The Iron Age I–II Transition in the Northern Levant: An Emerging Consensus?

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Abstract

The development of a refined, and widely accepted, chronological and cultural sequence has eluded the study of the Iron Age Northern Levant, despite more than a century of archaeological exploration and research. The effort has been complicated by methodological issues, in particular with the chronological implications of the rich art historical record preserved on the citadels of the Syro-Anatolian royal cities that have been excavated. The renewed investigations at Tell Tayinat (ancient Kunulua), capital of the Neo-Hittite Kingdom of Palastin/Walastin and scene of large-scale excavations by the Syrian-Hittite Expedition in the 1930s, have resulted in a tightly constructed stratigraphic and chronological cultural sequence, or "local history," for this period. This refined "Amuq Sequence" indicates a number of culturally and historically significant transitions, including the transition from the Iron Age I to the Iron Age II, ca. 900 BCE, and it offers the prospect of forging a consensus regarding the cultural and chronological periodization of the broader Iron Age Northern Levant and Southeast Anatolia.

KEYWORDS: Syria-Anatolia, Neo-Hittites, Aramaeans, Northern Levant, North Orontes Valley, Land of Palastin/Walastin, Patin/Unqi, Tell Tayinat (ancient Kunulua), Amuq Sequence, Iron Age chronology, Red-Slipped Burnished Ware (RSBW)

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1. Introduction

In the aftermath of the collapse of the expansive territorial states of the Bronze Age ancient Near East, it has become well-established that the Eastern Mediterranean world that emerged in the early centuries of the new millennium comprised a diverse assortment of diminutive states, variously described as forming a "patchwork" or "mosaic" of often ethnically-defined polities across the fragmented Levantine landscape. As Porter (2016: 373-376) has observed in a recent synthesis, this scholarship, while voluminous and impressive, has nevertheless managed unhelpfully to reinforce this fragmentation, or "balkanization" (to use his term), driven by the highly charged geopolitics and nationalism of the modern Middle East, itself a tortured product of the colonial legacies that have shaped it. The consequence, by extension, and perhaps not surprisingly, has been the segmentation of Iron Age Levantine research. This has resulted in a rich diversity of intellectual perspectives and traditions, to be sure, but unfortunately very few ventures involving meaningful transnational interaction and cross-cultural comparative scholarship, despite the exceptional opportunity to achieve deeper understanding of the profound complexities that typify such small-scale societies, given the wealth of documentary and material cultural sources this scholarship has generated.

Contrastingly, Knapp and Manning (2016) have cautioned against the temptation to invoke uniform explanatory frameworks, the quest for a "grand solution" that might explain the diverse array of evidence, and instead argue for a nuanced treatment contextualized by the myriad local environments and micro-regions that comprise the highly varied Eastern Mediterranean landscape, anchored to a robust absolute chronology calibrated ideally to at least a decadal resolution. Certainly, the development of such "local histories" will be critical to any successful effort to achieve a deeper and more meaningful understanding of the dynamics and development of Iron Age Levantine society, and maintaining a balance or tension between these local and regional perspectives will be crucial to this effort.

The North Orontes Valley, and more specifically the Amuq Plain, played an important role in the historical and cultural developments that gave shape to the Iron Age communities of the first-millennium Northern Levant. As a uniquely sensitive bellwether to the long history of cultural and social change in the region, the archaeology of the Amuq Plain represents an exceptionally important repository of the rich cultural heritage of this region. Over the course of the Early Iron Age, Tell Tayinat transformed from a relatively small settlement

into the royal capital of a kingdom known at various times as Palastin/Walastin, Patina, and Unqi. Given its strategic location at the intersection of important communication corridors, the archaeological sequence at Tayinat also preserves a unique nexus of broader regional cultural influences. The Amuq Plain therefore represents a particularly opportune setting for developing a local history, while also investigating the competing cultural and ethnic influences that structured Iron Age Levantine society.

2. The Periodization of the Iron Age Northern Levant

The past two decades have witnessed a surge of scholarly interest in the cultural history of Iron Age Syria-Anatolia. This attention has been accompanied by a proliferation of archaeological field projects, concentrated primarily within the Orontes Valley watershed and the piedmont and steppes of southeast Anatolia and northwest Syria. Many of the excavations have been at the capitals, or royal cities, of the so-called Syro-Anatolian or Neo-Hittite kingdoms associated with this region and era, most of which (e.g., Karkamish, Halaf, Zincirli) were also the scene of large-scale excavations in the late 19th and early 20th centuries during the heyday of Western exploration and competition for colonial control of the Middle East. The consequences for the prevailing understandings of the history of this region have been profound. While it would be stating the obvious to observe that these early excavations amounted to little more than plundering expeditions, even by the standards of their time, less recognized has been the equally profound impact they have had on subsequent efforts to build chronological and periodization schemes for the material culture of this period.

The dominant icons of Iron Age Syro-Anatolian material culture are unquestionably the monumental art objects, the carved reliefs and sculptures that once lined the gates and upper elite zones, or citadels, of their royal cities. These impressive monuments understandably attracted the interest of early explorers, and thus perhaps a disproportionate amount of excavation. However, their monumentality also diverted attention from more mundane concerns about stratigraphy and the depositional development of more commonplace categories of material culture such as pottery. This "bias" was compounded by the widespread perception that these monumental constructions were largely monolithic compositions, and therefore could be dated stylistically. Consequently, rather than developing carefully constructed (and stratigraphically based) relative sequences, early efforts at

periodization focused on discrete stylistic elements evident on these monuments that could be assigned chronological significance.

Widely influential in this regard has been Orthmann's comprehensive survey of Late (or Neo-) Hittite art, Untersuchungen Zur Späthethitischen Kunst (1971), in which he constructed a three-phase chronological scheme tracing the development of the stylistic features and motifs of Neo-Hittite figural art and, by extension, the dating of the objects on which these design elements were carved. His schema (Späthethitisch I=1200–1000 BCE, Späthethitisch II=1000–850 BCE, and Späthethitisch III=850-700 BCE; see Orthmann 1971: 133-148) depended heavily on the reconstruction and dating established by the original excavators for the reliefs at Karkamish and Zincirli, and assumed a largely linear chronological progression of stylistic features. While the broad stylistic trends he observed have generally held up, many of the site-specific sequences he proposed have not. The renewed investigations of the University of Chicago's Neubauer Expedition at Zincirli, for example, have yet to produce any evidence of Iron Age occupation at the site prior to the very end of the 10th/early 9th centuries BCE (see Herrmann 2017: 243-245), despite Orthmann's stylistic dating of the earliest reliefs at Zincirli, the so-called South Gate orthostats (Orthmann's Zincirli I), to the 11th century (Orthmann 1971: 133–136, 148). Herrmann (2017: 245–265) has proposed that the South Gate orthostats may have been recycled from the earlier, nearby site of Pancarlı, in light of their similarity to stylistic parallels from other 10th-century contexts. This practice has also been proposed for other sites, such as Karatepe, where a heated debate regarding the dating of its reliefs has had a direct bearing on the dating of the accompanying bilingual inscriptions of this important Neo-Hittite site (see Harrison 2009). In short, the modern excavations at Neo-Hittite sites have repeatedly demonstrated the profoundly complex compositional and stratigraphic histories of their monumental remains, while undermining their reliability as sensitive chronological indicators.

Despite even early questions about its reliability (see, for example, Winter 1975), Orthmann's periodization scheme has nevertheless been widely adopted by art historians, archaeologists, and historians alike, effectively embedding and reinforcing chronological associations that have since proven erroneous. Perhaps most critically, it has played an influential role in the study of Hieroglyphic Luwian, in particular Hawkins' pioneering research on Hieroglyphic Luwian paleography, culminating in his foundational *Corpus of Hieroglyphic Luwian Inscriptions* (2000). The fragments of historical information often contained in these inscriptions (e.g., the names of rulers or references to political events or campaigns) have

only tended to exacerbate a persistent tendency toward circular reasoning in the study of the Iron Age Northern Levant. The date of a context is established by a "historical" reference (or a linguistic or grammatical marker) in an inscription, which help to confirm the dating of the stylistic features of the associated relief and are then subsequently used to confirm, or justify, the dating of that particular linguistic or grammatical marker in inscriptions recovered in other contexts.

Orthmann's art historical approach has had a particularly adverse effect on the development of stratigraphically-based archaeological – that is to say, mundane material cultural – sequences for the Iron Age Northern Levant. Early attempts that preceded Orthmann's study have included the so-called "Amuq Sequence" developed by the University of Chicago's Syrian-Hittite Expedition in the 1930s (Braidwood and Braidwood 1960), though the Iron Age part of the sequence still remains largely unpublished some eighty years later (see further below), and the Hama sequence excavated by a Danish team supported by the Carlsberg Foundation, also conducted in the 1930s (for the Iron Age remains, see Riis 1948; Fugmann 1958; Riis and Buhl 1990). The results of subsequent excavations nevertheless have been analyzed consistently within chronological frameworks anchored by the dating of their associated reliefs and other monumental remains, or occasionally the presence/absence of distinctive non-local "imported" wares, rather than based on local internal sequences. Such was the state of the field, even as recently as the year 2000, that Mazzoni (2000a: 1048) could observe, "Largely incomplete site phasings are, in fact, limited to Ras Ibn Hani, Hama (F), Tell Sukas and the still unpublished important 'Amuq sites, a fact which has so far prevented the creation of a chronological framework based on pottery and other artifactual sequences," while cautioning that the available evidence suggested a different "general picture" from that provided by these monuments. She nevertheless continued largely to accept Orthmann's dating of the Neo-Hittite sculptural reliefs, in particular the Karkamish and Zincirli reliefs but also his early dating of the 'Ain Dara temple sculptures (Mazzoni 2000a: 1043–1048; see also Table 1; cf. Orthmann 1993).

The excavations at Tell Afis, directed by Mazzoni, have marked a key turning point in the effort to develop a stratigraphically-based periodization of the Iron Age Northern Levant. They have resulted in the first extensive treatment of the Iron Age ceramic record for the region since Swift's preliminary study, a doctoral dissertation (1958), of the Iron Age pottery from the Syrian-Hittite Expedition's excavations in the Amuq (major reports of the Afis sequence have included Mazzoni 1992; Cecchini and Mazzoni 1998; Venturi 2007), and the Afis sequence

forms an important component of the periodization scheme Mazzoni (1997; 2000a; 2000b; 2000c) has since proposed, though she continued to rely heavily on the sculptural record for comparative chronological perspective (Mazzoni 2000b; see Tables 1 and 2). The Iron Age I (=Amuq N; see below) was subdivided into three phases (Iron Age IA [1200/1150–1050 BCE], Iron Age IB [1050–950 BCE], and Iron Age IC [950–900 BCE]), and the Iron Age II/III (=Amuq O; see below) was subdivided into three phases as well (Iron Age IIA [900–750? BCE], Iron Age IIB [750–700 BCE], and Iron Age III [700–600/650 BCE]).

Critically for the purposes of this paper, the all-important Iron Age I–II transition was linked to the widespread occurrence and distribution of Red-Slipped Burnished Ware (RSBW), and this transition was dated to the end of the 10th/ beginning of the 9th centuries BCE or, in absolute terms, to 900 BCE. However, it is important to emphasize that this date was not linked, or based, on any known historical event or absolute dating criteria. Indeed, Mazzoni (2000b: 41) acknowledges, "In the present state, there is no reliable archaeological evidence enabling us to fix the passage from Iron Age I to Iron Age II" (emphasis mine). She continues, "The creation of a viable chronological framework grounded on a comparative stratigraphy for this period is still tentative, being based on a number of correlations, mostly related to pottery typology, with external sites and only a few local sequences, which far from being complete for the Iron Age I-II phases, present various voids and gaps" (Mazzoni 2000b: 41). Despite this uncertainty, in accepting and asserting the cultural and chronological link between the appearance of RSBW and the start of the Iron Age II Mazzoni was following a long-standing and prevailing view (see further below), though the date of its appearance in the south has been debated (see Holladay 1990; Mazar 1998), and is generally now understood to have originated considerably earlier than in the north, during the Iron Age I and possibly even as early as the 12th century BCE. In any event, subsequent discussions about the periodization of the Iron Age Northern Levant have taken the appearance of RSBW as axiomatic for the start of the Iron Age II, even if there has continued to be debate about the absolute date for this transition.

Most recently, there has been a move to lower the date for the appearance of RSBW, and by extension the transition from Iron Age I to Iron Age II (or Amuq N to O), to the second half of the 9th century BCE (see Pucci and Soldi 2019: 354–355; Pucci 2019a: 155–156, 158–160). The primary support for this is drawn from the presence/absence of imported wares, in particular the presence of Cypriot Black-on-Red (I) and Bichrome (III) Wares in early Phase O contexts

within the stratified sequences from Tell Afis (Soldi 2013; Mazzoni 2014), the Syrian-Hittite Expedition's excavations at Chatal Höyük (see further below; now fully published in a magisterial two-volume report, Pucci 2019b), and the ongoing excavations at Tell Atchana (ancient Alalakh; Montesanto and Pucci 2019: 108–116; see also Montesanto 2018). Despite these correlations, however, it is important to note that RSBW in fact is reported in earlier contexts at these sites, albeit in low quantities. At Chatal Höyük, for example, it accounts for 2.2% of the diagnostic assemblage in the late Iron Age I and also occurs in earlier Iron Age I contexts (Pucci and Soldi 2019: 354; though see Pucci 2019a: 149 and Fig. 2, where it accounts for 3% of the Phase N assemblage). Morphologically and technologically, this Iron Age I material is clearly part of a RSBW tradition that continues unabated into the Iron Age II.

3. The Tayinat Sequence

3.1. The Syrian-Hittite Expedition

The University of Chicago's Oriental Institute conducted extensive archaeological excavations in the Amuq Plain (the classical Plain of Antioch) in the North Orontes Valley (Hatay Province, Turkey) between 1935 and 1938, as part of the Syrian-Hittite Expedition's pioneering investigations of Anatolian Bronze and Iron Age Hittite cultural history. The Syrian-Hittite Expedition's investigations included a series of deep soundings and step-trenches at the three key sites of Chatal Höyük, Judaidah, and Tayinat (see Fig. 1; limited soundings were also conducted at Tell Kurdu and Tell Dhahab) with the aim of creating a tightly constructed, stratigraphically-based cultural sequence for the region, the so-called "Amuq Sequence," spanning the Ceramic Neolithic through the Modern era (Amuq Phases A–V). These targeted excavations were combined with large horizontal exposures of the Iron Age levels at the three sites. The Syrian-Hittite Expedition team produced two monograph-length reports of their Amuq investigations: the first presents the Amuq Sequence through the end of the Early Bronze Age (Braidwood and Braidwood 1960), and the second provides a summary of the principal post-Early Bronze Age architectural phases excavated at the three sites (Haines 1971). The Expedition also published a report of the results of a regional site survey (Braidwood 1937). Despite the extent and importance of the Iron Age remains, as noted, with the exception of Swift's dissertation (1958), they have otherwise remained unpublished until very recently.

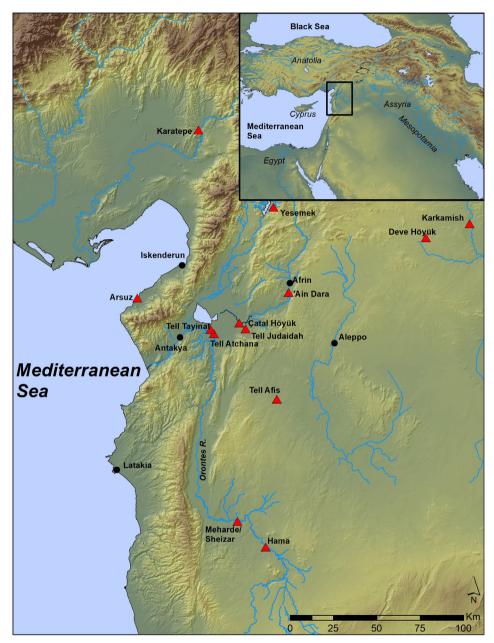


Fig. 1. Map of the Northern Levant showing the location of Tell Tayinat and other Iron Age sites mentioned in the text (created by S. Batiuk).

The Tayinat excavations were focused primarily on the site's upper mound in an area referred to as the West Central Area (see Fig. 2), and they achieved horizontal exposures of a series of large buildings, most prominently including

structures identified as *Bit Hilani* palaces. In all, the excavators delineated five discrete architectural phases, which they labeled Building Periods, dating to the Iron Age II–III, or their Amuq Phase O (Haines 1971: 64–66). A series of isolated soundings below the earliest Phase O floors produced traces of Phase N (i.e., Iron Age I) material, and then earlier remains dating to the third millennium BCE (primarily Phases I–J, but also H) (Braidwood and Braidwood 1960: 13–14), indicating a lengthy abandonment during the Middle and Late Bronze Ages, corresponding to the period of the ascendency of nearby Tell Atchana (ancient Alalakh).

The First Building Period remains included two large buildings (Buildings XIII and XIV) apparently arranged around an open courtyard. The northern of the two structures, Building XIII, preserved the distinctive plan of a *Bit Hilani*, while the plan of Building XIV was less clear but measured approximately 100 m (N-S) \times 50 m (E-S), a truly enormous structure. None of Building XIV's superstructure or floors were found, however, and only its foundations appear to have been preserved (Haines 1971: 38–40, 64). The excavators dated the First Building Period to ca. 875–825 BCE, based primarily on fragments of Hieroglyphic Luwian inscriptions, some of which were reportedly found under the floor of Building II and the glacis on the east side of Building I (see below; Haines 1971: 66; cf. Gelb 1939: 39).

Buildings XIII and XIV were leveled during the Second Building Period and an entirely new complex of buildings erected in their place, including the most famous of Tayinat's *Bit Hilani* palaces, Building I, with its adjacent *Megaron*-style temple (Building II). Building I, along with a northern annex (Building VI) and a second *Bit Hilani* (Building IV), faced on to a paved central courtyard (Courtyard VIII). A paved street linked this courtyard to a large gate to the southwest (Gateway XII), which provided access to this elite upper mound area, or citadel. A second gate (Gateway VII) on the eastern edge of the upper mound and two gates in the lower city (Gateways III and XI) were also assigned to this building phase (Haines 1971: 64–65). The Second Building Period was dated to the late 9th through early 8th centuries BCE (Haines 1971: 66).

Renovations to the buildings in the West Central Area accounted for most of the activity assigned by the excavators to the Third Building Period. A large Neo-Assyrian Governor's Residence (Building IX; see Harrison 2005) was also constructed on the knoll at the southern end of the upper mound during this phase, which was dated ca. 720–680 BCE (Haines 1971: 65–66). The *Bit Hilani* courtyard complex in the West Central Area continued in use during the Fourth Building Period, with some renovation, but the temple (Building II) was apparently

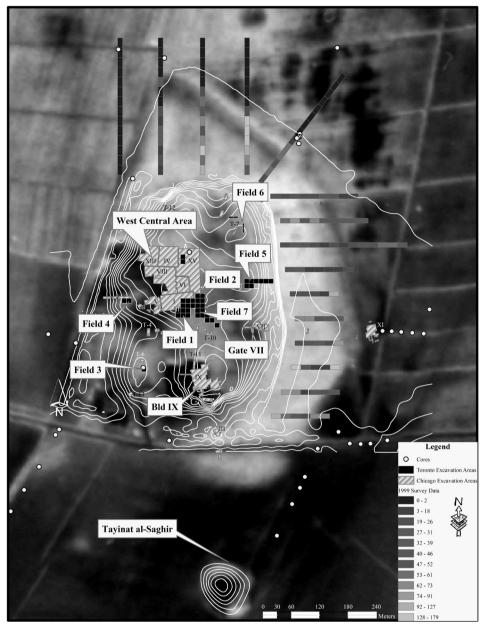


Fig. 2. Contour map of Tell Tayinat overlaid on a CORONA satellite photograph of the site (DS1112-2203DA039) showing the Syrian-Hittite Expedition and Tayinat Archaeological Project (TAP) excavation areas (created by S. Batiuk).

abandoned. The fragmentary remains of a series of structures preserved on the highest parts of the upper mound were assigned to the final, Fifth Building Period. The Fourth and Fifth Building Periods were dated to the 7th and 6th centuries BCE (Haines 1971: 65-66).

As I have noted, until recently a doctoral dissertation (Swift 1958) has provided the only study of the pottery of the second and first millennia (Phases K through O) produced by the Syrian-Hittite Expedition's excavations. Drawing on the artifactual record recovered from the Iron Age levels at Chatal Höyük, Judaidah and Tayinat, Swift proposed a four-phase sequence for the Iron Age II (Amuq Phase O), which he labeled Stages Oa–Od, with ceramic imports and key historical events providing his chronological framework. In contrast to the Late Bronze–Early Iron Age (Phases M and N) transition, Swift maintained that the Iron Age I–II (Phases N to O) transition was a smooth one, without any evident stratigraphic break at sites that produced material from both phases.

Swift nevertheless noted that RSBW represented a significant new ceramic tradition that was introduced with the start of Phase O, and thus served as the principal criterion for marking the start of the Iron Age II. While Common Painted and Simple Wares continued (with some modification) from Phase N, in his analysis, the appearance of RSBW coincided with the earliest levels of Phase O, making it the primary marker for the start of the phase (Swift 1958: 124–126). Swift also maintained that changes in the surface treatment of RSBW were evident with each sub-phase (or stage) of Phase O. Hand burnishing occurred exclusively in Stage Oa (ca. 950–900 BCE), with wheel burnishing introduced alongside it in Stage Ob (ca. 900–800 BCE) and then eclipsing it as the predominant surface treatment in Stages Oc (ca. 800–725 BCE) and Od (ca. 725–550 BCE) (Swift 1958: 139–141; see also 198–199, Table 11). According to Swift (1958: 154–155), 8th-century Attic Geometric pottery was recovered from Stage Oc levels, and Corinthian and Attic Black Figure Wares, along with Assyrian Palace Ware, were found exclusively in Stage Od.

It is also important to note that Swift understood the start of Phase O to date to the mid-10th century, or specifically 950 BCE (interestingly, the stratigraphic chart in the Haines report dates Phase O to 1000–500 BCE, though without explanation; see Haines 1971: 2). This date was established primarily by the presence of a number of "datable objects" and the presence/absence of distinctive imported pottery, including Cypriot Black-on-Red Ware, which first occurs in Stage Ob (Swift 1958: 124, 156–161; see also Table 11). Swift nevertheless recognized that this reliance on foreign material was less than ideal, and he thus maintained that his chronological observations should be considered provisional until the ceramic traditions local to the Amuq were studied and published in full. He states, "When the evidence of the 'Amuq sites is fully published, its value will consist, in part, of having a full series of native wares, which can be related to Palestine and the

rest of Syria, in combination with a richer complement of foreign wares than has been found in most other excavations" (Swift 1958: 157).

Somewhat surprisingly, Swift's stages were not reconciled with the Building Period sequence presented in the later Haines report, despite the apparent overlap between the First and Second Building Periods and Swift's Stages Ob and Oc, and the Third through Fifth Building Periods with Swift's broadly defined Stage Od. Most intriguing, however, is Swift's initial Stage Oa, which appears to signal a 10th-century RSBW phase that predates the First Building Period horizon.

3.2. The Tayinat Archaeological Project (TAP) Excavations

The University of Toronto's Tayinat Archaeological Project (TAP) launched its investigations at Tell Tayinat in 1999, conducting an extensive topographic survey and surface collection (Batiuk et al. 2005) before initiating renewed excavations at the site in 2004, which have continued on a near-annual basis since then (yearly reports have appeared in the *Kazı Sonuçları Toplantısı* series; for more lengthy preliminary reports of the Iron Age remains, see Denel and Harrison 2017; Osborne et al. 2019; Welton et al. 2019). The TAP excavations to date have been confined entirely to Tayinat's upper mound, and primarily in the vicinity of the Syrian-Hittite Expedition's West Central Area, where the principal Iron Age remains have been uncovered (specifically, in Fields 1, 2, and 7; see Fig. 2).

Field 1

The Field 1 excavations (Fig. 2) have produced the most complete Iron Age I sequence excavated to date at Tayinat. This material has been described in detail elsewhere (see Harrison 2013; Welton 2019; Welton et al. 2019), and will only be summarized briefly here. The Field 1 excavations thus far have delineated nine superimposed Field Phases (FPs), with the primary sequence dating to the 12th–early 10th centuries BCE, or the Iron Age I (FPs 6–3), and the late third millennium BCE, or EB IVB (FPs 9–7). The earliest Iron Age remains are represented by three sub-phases of FP 6 (FP6c, b and a, in chronological order) and lie directly on top of the levels dating to the late third millennium BCE (Amuq Phase J; for preliminary reports of these excavations, see Welton 2011; 2014a; Welton et al. 2011). FP 6 preserves a number of large storage "silos" with numerous smaller pits interspersed between them, and some fragmentary architectural remains (particularly in FP 6b). The FP 5–3 remains were limited primarily to the northern

two squares (G4.55 and G4.56) in Field 1, as a result of later Iron Age II activity, in particular the construction of Building II. The FP 5b and FP 5a architecture consisted primarily of isolated mudbrick walls, storage bins or silos, and surfaces. FP 5 was sealed by a more substantial construction layer (FP 4), which contained the best-preserved architectural remains in the Iron Age I sequence, including a well-preserved rectilinear structure excavated in the western part of Square G4.56. FP 3, the final phase in the Field 1 Iron Age I sequence, was represented primarily by substantial pitting activity. No walls or other free-standing structures were assigned to this phase (Welton et al. 2019: 296–300).

As noted above, the foundations of Building II cut deeply into these early Iron Age remains, demolishing whatever intervening cultural strata might have once existed, including any remains that might have dated to the late Iron Age I (Iron Age IC). The superstructure and substructure of this building, assigned to FP 2a/b, were dated to the Iron Age II based on the associated pottery, which included quantities of RSBW. FP 2 has been divided into four sub-phases (FP 2a-2d), with the earliest of these sub-phases, FP 2c-d, predating the construction of Building II. In Field 1, FP 2d is represented by a pebble- and sherd-paved surface that passes through the two southernmost squares of Field 1 (G4.65 and G4.66). This feature may represent a street that once linked Gateway VII, uncovered by the Syrian-Hittite Expedition on the east slope of the upper mound, with Gateway XII (or Area V; see Fig. 2) further to the west of Field 1 (cf. Haines 1971: 55–57). A deep cut in the southern part of Square G4.65, approximately 6 m south of the stone-paved "street," may represent a second feature that should be assigned to FP 2d. It cuts deeply into the Early Bronze Age strata in this area, and although excavations did not locate its bottom, it possibly formed part of a moat or ditch to the south of the citadel area during this earliest phase of the Iron Age II (Osborne et al. 2019: 271–273; Welton et al. 2019: 300).

Field 2

The best-preserved late Iron Age I/early Iron Age II remains have been excavated in the western squares in Field 2 (Fig. 2; for a more thorough presentation of this material, see Osborne et al. 2019: 275–277). The cell-like rooms of a single monumental mudbrick structure, with walls averaging 3 m in width, were uncovered. No traces of the remains of an overlying palatial structure (i.e., Building I) were recovered, and it is clear that this enormous structure formed the southeast corner of the Syrian-Hittite Expedition's Building XIV, identified within TAP's internal

stratigraphic sequence for Field 2 as FP 4 (Osborne et al. 2019: 275; see also Fig. 10 and Table 3). Two deep probes along Field 2's western balk indicated the depths of the walls of Building XIV, which measured between 3 m and 3.65 m, and also revealed that the bottoms of these walls cut into earlier mudbrick structures, primarily late Iron Age I in date, while their foundation trenches were packed tightly with brick material. No doorways were found between any of the interior cell-like spaces, nor were there any intact surfaces, confirming the results of the 1930s excavations and the interpretation that the structure formed the foundations of Building XIV.

Significantly, the TAP excavations of these interior spaces revealed "islands" of intact remains that stratigraphically predated the foundations of Building XIV, including one well-preserved wall fragment with an associated floor that had been left *in situ* during the construction of the Building XIV foundation walls that surrounded it (similar remains were attested in the 1930s excavations of Building XIV; cf. Haines 1971: 41). These features were assigned to Field 2's FP 5 and the associated pottery identified as late Iron Age I or transitional Iron Age I–II in date (Osborne et al. 2019: 275 and Table 3; see also the schematic section in Fig. 12).

Excavations to the east of the eastern outer wall of Building XIV revealed the remains of a well-preserved cobblestone pavement that in turn sealed a densely packed sherd-strewn surface, comprised predominantly of RSBW pottery. This stone pavement is the same exterior surface discovered by the Syrian-Hittite Expedition to the east of Building I (cf. Haines 1971: Pls. 74A, 103). Unfortunately, their excavations cut a wide trench along the exterior face of this eastern wall and in doing so removed any stratigraphic connections that might have existed between these surfaces and the outer wall of the building. The pottery recovered from the fill above the cobblestone pavement closely resembles the ceramic assemblage of the late 9th–early 7th centuries produced by the excavations of the Syrian-Hittite Expedition in the West Central Area (Osborne et al. 2019: 283–286; cf. Osborne forthcoming).

The absence of intact surfaces and occupational debris that can be associated directly with Building XIV complicates its relative dating. Nevertheless, fill layers that were found in a number of the interior spaces of the building display a relatively homogeneous assemblage that appears to date to the late Iron Age I or early Iron Age II, based primarily on the presence of small amounts of RSBW pottery (Osborne et al. 2019: 277 and Fig. 13). As we have seen, Swift assumed that the appearance of RSBW marked the beginning of the Iron Age II (i.e.,

Amuq Phase O), with thick platters with squared-rim profiles whose red slip is more of a purplish wash and whose burnishing is either performed by hand or inconsistently executed on the wheel, representing the first phase (his Stage oa) in its development (Swift 1958: 139–141). The platters recovered from the fill contexts in Building XIV belong to this first phase (see Osborne et al. 2019: 277 and Figs. 13:1–6). Ceramic parallels at other Northern Levantine sites include Tell Afis D Level 6 (Mazzoni 1987: Fig. 21: 25), Abou Danné IId (Lebeau 1983: Pl. VI:3–6), and 'Ain Dara Phase XIII (Stone and Zimansky 1999: Fig. 74:2). Other forms recovered from the Building XIV fills continue into the Iron Age II and III, including carinated RSBW bowls (Osborne et al. 2019: Fig. 13:7), holemouth (Osborne et al. 2019: Fig. 13:10) and shell-tempered (Osborne et al. 2019: Fig. 13:11) cooking pots, and a small number of Cypro-Geometric imports with white slip and black or bichrome painted bands (Osborne et al. 2019: Figs. 13:15).

4. The Radiocarbon Evidence

In contrast to the southern Levant, where radiocarbon evidence has contributed increasingly to core issues of Iron Age chronology and there has been a concerted effort to develop a large dataset of chronometric evidence (cf. Levy et al. 2005; further references in Manning et al. 2020), the radiocarbon data available for the Northern Levant remains remarkably scarce (Knapp and Manning 2016). This has inhibited the development of robust local sequences that avoid the problematic tendency toward circular reasoning that has bedeviled the creation of a northern regional chronological framework. TAP has embarked on an extensive program of radiocarbon dating that seeks to build such a robust local sequence for Iron Age (and Bronze Age) Tayinat while also contributing to the development of a broader regional chronology. The development of such a sequence at Tayinat seems particularly appropriate, given its role in providing one of the original carbon samples in the "curve of knowns" Libby (1961) used to establish the radiocarbon dating method. A total of 49 carbon samples have been analyzed to date. Of these, 39 were drawn from secure stratigraphic contexts dated by their associated material culture to the Iron Age, and they have provided a refined absolute timeframe for the Early Iron Age at Tayinat, independent of cultural and historical assumptions, from the 12th through mid-8th centuries BCE (Manning et al. 2020).

The dates calculated for the Iron Age I are consistent with the relative sequence constructed based on the Tayinat ceramic assemblage, notably including the Aegeanizing ceramics of the Late Helladic (LH) IIIC tradition, and delineate four

discrete phases (see Table 1; see further in Welton 2019; Welton et al. 2019: 322-324). The first phase (FP 6c), which largely precedes the widespread appearance of Aegeanizing LH IIIC-style ceramics at the site, begins in the 12th century BCE. The second phase (FP 6b) dates to the late 12th-early 11th centuries BCE and coincides with an increasing presence of Aegeanizing influences, which then proliferate in the 11th century BCE, during the third phase (FPs 6a-5). LH IIICstyle ceramics then decline in frequency to the late 11th century to the mid-10th century BCE, which corresponds to the fourth phase (FPs 4-3, 2 Early). These dates are consistent with conventional chronologies and do not support the recent suggestion (Wardle et al. 2014) for a much earlier (or "higher") date for the end of the Late Bronze Age (and the LH IIIB to LH IIIC transition). The appearance and development of the LH IIIC tradition at Tayinat is also in keeping with the results of other recent ¹⁴C analyses in the Aegean and East Mediterranean (Manning et al. 2020; cf. Weninger and Jung 2009; Toffolo et al. 2013; Toffolo et al. 2014; Manning et al. 2017). The fourth phase, and more specifically FP 3, which dates to the early to mid-10th century BCE, also marks the earliest occurrence of RSBW in more than trace amounts in the Field 1 sequence, though it only accounts for <1% of the diagnostic assemblage (for a more thorough presentation of this ceramic evidence, see Welton 2014b).

As we have seen, the stratigraphic position of the foundations of Building XIV situates this complex in a narrow date range corresponding to the late 10th-early 9th centuries BCE. The results of the radiocarbon analysis now permit a refinement of this date to the mid-late 10th century BCE, or Tayinat Phase 2 Middle A(1) (see Table 1) and, critically, chronologically link the construction of this First Building Period complex to the stone-paved street and ditch in Field 1, as well as the material assemblages associated with these two contexts, including the presence of RSBW in limited quantities. RSBW accounted for approximately 5% of the diagnostic assemblage from the contexts cut by the foundations of Building XIV and 9% of that from the "street" context in Field 1 (Welton 2014b). The ceramic assemblage for this phase (specifically, both Phases 2 Middle A(1) and 2 Middle A(2); see Table 1) is dominated by Plain Wares, suggesting a date between Phases 2 Middle A and 2 Middle B (ca. 900 BCE) for the Iron Age I-II transition. The carbon samples analyzed to date that postdate the Iron Age I–II transition at the site all originate from the Iron Age II occupation at Tayinat, starting with Phase 2 Middle B and ending in Phase 2 Late 2 (see Table 1), and are beyond the scope of this paper (see further in Manning et al. 2020).

Table 1. Suggested correlations between Tayinat phases, absolute dates as reconstructed by Bayesian modeling, rulers attested in historical sources, and conventional Northern Levantine Iron Age periodization (created by L. Welton; adapted from Manning et al. 2020).

Absolute dates (BCE)	Tayinat phases	Historically attested kings (after Weeden 2013)	Iron Age periodization (after Mazzoni 2000b and c)
Early 12th century Mid-12th century	6c		Iron Age IA
Late 12th century	6b		
Early 11th century Mid-11th century Late 11th century	6a 5b 5a	Taita I	Iron Age IB
Early 10th century Mid-10th century	4 3 2 Early	Taita II Manana	Iron Age IC
Late 10th century	2 Middle A(1), BP1 2 Middle A(2)	Suppiluliuma I Halparuntiya I	Iron Age I–II transition
Early 9th century Mid-9th century	2 Middle B	Lubarna I? Suppiluliuma II (Sapalulme) Qalparunda II	Iron Age IIA
Late 9th century	2 Late 1	Lubarna II, Surri/Sasi	
Early 8th century Mid-8th century	2 Late 2		Iron Age IIB
Late 8th century	1 (not dated)	Assyrian conquest (738 BCE)	Iron Age III

5. Historical Considerations

The Tayinat radiocarbon evidence and chronology also allow for comparison with historical figures known from the epigraphic record (see Table 1). The ALEPPO 6 and 7 inscriptions of King Taita, hero and ruler of Palastin, have been dated to the 11th century BCE on the basis of their paleography and iconography (Hawkins 2009; 2011). The currently proposed chronological scheme would link this ruler to the third phase of the Iron Age I, or FPs 6a–5. A putative second Taita, proposed on the basis of the MEHARDE and SHEIZAR inscriptions, has been attributed on similar grounds to the (early?) 10th century BCE (Hawkins 2011: 51–53). This ruler would thus most likely be associated with the final, fourth phase of the Iron Age I in Field 1, or specifically FPs 4–3. As such, contrary to earlier assumptions,

the reigns of these rulers likely preceded the monumental constructions of the First Building Period (Buildings XIII and XIV). This building period, as we have seen, is dated to the mid- to late 10th century BCE on the basis of the stratigraphic context and the associated radiocarbon evidence, and has been designated Phase 2 Middle A(1) (Manning et al. 2020). Any potential monumental constructions associated with the reigns of these earlier 10th-century rulers remain to be discovered.

The Syrian-Hittite Expedition's excavations also produced an impressive epigraphic record, mostly Late Assyrian cuneiform documents later in date than of concern here. However, their excavations also produced numerous fragments of Hieroglyphic Luwian monuments, virtually all from uncertain stratigraphic contexts. The most complete of these inscriptions, TELL TAYINAT 1, formed part of a colossal seated figure that was uncovered at the end of the 1936 season in Courtyard VIII in the West Central Area (Fig. 2). Despite its uncertain stratigraphic provenance, there have been numerous attempts to assign this monument to Building XIV and the First Building Period (see, for example, Galil 2014: 86). The style of the inscription is nevertheless comparable to that of the Suhi-Katuwa inscriptions at Karkamish (10th to early 9th centuries BCE) and, intriguingly, it makes reference to a "Walastinean" person, though the name or title of this person is not preserved (Hawkins 2000: 366). An associated fragment, which unfortunately does not join, preserves the name Halparuntiya, most likely an earlier, local version of the name later encountered in Assyrian texts as Qalparunda (Hawkins 2000: 366; cf. Grayson 1996: A.o.102.60 and A.o.102.91; Weeden 2013: 12). A second monumental inscription from the early excavations, TELL TAYINAT 2, also fragmentary and of unclear provenance, apparently dates to the 8th century BCE in view of certain sign-forms and spelling conventions (Hawkins 2000: 367–375), and therefore relates to later Iron Age II contexts.

In 2012, the remains of a large colossal statue were discovered during the TAP excavations. The newly discovered statue is a larger than life-size representation of a male figure, identified as Suppiluliuma by a Hieroglyphic Luwian inscription carved on its back. The statue was recovered from what appears to have been a monumental gate complex (designated Building XVII) located in Field 7 (see Fig. 2), which would have provided access to the citadel, and joins a growing number of monumental sculptures that have been uncovered in this area of the site. The Field 7 excavations are ongoing, and the analysis completed thus far is therefore provisional (for a preliminary report, see Denel and Harrison 2017). A number of stratigraphic observations, nevertheless, are possible. Although the Iron Age

remains were heavily disturbed by post-occupational pitting and quarrying activity, the TAP excavations have delineated a series of pits that the sculptures were depositedinto, which cut through stratigraphically earlier occupational layers containing Iron Age II pottery, including RSBW. The Field 7 excavations have also uncovered a series of tightly packed stone pavements that appear to have been part of a street that ascended northward toward the pavement associated with Building XVI in Field 2 (see earlier), effectively replacing and sealing the Building XVII gate complex in the process. Although the date of these pavements has yet to be firmly established, due to their disturbed contexts, they were likely constructed as part of the Neo-Assyrian renovations to the upper mound in the late 8th or early 7th century BCE, providing a *terminus ante quem* for the construction and use phases of the Building XVII complex and its associated monuments.

The inscription on the back of the statue, designated TELL TAYINAT 4, consists of three lines inscribed in high relief between the figure's arms (for a thorough treatment of this inscription, see Harrison et al. in preparation). It is clear from its content that the inscription did not start on the statue's back and therefore must have continued from another part of the monument. The preserved text alludes to a conflict in which Suppiluliuma, presumably the figure represented by the statue, conducted successful campaigns against an unnamed enemy, involving the confiscation of eight lands and the erection of a carved border monument or monuments. The final line is obscure, but it appears to mention a stele dedicated to Suppiluliuma's father, as well as actions regarding another one hundred cities, including one that is named, though as yet undeciphered.

TELL TAYINAT 4 has been dated to the early 9th century BCE on the basis of its sign-forms, writing, and orthography, later in date than ARSUZ 1 and 2 and likely also later than the MEHARDE and SHEIZAR inscriptions (see further in Harrison et al. forthcoming). This coincides with the dating that would be required if the Suppiluliuma of this inscription were in fact also the Sapalulme the Patinean encountered by Shalmaneser III in 858 BCE, though the Tayinat inscription is likely to have been carved earlier in the century. The recently published PANCARLI inscription from near Zincirli in the Islahiye Valley, which has been dated to the 10th or early 9th century BCE (Herrmann et al. 2016), also bears a number of orthographic similarities to the Tayinat inscription.

Several additional basalt fragments containing parts of hieroglyphic inscriptions were excavated in the vicinity of the statue, most of them found during preceding field seasons, and it remains unclear how many of these might have belonged to the statue. One of these fragments includes reference to a "Walastin-

ean," presumably a king, and therefore would appear to belong to the Suppiluliuma statue (Weeden 2015). If so, this fragment would confirm Suppiluliuma as a ruler of Walastin/Patin.

TELL TAYINAT 4 is not the only Hieroglyphic Luwian inscription to make reference to a Suppiluliuma associated with the Kingdom of Walastin. The ARSUZ stelae found near the bay of Iskenderun are authored by a King Suppiluliuma the Walastinean who, we are informed, was engaged in a conflict with Adana in Cilicia. The ARSUZ stelae have been dated on paleographic and orthographic grounds to the 10th century BCE (Dinçol et al. 2015: 60-63), and there are also a number of historical considerations that render this Suppiluliuma almost certainly an earlier ruler than the king represented by the Tayinat statue (see further in Weeden 2013: 12, 15–16). The distinction between a first Suppiluliuma (I) of Walastin, who is not attested in Neo-Assyrian sources, and a second Suppiluliuma (II), who was responsible for the Tayinat statue and is represented in Neo-Assyrian accounts as a Patinean king of Unqi, seems to fit the historical evidence well. However, this historical reconstruction is not without its problems, notably the fact that Sapalulme is mentioned in the Neo-Assyrian sources only in 858 BCE, while in the previous year (859 BCE) the Patinean ruler is named Lubarna and in the following year (857 BCE) the ruler is Qalparunda, suggesting an exceptionally short reign for a ruler of Suppiluliuma's apparent political prominence (for a more thorough discussion of the various historical possibilities, see Harrison et al. forthcoming). These historical questions notwithstanding, the existing archaeological and epigraphic evidence converges in favor of an early to mid-9th century BCE date for the production and display of the Suppiluliuma statue, while likely corresponding with the time of Phase 2 Middle B in the stratigraphic and chronological sequence (Manning et al. 2020; see Table 1). This would also place the earlier Suppiluliuma (I) more or less contemporary with the construction of the monumental buildings of the First Building Period in the mid- to late 10th century BCE (or Phase 2 Middle A(1) and 2 Middle A(2); cf. Manning et al. 2020; see Table 1).

6. Summary Observations

Considerable effort remains to fully excavate and delineate the Early Iron Age sequence at Tayinat and in the broader Northern Levant, including the critical transition from the Iron Age I to the Iron Age II. Nevertheless, a number of important observations are now possible in light of the results of the ongoing

investigations at Tayinat presented here. As has long been recognized, the Iron Age I–II transition cannot be linked to a decisive historical event, nor is there any unambiguous evidence in the archaeological record of cultural discontinuity, a discernible break in the material cultural record, that might signal a broader cultural and historical transition. The overwhelming evidence is of cultural and political continuity and a gradual transition, with the precise chronological sequence varying locally from site to site and region to region.

Nevertheless, there are discernible indicators that a culturally and historically meaningful transition can be dated to the end of the 10th century, or approximately 900 BCE. As we have seen, the appearance of RSBW has been the one material cultural artifact that has drawn consistent attention as a potential marker of the Iron Age I–II transition, even if there has been considerable divergence on the date of its appearance in the Northern Levant, which has ranged from the mid-10th century to the mid- to late 9th century BCE. However, as careful analysis of the Tayinat sequence, delineated across multiple excavation contexts, has now shown, RSBW unequivocally makes its first appearance in the Iron Age I, even if initially only in small quantities, a development Swift anticipated with his initial Stage Oa phase (1958: 139–141). The Tayinat experience is also not unique, as the recently published Chatal Höyük sequence has now made clear. In short, the *appearance* of RSBW is not in itself a reliable indicator of the Iron Age I–II transition.

However, when combined with multiple other lines of evidence, both archaeological and historical, a clearer picture emerges. As we have seen at Tayinat, the stratigraphic position of the foundations of Building XIV situate this complex in a narrow date range corresponding to the late 10th-early 9th centuries BCE, and the results of the radiocarbon analysis now permit a refinement of this date to the midto late 10th century BCE, or Tayinat Phase 2 Middle A1 (see Table 1). Moreover, this links the construction of the First Building Period complex chronologically to the stone-paved street and ditch in Field 1, as well as the material assemblages associated with these two contexts – specifically, both phases 2 Middle A(1) and 2 Middle A(2) – which include the dominant presence of Plain Wares and RSBW in limited quantities (see Table 1). When combined with the radiocarbon evidence, this suggests a date between Phases 2 Middle A and 2 Middle B of ca. 900 BCE, and it provides a secure cultural and chronological context for the Iron Age I–II transition, after which the presence of RSBW becomes more dominant and coincides with the appearance of imported wares such as Cypriot Black-on-Red and Bichrome pottery. While less certain, this reconstruction also fits well with the emerging historical record, potentially linking Suppiluliuma I (of the

ARSUZ Stelae) and possibly an earlier Halparuntiya (I) with the construction of the monumental buildings of the First Building Period, and Suppiluliuma II (of the TELL TAYINAT 4 inscription and statue) to the expanded building program of the Second Building Period.

The convergence of these multiple lines of evidence thus provides greater confidence that ca. 900 BCE represents a culturally and historically meaningful date for the transition from the late Iron Age I to the early Iron Age II at Tayinat, and likely also at other Iron Age settlements in the Amuq Plain and wider North Orontes Valley that would have fallen within the realm of the Kingdom of Walastin/Patin. It should perhaps not be surprising that this reconstruction agrees broadly with the periodization scheme first proposed by Mazzoni (2000b and 2000c), although we might expect significant chronological variability in the individual cultural sequences of other primary Iron Age settlements in the wider Northern Levantine region as they are refined. Indeed, it will be critical that robust local histories be constructed at each of these sites as well. Only then will a broader consensus be truly possible.

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References

Batiuk, S., Harrison, T.P., and Pavlish, L. 2005. The Tayinat Survey, 1999–2002. Pp. 171–192 in *The Amuq Valley Regional Projects,* Vol. 1: *Surveys in the Plain of Antioch and Orontes Delta, Turkey, 1995–2002*, ed. K.A. Yener. Oriental Institute Publications, No. 131. Chicago: Oriental Institute of the University of Chicago Press.

- Braidwood, R.J. 1937. *Mounds in the Plain of Antioch: An Archaeological Survey*. Oriental Institute Publications, No. 48. Chicago: University of Chicago Press.
- Braidwood, R.J., and Braidwood, L.S. 1960. *Excavations in the Plain of Antioch I: The Earlier Assemblages, Phases A–J.* Oriental Institute Publications, No. 61.

 Chicago: University of Chicago Press.
- Cecchini, S.M., and Mazzoni, S., eds. 1998. *Tell Afis (Siria): scavi sull'acropoli* 1988–1992. Pisa: Edizioni ETS.
- Denel, E., and Harrison, T.P. 2017. The Neo-Hittite Citadel Gate at Tayinat (Ancient Kunulua). Pp. 136–153 in *The Archaeology of Anatolia: Recent Discoveries* (2015–2016), Vol. 2, ed. S. Steadman and G. McMahon. Newcastle, UK: Cambridge Scholars Publishing.
- Dinçol, B., Dinçol, A., Hawkins, J.D., Peker, H., and Öztan, A. 2015. Two New Inscribed Storm-God Stelae from Arsuz (İskenderun): ARSUZ 1 and 2. *Anatolian Studies* 65: 59–77.
- Fugmann, E. 1958. *Hama: Fouilles et Recherches de la Fondation Carlsberg, 1931–1938:*L'architecture des périodes pré-hellénistiques. Copenhagen: Nationalmuseet.
- Galil, G. 2014. A Concise History of Palistin / Patin / Unqi / mq in the 11th–9th Centuries BC. Semitica 56: 75–104.
- Gelb, I.J. 1939. *Hittite Hieroglyphic Monuments*. Oriental Institute Publications, No. 45. Chicago: University of Chicago Press.
- Grayson, A.K. 1996. The Royal Inscriptions of Mesopotamia, Assyrian Periods. Vol. 3: Assyrian Rulers of the Early First Millennium BC II (858–745bc). Toronto: University of Toronto Press.
- Haines, R.C. 1971. Excavations in the Plain of Antioch II: The Structural Remains of the Later Phases. Chatal Hüyük, Tell Al-Judaidah, and Tell Taʻyinat. Oriental Institute Publications, No. 92. Chicago: University of Chicago Press.
- Harrison, T.P. 2005. The Neo-Assyrian Governor's Residence at Tell Ta'yinat. Bulletin of the Canadian Society for Mesopotamian Studies 40: 23–32.
- Harrison, T.P. 2009. Review of *Karatepe-Aslantaş Azatiwataya*. *Die Bildwerke*, by Halet Çambel and Aslı Özyar. *Journal of Near Eastern Studies* 68: 47–50.
- Harrison, T.P. 2013. Tayinat in the Early Iron Age. Pp. 61–88 in *Across the Border:* Late Bronze-Iron Age Relations Between Syria and Anatolia, ed. K.A. Yener. Ancient Near Eastern Studies, Supplement No. 44. Leuven: Peeters.
- Harrison, T.P., Denel, E., and Weeden, M. In preparation. Suppiluliuma, Ruler of Walastin.
- Hawkins, J.D. 2000. *Corpus of Hieroglyphic Luwian Inscriptions*, Vol. 1: *Inscriptions of the Iron Age*. Berlin and New York: Walter de Gruyter.

- Hawkins, J.D. 2009. Cilicia, The Amuq, and Aleppo. *Near Eastern Archaeology* 72: 164–173.
- Hawkins, J.D. 2011. The Inscriptions of the Aleppo Temple. *Anatolian Studies* 61: 35–54.
- Herrmann, V.R. 2017. Appropriation and Emulation in the Earliest Sculptures from Zincirli (Iron Age Sam'al). *American Journal of Archaeology* 121 (2): 237–274.
- Herrmann, V.R., van den Hout, T., and Beyazlar, A. 2016. A New Hieroglyphic Luwian Inscription from Pancarlı Höyük. Language and Power in Early Sam'al-Y'DY. *Journal of Near Eastern Studies* 75 (1): 53–70.
- Holladay, J.S. Jr. 1990. Red Slip, Burnish, and the Solomonic Gateway at Gezer. *Bulletin of the American Schools of Oriental Research* 277/278: 23–70.
- Knapp, A.B., and Manning, S.W. 2016. Crisis in Context: The End of the Late Bronze Age in the Eastern Mediterranean. *American Journal of Archaeology* 120 (1): 99–149.
- Lebeau, M. 1983. La céramique de l'âge du Fer II–III à Tell A bou Danné et ses rapports avec la céramique contemporaine en Syrie. Paris: Éditions Recherche sur les civilisations.
- Levy, T.E., and Higham, T., eds. 2005. *The Bible and Radiocarbon Dating: Archaeology, Text and Science*. London: Equinox.
- Libby, W.F. 1961. Radiocarbon Dating. Science 133: 621-629.
- Manning, S.W., Kearns, C., and Lorentzen, B. 2017. Dating the End of the Late Bronze Age with Radiocarbon: Some Observations, Concerns, and Revisiting the Dating of Late Cypriot IIC to IIIA. Pp. 95–110 in "Sea Peoples" Up-To-Date. New Research on Transformation in the Eastern Mediterranean in the 13th–11th Centuries BCE, ed. P.M. Fischer and T. Bürge. Vienna: Österreichischen Akademie der Wissenschaften.
- Manning, S.W., Lorentzen, B., Welton, L., Batiuk, S., and Harrison, T.P. 2020. Beyond Megadrought and Collapse in the Northern Levant: The Chronology of Tell Tayinat and Two Historical Inflection Episodes, Around 4.2ka BP, and Following 3.2ka BP. *Plos One* 15(10): e0240799. https://doi.org/10.1371/journal.pone.0240799
- Mazar, A. 1998. On the Appearance of Red Slip in the Iron Age I Period in Israel. Pp. 368–378 in *Mediterranean Peoples in Transition; Thirteenth to Early Tenth Centuries BCE*, ed. S. Gitin, A. Mazar, and E. Stern. Jerusalem: Israel Exploration Society.
- Mazzoni, S. 1987. Lo scavo dell'edificio del Settore D. *Egitto E Vicino Oriente* 10: 25–83.

- Mazzoni, S. 1997. L'arte siro-ittita nel suo contesto archeologico, Contributi e Materiali di Archeologia Orientale 7: 287–327.
- Mazzoni, S. 2000a. Crisis and Change: The Beginning of the Iron Age in Syria. Pp. 1043–1055 in *Proceedings of the First International Congress on the Archaeology of the Ancient Near East, Rome, May 18–23, 1998*, ed. P. Matthiae, A. Enea, L. Peyronel, and F. Pinnock. Rome: Università degli studi di Roma "La Sapienza".
- Mazzoni, S. 2000b. Syria and the Periodization of the Iron Age: A Cross-Cultural Perspective. Pp. 31–59 in *Essays on Syria in the Iron Age*, ed. G. Bunnens. Louvain: Peeters.
- Mazzoni, S. 2000c. Syria and the Chronology of the Iron Age. Pp. 121–137 in *Isimu:* Revista sobre Oriente Próximo y Egipto en la antigüedad 3. Madrid: Universidad Autónoma de Madrid.
- Mazzoni, S. 2014. The Archaeology of Tell Afis and the Iron Age II–III in Syria: A Reassessment. Pp. 343–390 in Tell Tuqan Excavations and Regional Perspectives. Cultural Developments in Inner Syria from the Early Bronze Age to the Persian/Hellenistic Period. Proceedings of the International Conference May 15th–17th 2013, Congedo, Galatina. Lecce.
- Mazzoni, S., ed. 1992. Tell Afis E L'età del Ferro. Pisa: Giardini.
- Montesanto, M. 2018. The Iron Age Pottery from Alalakh/Tell Atchana: A Morphological and Functional Analysis. Ph.D. dissertation, University of Liverpool.
- Montesanto, M., and Pucci, M. 2019. The Iron Age at Alalakh. *Archaeology and History in the Lebanon* 50–51: 93–135.
- Orthmann, W. 1971. *Untersuchungen zur Späthethitischen Kunst*. Saarbrucker Beitrage zur Altertumskunde, Nr. 8. Bonn: Rudolf Habelt.
- Orthmann, W. 1993. Zur Datierung des Istar-Reliefs aus Tell 'Ain Dara. *Istanbul Mitteilungen* 43: 245–251.
- Osborne, J.F. Forthcoming. The Pottery. In *The University of Chicago's Excavations* at *Tell Tayinat, Amuq Plain, Southeastern Turkey*, ed. H. Snow. Oriental Institute Publication Series. Chicago: Oriental Institute of the University of Chicago Press.
- Osborne, J.F., Harrison, T.P., Batiuk, S., Welton, L., Dessel, J.P., Denel, E., and Demirci, Ö. 2019. Urban Built Environments in Early Ist Millennium B.C.E. Syro-Anatolia: Results of the Tayinat Archaeological Project, 2004–2016. *Bulletin of the American Schools of Oriental Research* 382: 261–312.
- Porter, B.W. 2016. Assembling the Iron Age Levant: The Archaeology of Communities, Polities, and Imperial Peripheries. *Journal of Archaeological Research* 24: 373–420.

- Pucci, M. 2019a. The Iron Age Sequence in the Amuq. *Studi Micenei Ed Egeo-anatolici* N.S. 5: 147–164.
- Pucci, M. 2019b. Excavations in the Plain of Antioch, Vol. 3: Stratigraphy, Pottery and Small Finds from Chatal Höyük in the Amuq Plain. Oriental Institute Publications, No. 143. Chicago: Oriental Institute of the University of Chicago Press.
- Pucci, M., and Soldi, S. 2019. Going Red in the Iron Age II: The Emergence of Red-Slip Pottery in the Northern Levant with Specific Reference to Tell Afis, Chatal Höyük and Zincirli Höyük. Pp. 352–364 in *Between Syria and the Highlands: Studies in Honor of Giorgio Buccellati and Marilyn Kelly-Buccellati*, ed. S. Valentini and G. Guarducci. Studies on the Ancient Near East and the Mediterranean, No. 3. Rome: Arbor Sapientiae Editore.
- Riis, P.J. 1948. *Hama, Fouilles et recherches 1931–1938. Vol. 2,3, Les cimetières à crémation*. Copenhagen: Fondation Carlsberg.
- Riis, P.J. and M.-L. Buhl. 1990. *Hama, Fouilles et recherches 1931–1938. Vol. II.2. Les objets de la période dite syro-hittite (âge du fer)* Copenhagen: Nationalmuseets Skrifter.
- Soldi, S. 2013. Red Slip Ware from the Acropolis of Tell Afis: The Evidence of Area G. Pp. 199–222 in Syrian Archaeology in Perspective: Celebrating 20 Years of Excavations at Tell Afis. Proceedings of the International Meeting: Percorsi di Archeologia Siriana: Giornate di Studio Pisa 27–28 Novembre 2006, Gipsoteca di Arte Antica S. Paolo All'orto, ed. S. Mazzoni and S. Soldi. Ricerche di Archeologia del Vicino Oriente, No. 4. Pisa: ETS.
- Stone, E.C., and Zimansky, P.E. 1999. *The Iron Age Settlement at 'Ain Dara, Syria*. Oxford: British Archaeological Reports.
- Swift, G. 1958. The Pottery of the 'Amuq Phases K to O and its Historical Relationships. Ph.D. dissertation, University of Chicago.
- Toffolo, M.B., Fantalkin, A., Lemos, I.S., Felsch, R.C.S., Niemeier, W.-D., Sanders, G.D.R. et al. 2013. Towards an Absolute Chronology for the Aegean Iron Age: New Radiocarbon Dates from Lefkandi, Kalapodi and Corinth. *Plos One* 8(12): e83117; doi: 10.1371/journal.pone.0083117.
- Toffolo, M.B., Arie, E., Martin, M.A.S., Boaretto, E., and Finkelstein, I. 2014. Absolute Chronology of Megiddo, Israel, in the Late Bronze and Iron Ages: High-Resolution Radiocarbon Dating. *Radiocarbon* 56: 221–244.
- Venturi, F. 2007. La Siria nell'età delle trasformazioni (XIII–X sec. a.C.), Nuovi contributi dallo scavo di Tell Afis. Studi e Testi Orientali 8. Bologna: CLUEB.
- Wardle, K., Higham, T., and Kromer, B. 2014. Dating the End of the Greek Bronze

- Age: A Robust Radiocarbon-based Chronology from Assiros Toumba. *Plos One* 9(9): e106672; doi: 10.1371/journal.pone.0106672.
- Weeden, M. 2013. After the Hittites: The Kingdoms of Karkamish and Palistin in Northern Syria. *Bulletin of the Institute of Classical Studies* 56/2: 1–20.
- Weeden, M. 2015. The Land of Walastin at Tell Tayinat. Nabu 2015/2: 65–66.
- Welton, L. 2011. The Amuq Plain and Tell Tayinat in the Third Millennium BCE: The Historical and Socio-Political Context. *Journal of the Canadian Society for Mesopotamian Studies* 6: 15–27.
- Welton, L. 2014a. Revisiting the Amuq Sequence: A Preliminary Investigation of the EBIVB Ceramic Assemblage from Tell Tayinat. *Levant* 46/3: 339–370.
- Welton, L. 2014b. Bridging the Gap: Reconstructing the Iron I–Iron II Transition at Tell Tayinat. Paper presented at the ASOR Annual Meetings, San Diego, CA.
- Welton, L. 2019. A New Start or Business as Usual? Evidence from the Earliest Iron Age I Levels at Tell Tayinat. *Archaeology and History in the Lebanon* 50–51: 70–92.
- Welton, L., Batiuk, S., and Harrison, T.P. 2011. Tell Tayinat in the Late Third Millennium. Recent Investigations of the Tayinat Archaeological Project, 2008–2010. *Anatolica* 37: 147–185.
- Welton, L., Harrison, T.P., Batiuk, S., Ünlü, E., Janeway, B., Karakaya, D., Lipovitch, D., Lumb, D., and Roames, J. 2019. Shifting Networks and Community Identity at Tell Tayinat in the Iron I (ca. 12th to Mid-10th Century B.C.E.). *American Journal of Archaeology* 123/2: 291–333.
- Weninger, B., and Jung, R. 2009. Absolute Chronology of the End of the Aegean Bronze Age. Pp. 373–416 in *LH III C Chronology and Synchronisms III: LH III C Late and the Transition to the Early Iron Age*, ed. S. Deger-Jalkotzy and A.E. Bächle. Vienna: Österreichischen Akademie der Wissenschaften.
- Winter, I.J. 1975. Review of *Untersuchungen zur späthethitischen Kunst* by W. Orthmann. *Journal of Near Eastern Studies* 34: 137–142.