New dates for Iron Age Gordion

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A fixed point in the chronology of the Central Anatolian Iron Age has long been the Destruction Level at Gordion, whose monumental burned buildings contained a wealth of pottery and other artifacts. Upon first encountering the level in the 1950s, the University of Pennsylvania Museum excavators, headed by Rodney S. Young, dated it around 700 BC through a combination of written and archaeological evidence: an already current Phrygian pottery chronology and a report by the Augustan author Strabo of a Kimmerian invasion of Phrygia at the end of the reign of Midas, whom Assyrian records show to have been in power from at least 717 to 709 BC. The date has found wide acceptance, becoming central to the chronology of other sites as well and greatly affecting studies of the development of Phrygian culture.



Figure 1. *Anteroom of Terrace Building 2. The extensive material on the floor included pots full of seeds, which date to 827-803 BC.*



Figure 2. *Anteroom of Terrace Building 2. Section showing burned reeds from roof, dating to about 845-800 BC.*

Early radiocarbon determinations published in 1961 hinted at a date before 700 BC, but the dates had a very broad range and came from long-lived material (Kohler and Ralph 1961). A more compelling challenge arose from Kuniholm's dendrochronological determinations at Cornell University that put the latest preserved ring from the structural timbers of two buildings of the same architectural complex well back in the ninth century BC (Table 1). Nevertheless, the unexpectedly high date seemed explainable by reuse.

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Table 1: Laboratory Dates for Destruction Level and Tumulus MM at Gordion

Radiocarbon Dates

Barley from TB2A destruction
14C date (Hd-21352) 2674+/-20 BP
14C date (Hd-21332) 2678+/-18 BP

Flaxseed from TB2A destruction
14C date (Hd-21304) 2655+/-19 BP

Lentils from TB2A destruction
14C date (Hd-21358) 2647+/-32 BP
14C date (Hd-21236) 2641+/-25 BP

Combined prob. of the five 14C dates is 2663+/-10 BP
@ 1σ = 824-807 cal BC
@ 2σ = 827-803 cal BC*

Roof reeds from TB2A
14C date (Hd-21361) 2693+/-27 BP
14C date (Hd-21880) 2686+/-21 BP**
14C date (Hd-21885) 2703+/-29 BP**

Combined prob. of the three 14C dates is 2692+/-14 BP
@ 1σ = 890-880 (10.8%), 835-815 (57.4%) cal BC
@ 2σ = 900-875 (22.1%), 865-850 (1.9%), 845-800 (71.4%) cal BC

Radiocarbon calibrations were calculated with OxCal 3.5.
* Preliminary results from on-going radiocarbon recalibration suggest that the destruction date may be around the lower end of the 827-803 range.
** Determinations reported September 2002.

Dendrochronological Dates

Structural timbers from CC Building 3 (Destruction Level)
Felled after date in range of 916-906 BC (strongest current probability: 912-910); no bark.

Structural timbers from TB2A (Destruction Level)
Felled after date in range of 890-880 BC (strongest current probability: 886-884); no bark.

Juniper logs from Tumulus MM
Felled at date in range of 747-737 BC (strongest current probability: 743-741); bark.

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Figure 3. *Ivory horse frontlet (one of four) from main room of Terrace Building 2, of type known in bronze by the late 9th century BC.*

Scientific information unmistakably in conflict with the accepted chronology came in January 2001, when Bernd Kromer of the Heidelberg Akademie der Wissenschaften completed a series of radiocarbon determinations from the Destruction Level. Five seed samples (barley, lentil, flax) recovered by Voigt from her 1988-89 excavation of Terrace Building 2A were submitted by Kuniholm; each sample was taken from a different pot found *in situ* on the floor (Figure 1; Voigt 1994: 272-3). The samples fitted into a calibrated range extending from 824-807 BC at the 1σ, or 68.2%, level of confidence, and a slightly larger range of 827-803 BC at the 2σ, or 95.4 %, level of confidence. Reeds from the roof, presumably older than the seeds, have a higher but overlapping range (Figure 2, Table 1). On-going work now provisionally suggests a date around the lower end of the ranges or slightly beyond.

During the 2001 summer season at Gordion, Voigt, Sams and DeVries rechecked artifacts from the Destruction Level against the typological sequence obtained from tumuli that had been excavated in the Gordion region. The study demonstrated that the pottery and bronzes of the Destruction Level find their best correspondences well back in the tomb sequence, following the earliest of the excavated tumuli (W). A few artifacts from the Destruction Level independently support the late 9th century date. A set of North Syrian ivory horse-trappings (Figure 3) resembles horse-trappings bearing inscriptions of Hazael of Damascus, who reigned from 842 to ca. 805 BC (Kyrieleis and Röllig 1988). A bronze griffin protome has a close counterpart in a bird protome from the burned level at Hasanlu, Period IVB, itself dated ca. 800 B.C. by short-lived radiocarbon samples (Young 1962: 163; Dyson 1959: 13).

Examination of materials from post-destruction deposits in 2001 and 2002 showed that the rebuilding of the site, at a much higher level and characterized by still greater monumentality, began relatively early, close to the time of tumuli (K-III and P) which Sams puts no more than a generation after the destruction.

A second chronological shift affects another Gordion benchmark, the Great Tumulus (MM), which has

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often been taken to be that of Midas. In December 2001, Manning, Kromer, Kuniholm and Newton published a new date for the cutting of the logs of the tumulus, raising their previous determination of 718 +/-1 to 740 +4/-7 as part of their overall boosting of Anatolian Bronze and Iron Age dendrochronology by 22 +4/-7 years. They concluded that the new chronological system is the best "near-absolute time scale" until a full tree-ring sequence from the present day back to the Iron Age is obtained. In March 2003 they announced a confirmation of the revised system with a very slight modification that puts the felling of the logs at 740 +7/-3 with a strong probability of its being in the narrow range of 743-741. The revised date for MM virtually rules out an identification of its occupant as Midas, who (based on Assyrian records) was still active in 709 BC. The raising of the old date gets backing from a context of the rebuilt citadel that has Corinthian Late Geometric (ca. 730-720 BC) and Early Protocorinthian (ca. 720-690) pottery in association with bronzes distinctly later than those of the tumulus burial.

The chronological changes open up a severe gap between Phrygian material culture and the more modest culture of Geometric Greece, and they put Phrygia more on a par with the flourishing Syro-Hittite region to the southeast.

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