some walling material was placed between these two-rows of upright slabs (or along one-rowed upright slabs), since, as discussed below, there is a good possibility that these structural units were not, in fact, inhabited. In practice, no evidence for an upper storey has been found so far.

Incidentally, there may be some doubt as to whether a bank made of Aeolian sand and silt, materials which characterize the geology of most desert sites including Qa' Abu Tulayha West, could tightly support upright slabs. However, our experimental reconstruction has demonstrated that Layer 4 sand and silt, when puddled and sun-dried, changes into a cement-like, very hard material probably due to the lime components originating in the bedrock (Fujii 2000a). (This in turn implies that the construction was carried out anytime from winter to early spring, with the former less likely because of cold weather and heavy storms.)

## The construction order of the units

A chain of questions must be addressed in order to clarify the formation process of the unique complex in Layer 4. The first question is concerned with the construction order of structural units within a continuum. Were they constructed all together at roughly the same time or, possibly, gradually added one by one with time intervals inbetween ? Given the latter, from which direction did they develop? The key to this question consists in the gradual shift in size of structural units within a continuum. Interestingly, the facade of each unit, in contrast to the rear wall, is gradually set back as it goes toward the southwest within a continuum.



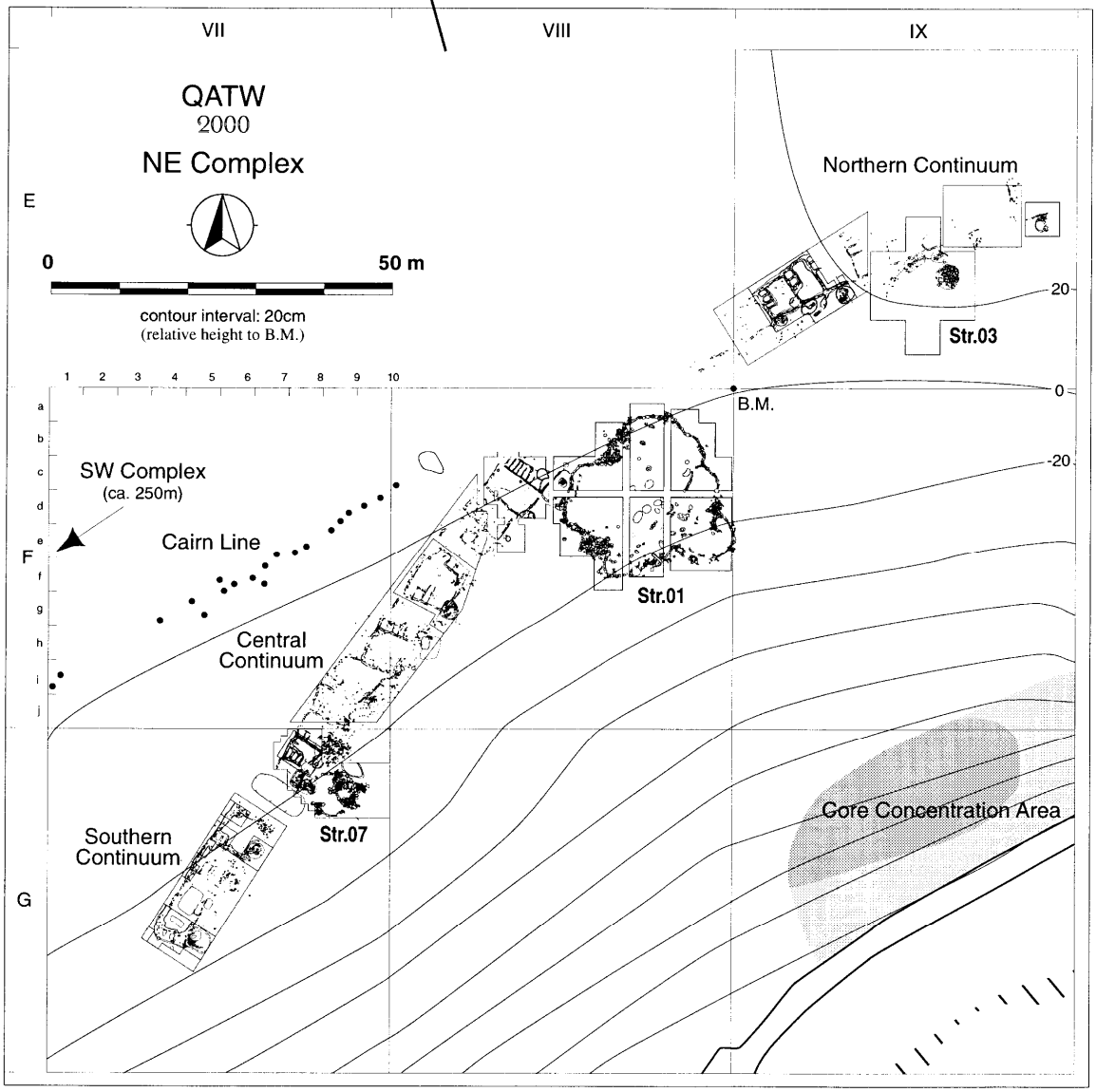



Fig. 2. Top left. Topographical map of Qa' Abu Tulayha West.
Fig. 3. Top right.The Layer 4 Complex of the Central Continuum (viewed from NE).
Fig. 4. Bottom. The Northeastern Complex.

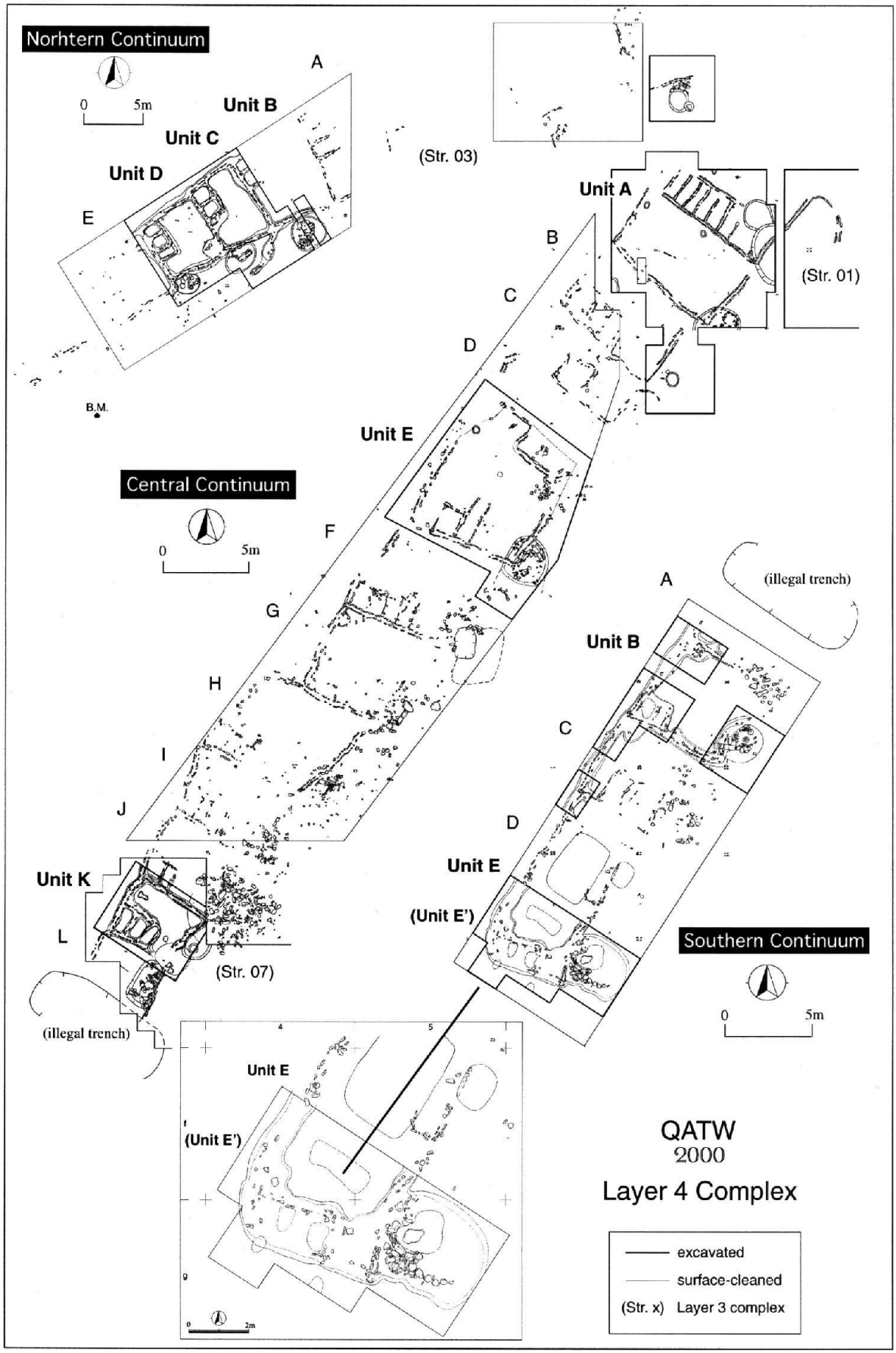



Fig. 5. The Layer 4 Complex of the Northeastern Complex.

Thus, the indoor area of a unit decreases roughly in this order, although this rule is sometimes interrupted either by the setting ahead of the left wing of a facade (e.g., Unit E in the Central Continuum) or by the setting back of a rear wall (e.g., Unit H in the same continuum), probably representing a last attempt to recover the original area.

The same is roughly true of the elaboration of the construction; in general, a unit becomes less elaborate towards the southwest within a continuum. Even a wall outline, as is shown especially in Unit F to I in the Central Continuum, is often skewed in the southwestern half of a continuum. In addition, this rule also applies to the quality of construction material. Units from the northeastern half usually use larger, standardized slabs, whereas units in the southwestern half often, if not always, use smaller, less standardized ones. All these things strongly suggest that units within a continuum were not constructed at one time but gradually developed in a northeast to southwest direction.

Another line of evidence for this view derives from the construction method of a burial cairn. Two points deserve notice here. First, a burial cairn, as mentioned above, was always constructed across the southwestern corner of each unit, thus, slightly protruding over the front space of the next, southwestern unit (Fig. 6). Second, it was constructed deliberately disturbing the original wall of a parent structure, which in turn was soon, though only partly, restored – as evidenced by the irregular arrangement of construction slabs above a burial cairn both in a profile and bird's-eye view. Given this line of thought, the following reconstruction can be made (Fig. 7):

1) a small group of pastoral nomads, after having returned to (or moved from) their seasonal encampment at Qa' Abu Tulayha West, constructed one burial cairn, deliberately disturbing the southwestern corner wall of the last unit, and only poorly restoring it;
2) then (or when they returned here again), they built a new, abutting unit, carefully setting back the facade in order not to disturb the last, neighboring burial cairn;
3) this process was repeated to forming a long chain, thus, resulting in the façade being gradually moved back.

This reconstruction is further reinforced by the way the walls are connected to each other. The setting of the walls clearly indicates that a southwestern unit was always later in construction order than its northeastern counterpart (Fig. 8) - another evidence for the gradual development of a continuum from northeast to southwest.

**The lifespan of each unit**

It is now evident that a continuum was not established all at once but gradually developed from a single unit that was located at its northeastern end. Thus, the next question arises: did a unit still continue to be used after the addition of the next, southwestern unit or, was it possibly abandoned at that point?

Given the first option, it follows that a continuum consists of plural units that were constructed in a different size and elaboration based on the order of construction in this settlement. However, this is a most unlikely scenerio. The reduction in size of indoor areas, when compared to Unit A and Unit K in the Central Continuum, for example, only reaches no less than a quarter of their size. It is also doubtful that a small population, no more than twelve families in this case, would have adhered to such a rigid ranking system. This is all the more true because this was probably a population of pastoral nomads who are, and probably were, characterized by social egalitarianism. Even if a rigid ranking system really existed among them, it is still questionable whether it would have been fully mirrored in their constructions.

Another reason to doubt this option comes from the environmental conditions at the site. It is highly unlikely that a settlement, even if only small and seasonal, could be established in such a harsh environment. The total absence of reaping and pounding implements (i.e., sickle blades, querns, pestles etc.) probably rules out the possibility that agriculture was practiced here (Fujii 2000a).

There is also little possibility of the settlement being a trade and/or craft center established by pastoral populations, since the Layer 4 complex is extremely poor in finds. Even flint artifacts, which characterize the Layer 3 complexes mentioned above, are quite scarce in the Layer 4 complex, so that,

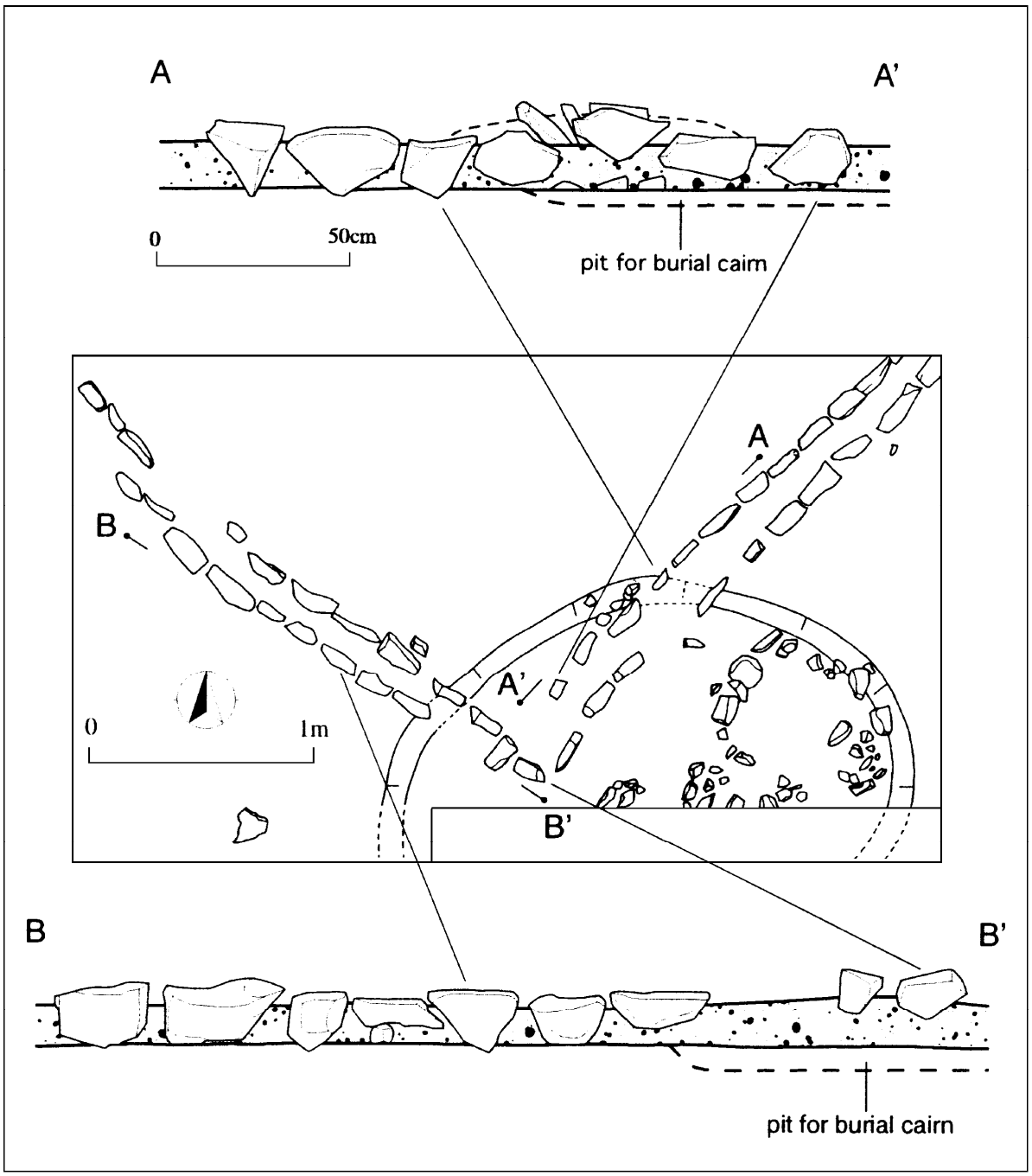


Fig. 6. The southwestern corner of Unit A in the Central Continuum.

it was very unlikely that this complex formed part of a flint-knapping station. All these facts cast doubt on whether this structural complex is a settlement.

Given the difficulties of the first option, the second one is worth examining. Central to this option is the supposition that a single family or a small group who repeatedly camped at this place were the chief players in the total formation of a continuum. In other words, this scenerio means that a continuum represents nothing but the final, overlapping picture deriving from the constant renewal of a structural unit at an abutting, southwestern lot.

However, there are also problems with this option. First of all, it is difficult to find any plausible reason for the constant renewal of a structural unit that probably made it unusable, although the construction of a burial cairn might have provided an opportunity in a ritual sense. Also inexplicable is the gradual deterioration both in size and in quality of a structural unit within a continuum, if it was inhabited by the same (or cognate) family. The final objection to this option, as was the case with the

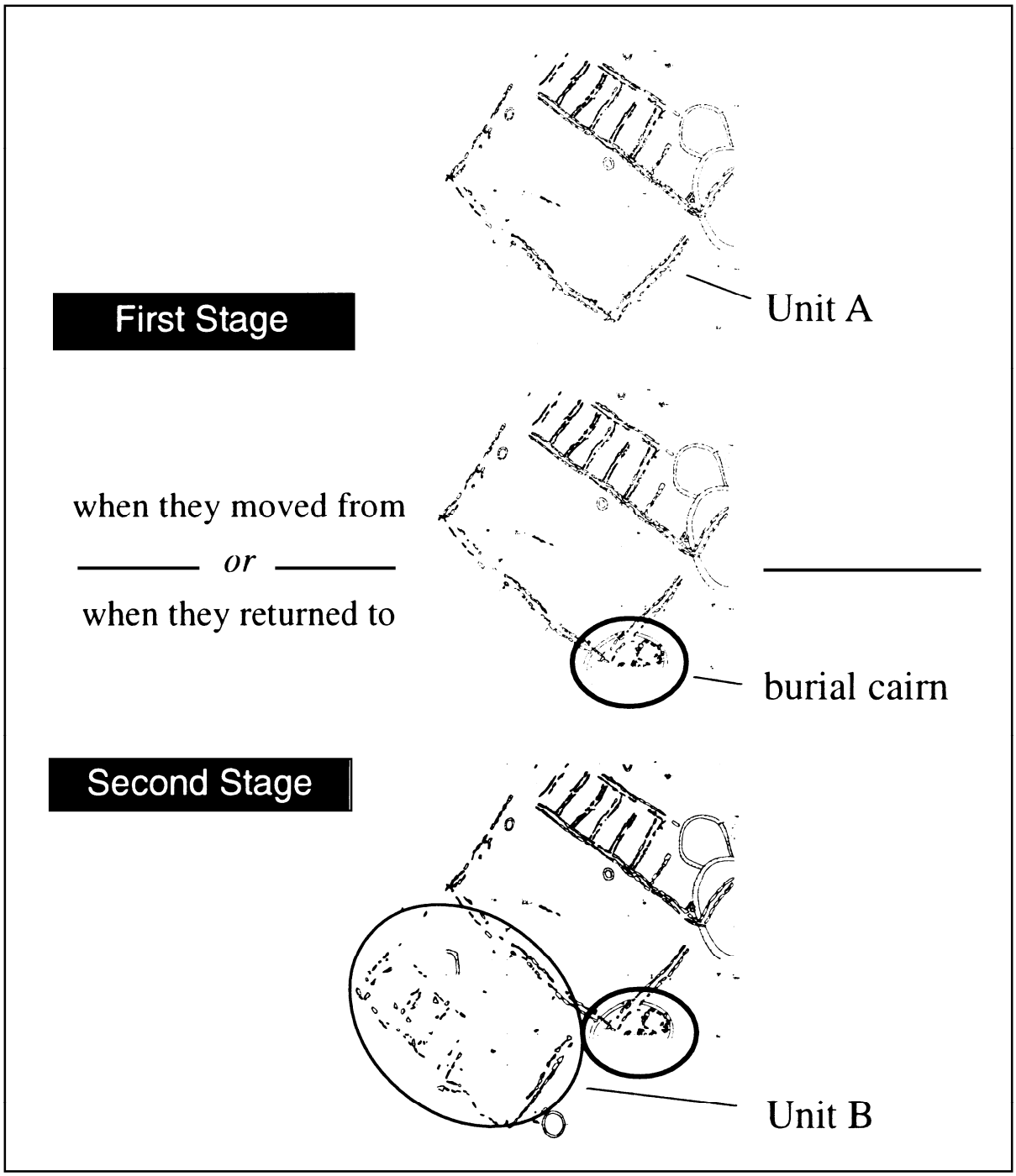


Fig. 7. A Reconstruction of the Development of the Central Continuum.

first option, is the total absence of habitation evidence. The finds from this complex, as mentioned above, are too scarce to suppose practical habitation, even if the inhabitants consisted of a single family or a small group of pastoral nomads. Thus, option two is also difficult to uphold.

**The function of the units**

Given the difficulties inherent in both options, it may be a good idea to change the direction of the inquiry. What was the function of these structural units? Were they really used for habitation or, possibly, for some non-domestic purpose?

Fig. 8. The northwestern walls of Unit F and Unit G in the Central Continuum.

Here again, the scarcity of evidence for living is critical. To date, a total of seventeen structural units (ca. 500 square meters) have been excavated either completely or partly, but the finds consist simply of a few dozen undiagnostic flint artifacts and only a few pottery sherds. Neither groundstone artifacts nor small ornaments have been found. Even faunal remains have not yet been recovered despite the dry-sieving of the floor soil through a 2 mm mesh. In addition, no hearth was found except for some examples in Unit A and E in the Central Continuum. Thus, the domestic use of these units is highly questionable.

It is therefore more reasonable to assume that these structural units were not constructed for practical habitation. Suggestive in this regard is the disturbance of walls by burial cairns and the gradual setting back of the facade to avoid the neighboring burial cairn. Both phenomena suggest that the core of a structural unit consists in a burial cairn, not the two-rowed upright slab wall structure. Given this, it follows that the structure is a ritual annex to the burial cairn, not the opposite.

This interpretation, though it may sound bold, is further reinforced by the typological sequence of burial cairn including the isolated examples in the Southwestern Complex that were excavated during the last season (Fig. 9). First, the burial cairns shifts from the pit type (from Unit B in the northern continuum down to Unit K in the Central Continuum) to the ground type (from Unit B in the Southern Continuum down to the independent burial cairns in the Southwestern Complex). Second, the relation to a facade also gradually changes from the adjoining type (Unit B and C in the northern continuum), through one-row-slab cutting type (Unit D in the same continuum) and two-row-slab cutting type (Unit A in the Central Continuum onwards), to the abbreviated type without a facade (the independent burial cairns in the Southwestern Complex). (Interestingly, the first two types include a short, isolated wall in its own pit!) Third and more importantly, the foundation mound deteriorates from the narrow and individual type to the wide and incorporated type that occurs especially in the rear left corner (Unit B in the Southern Continuum onwards). All these typological sequences clearly indicate that the independent burial cairns in the Southwestern Complex derived directly from a series of structural units in the northeastern complex.

In this regard, a special comment should be made about the typology of Unit E in the Southern Continuum, since it is located in a position to bridge both complexes. The first point to note is the difference in orientation of the walls and the abrupt change in both the quality and the arrangement of construction material in the southwestern half of this unit. This suggests that this unit comprises two individual parts: Unit E as the original but partly disturbed unit, and Unit E' as a later addition. What is important is that Unit E' consists simply of a southwestern wall and a burial cairn, evidently, the proto-type of the independent burial cairns in the Southwestern Complex. Thus, the typological sequence of the burial cairns of the Layer 4 complex can be summmarized as follows:

1) the Layer 4 complex began with the northernmost units including Unit B in the Northern Continuum where a two-rowed upright slab wall structure adjoined a pit-type burial cairn with a short, isolated, two-rowed upright slab pseudo-wall in its own pit;
2) soon after, a pit-type burial cairn gradually invaded its annexed structure, thus resulting in both the incorporation of the facade and the disappearance of a short pseudo-wall constructed in its own pit (from Unit A in the Central Continuum onwards);
3) then, the burial cairns shifted from the pit-type to the ground-type (from Unit B in the Southern Continuum onwards);
4) at the same time, the foundation mound also changed to a wide, incorporated type especially in the left rear, southwestern corner;
5) finally, the addition of a southwestern pseudo-wall was substituted for the construction of a pseudo-house (Unit E' in the Southern Continuum onwards);
6) all these resulted in the occurrence of the isolated burial cairns in the Southwestern Complex.

The reason why these typological changes could take place is that the core of a structural unit consisted in a burial cairn, not a two-rowed upright slab wall structure. Otherwise, such a simplification could not have been realized. Thus, the conclusion is evident: the two-rowed upright slab wall structure in the Layer 4 complex represents a ritual pseudo-house that is annexed to a burial cairn, the core of a structural unit.

**Pseudo-Settlement as a cemetery**

Two points have been clarified about the formation process of the Layer 4 complex: first, this complex represents the final picture of a gradual process involving the addition of structural units in temporal order from northeast to southwest; second, a unit is nothing more than a pseudo-house that is annexed to a burial cairn - the real core of an entire unit. For this reason, it was possible for the independent burial cairns to become typologically more simplified.

It is therefore likely that the unique complex of Layer 4 represents an elongated cemetery established in a holy place in the desert. Evidently, pastoral nomads were concerned in the formation of this cemetery, since both the harsh environment and the repeated encampment there clearly suggest the presence here of a small population with an economy based on pastoral nomadism. It seems that the timing of the establishment of this cemetery, if correctly dated, is also roughly consistent with the beginning of early pastoral nomadism in the southern Levant (Byrd 1992; Cauvin 1994; Garrard, *et al*. 1996; Köhler-Rollefson 1992; Zarins 1990). Possibly, successive sheikhs were concerned with the construction of these burial cairns.

It is, however, noteworthy that neither human skeletal remains nor burial gifts have so far been found in these burial cairns. To date, a total of eleven burial cairns, including three examples in the Southwestern Complex, have been excavated either completely or partly, but none have yielded evidence for actual burials. It is therefore probable that these burial cairns were empty, symbolic tombs (i.e., called a *cenotaph* in Egyptian archaeology), constructed in a holy place in the desert as stated in the pseudo-settlement hypothesis.

The inexplicable phenomena discussed above can be best understood within this framework. The gradual setting back of the facade, the consequent reduction of interior areas, the gradual deterioration in construction quality, and the occurrence of skewed units cause no difficulties in a non-domestic structure. The disturbance and the poor restoration of a facade are also negligible, if it is a part of a pseudo-house.

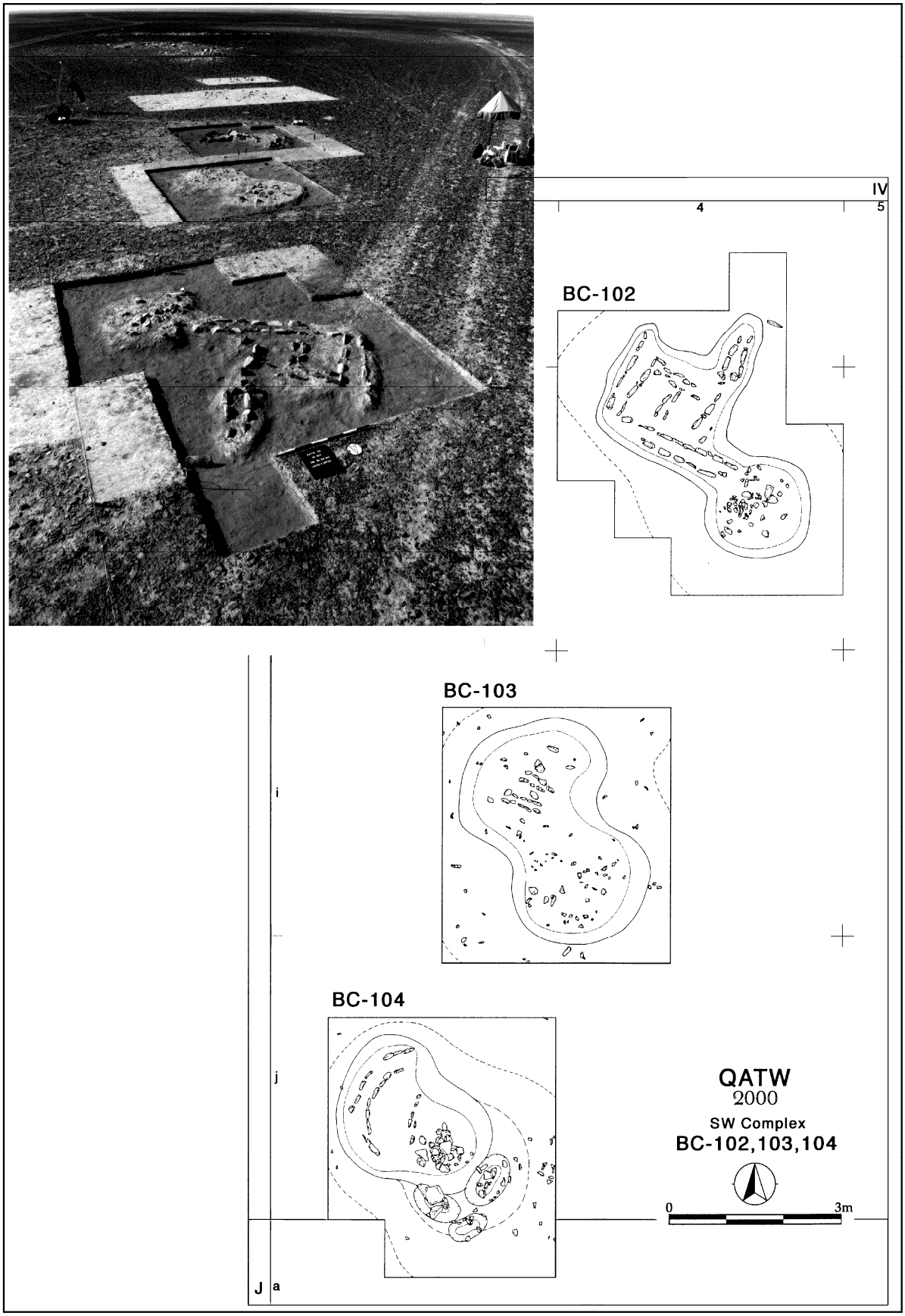



Fig. 9. The Southwestern Complex: the Isolated Burial Cairns.

The scarcity of living evidence can also be understood as a natural reflection of a cemetery. Lastly, the formation of a long chain might possibly be interpreted as a claim for the legitimacy of each deceased, often the motive for the construction of royal tombs.

## Archeaological implications of the pseudo-settlement hypothesis

To conclude, the archaeological implications of the pseudo-settlement hypothesis will be briefly discussed.

First, the formation process of the Northeastern Complex should provide a clue for the reassessment of some desert sites as settlements. For example, Wadi el-Jilat 26, a PPNB site in eastern Jordan (Garrard *et al.* 1994), is worth reexamining within the framework of the pseudo-settlement hypothesis, although this site seems to include a habitation evidence. Also suggestive is the typology of the isolated burial cairn in the Southwestern Complex. It could be a key to the reconsideration of the function and dating of desert "troughs" - isolated, often hooked, two-rowed upright slab walls that are found in the Levantine steppe and desert areas including the interior of the Arabian peninsula. The example at Site 207-46 in the Riyadh environs (Zarins 1989: Fig. 14.10-b), for example, is worth comparing with our examples.

Furthermore, the pseudo-settlement hypothesis can also be applied to the Layer 3 complex at Qa' Abu Tulayha West itself (Fig. 10). This complex, though referred to as a series of workshops for tabular scraper production in the previous reports (Fujii 1998, 1999a, 1999b), is now identified as another version of a pseudo-settlement, since the complex consists of several, connecting units and each unit often, if not always, ends in a burial cairn, best evidenced by Structure 01. The difference between it and the Layer 4 pseudo-settlement consists simply in the typology of pseudo-walls and the way they are connected. Otherwise, both pseudo-settlements are based on the same principle: the gradual addition of a pseudo-wall (or a pseudo-house) to the abutting lot when a burial cairn was constructed. The small number and volume of fallen stones around these semi-circular walls (Fujii 1998: 128) may also provide another line of evidence for their non-domestic use.

Whatever the case, the Layer 3 complex at Qa' Abu Tulayha West may also throw new light on some other sites. A large structure at Adeimeh, an Early Bronze Age site in the Jordan valley (Neuville 1930; Stekelis 1935; Worschech 1991), for example, is worth re-examining within the framework of this type of a pseudo-settlement. This is all the more likely because the site, though located in the *sown*, is part of a dolmen field, a cemetery for the Early Bronze Age pastoral populations in this region.

## Concluding remarks

The Layer 4 structural complex (and probably the Layer 3 complex also), though it looks like a small settlement, can be best understood within the framework of the pseudo-settlement hypothesis. This hypothesis, if fully accepted, would open the way to understanding the function and the formation processes at some desert sites. Further, it might also provide a clue to the renewal system of houses, in the strict sense, at *sown* sites.

However, much still remains to be tested about this hypothesis, including the chronological position, comparison with contemporary, true settlements in the *sown*, and the synthesis in terms of the origin and the development of early pastoral nomadism in the southern Levant. The fifth excavation season at Qa' Abu Tulayha West will hopefully provide further clues to these issues.

## Acknowledgements

This paper is a revision of the pre-print (Fujii 2000c) that was submitted to the 5th International Conference of ASWA held at Irbid, Jordan, in May 2000. A drastic revision was made, incorporating both a number of useful suggestions given by the participants of the conference and the result of the fourth season at Qa' Abu Tulayha West in 2000.

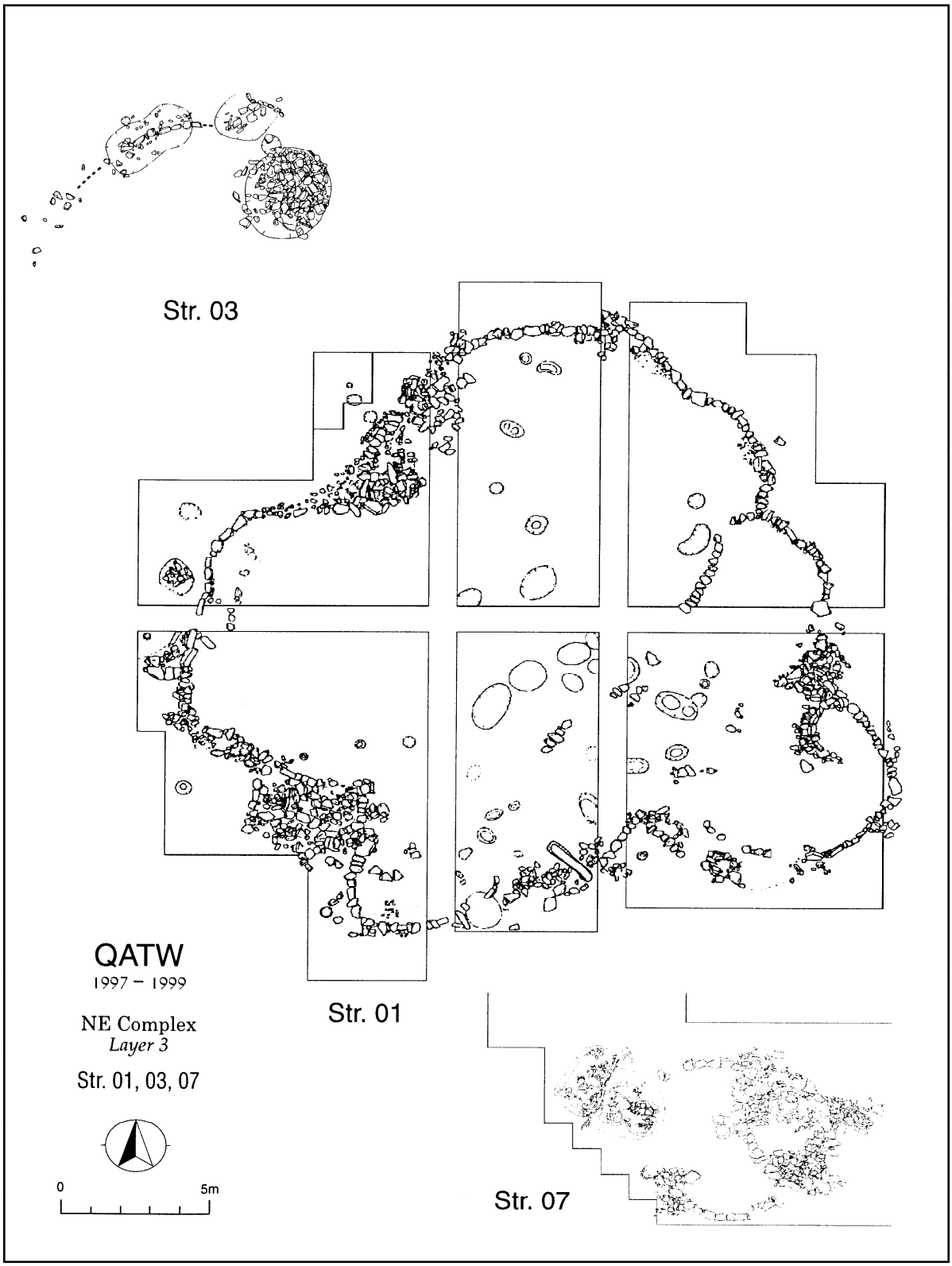



Fig. 10. The Layer 3 Complex.

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Abbreviations

ADAJ: Annual of the Department of Antiquities of Jordan.

AJA: American Journal of Archaeology.

BASOR: Bulletin of American Schools of Oriental Research.