DIE GEWICHTE GRIECHISCHER ZEIT AUS OLYMPIA: EINE STUDIE ZU DEN VORHELLENISTISCHEN GEWICHTSSYSTEMEN IN GRIECHENLAND, by *Konrad Hitzl*. (*OlForsch* 25.) Pp. xi + 267, pls. 43. Walter de Gruyter, Berlin and New York 1996. DM 280. ISBN 3-11-014606-1.

Books on Greek metrology are rare, and this one is a real milestone. The 470-odd trade weights excavated at the Sanctuary of Zeus at Olympia make up the largest single corpus from any place in the Greek world outside of Athens; thanks to the clear and exhaustive analysis it receives here, it now takes its place as the best understood. The only comparable study is Mabel Lang's chapter in *Agora* X, on the 75 pre-Roman weights from the Athenian Agora, but these represent only a fraction of the more than 600 pre-Roman weights known from Attica. Even though Lang was able to draw on E. Pernice's antiquated 1894 list for the numerous non-Agora examples, the Attic material is so vast, so complex, and still so rudimentarily published, that she could make only a tentative beginning. (Hence a reliable, fully illustrated Athenian corpus—an ideal dissertation project for some ambitious graduate student—is badly needed.)

By way of contrast, the abundance, availability, and simple rationality of the Olympia material made Konrad Hitzl's analysis a far more straightforward task. All the Olympia weights are of bronze. Nearly all are inscribed in the genitive with the name of Zeus, showing that they were supplied by the sanctuary administration. With rare exceptions, they divide themselves into three well-defined typological and metrological groups, with readily identifiable denominations in each: the four-mina weights being cast in the form of stepped pyramids with four steps, two-mina weights having two steps, quarter-minas being regularly triangular in shape, and so forth. The first group, which dates to the fifth century B.C., is based on the Attic-Aeginetan silver coin mina of 436.6 gm (= 70 Aeginetan drachms of silver = 100 Attic drachms). But since the coinage of Elis and the Peloponnesos in general employed Aeginetan drachms, Hitzl is probably correct in thinking of this standard as being essentially Aeginetan also. The group includes an extraordinary, lead-filled, one-talent weight complete with attached lifting ring.

Beginning later in the fifth century, the heavier weights of the second class chronologically overlap with those of the first. Similar in appearance, they are inscribed with an adjunct letter—chi, alpha, omicron, or rho—and are calibrated to the regular Athenian trade weight system that employed a 458.4 gm mina of 105 Attic silver drachms, a system attributed to Solon in the Aristotelian *Ath. Pol.* and epigraphically confirmed by the two inscribed, fourth-century Athenian bronze weights published in D.G. Mitten et al. eds., *Studies Presented to George M.A. Hanfmann* (Mainz 1971) 87–90. Once the Athenian-standard weights were added to the Aeginetan ones already in use, vendors and visitors at the Olympic festival were presumably free to buy and sell commodities on the standard of their choice—a singular situation that, even allowing for the international character of the festival throngs, attests to the wide reach of Athenian commercial influence.

According to the available contextual evidence, the third class replaced the first two classes sometime in the early fourth or late fifth century. Hitzl identifies the standard as a heretofore undocumented 480 gm mina, which, being the equivalent of 110 Attic drachms or 77 Aeginetan drachms, he calls a "combination" Attic-Aeginetan mina. Since there are no remaining weights to be dated after the fourth century, it appears that the market activities that had previously taken place outside the walls of the Altis were removed and confined some distance away in the nearby plain during Hellenistic and Roman times.

The third, 110 Attic-drachm standard occupies a central place in Hitzl's study, since he believes that it must have originated in Athens in the later part of the fifth century, that it represents the heavier standard (heavier, that is, than the 105 "Solonian" standard) *possibly* implied in the 403/2 decree of Teisamenos (Andoc. 1.83), and that it was in fact created in the 420s in connection with the Athenian decree on weights, measures, and currency. If this were true, it would have fascinating consequences for understanding of the decree and Athenian commercial policy. But the argument relies heavily on Hitzl's further contention that all of the fourth-century Athenian weights that Lang recognized as being on the 105 standard were actually on the 110 standard, and this contention does not stand up to examination. A number of the 105 weights in Pernice (like the sixths and twelfths with turtle and half-turtle symbols) that Hitzl has to date before the 420s must really belong to the fourth century, as one sees from the Ionic etas in their inscriptions. Other 105 weights, like the two published in Mitten et al. eds. (supra), ought on Hitzl's analysis to weigh at 110. The author acknowledges this contradiction and rationalizes that these two weights belonged to a brief, anomalous period after 403/2 when, in accordance with the decree of Teisamenos, the Athenians returned to the 105 system before quickly reverting back to the 110 standard; but such special pleading is hardly convincing. As best I have been able to judge, surviving Athenian weights provide no certain evidence for the existence of the 110 system at Athens. One could still argue that the Athenians did go onto a 110 standard in the 420s, propagated it through the decree on coinage and standards, whence it spread to Elis and Olympia, only to repudiate it themselves in 403/2. But without good evidence from Athens, one could just as well argue that the coinage decree may rather have been ultimately responsible for the earlier bistathmic situation at Olympia when weights of the traditional Athenian 105 system (class 2) were added to those of the existing local Aeginetan system (class 1). There is enough flexibility in the Olympia chronology to allow this alternative.

This is not the only place where Hitzl allowed himself to reconstruct less cautiously than may be methodologically prudent. But in the end such conjectural reconstructions are less important than the mass of old and new material that is here brought together and conveniently compared. The volume opens with a helpful survey of past work on Greek weights and weight systems and devotes another chapter to material from outside of Olympia and Athens. In this difficult field no one has attempted so much before.

Two notes: there is a mixup in the weights that were

supposed to have been pictured in the third photo of plate 3; and the small, cut piece of silver, no. 472, although inscribed *DIOS* and regarded by Hitzl as a unique silver weight, should probably be identified as just a small, cut ingot.

JOHN H. KROLL

DEPARTMENT OF CLASSICS
UNIVERSITY OF TEXAS AT AUSTIN
AUSTIN, TEXAS 78712
JKROLL@UTXVMS.CC.UTEXAS.EDU

ARTE E CULTURA NELL'ATENE DI PISISTRATO E DEI PISISTRATIDI: Ο ΕΠΙ ΚΡΟΝΟΥ ΒΙΟΣ, by *Simonetta Angiolillo.* (Bibliotheca archeologica 4.) Pp. 275, color pls. 8, figs. 127, tables 3. Edipuglia, Bari 1997. Lit. 90,000. ISBN 88-7228-152-0.

Angiolillo, already the author of several short articles on the subject, has here produced an exhaustive archaeological survey of the 50-year period in Athenian history between the first tyranny of Peisistratos in 561/0 and the expulsion of his son Hippias from Athens in 510 B.C. What is most remarkable about this book is the fact that Angiolillo cites (and usually summarizes) the scholarly contributions of 555 modern authors, all listed in a separate index provided in addition to the thorough scholarly bibliography. This bibliographic outpouring documented by Angiolillo dates largely since the publication of John Boardman's "Herakles, Peisistratos and Sons" (*RA* 1972, 57–72). All the same, reading this book makes one realize that the study of Peisistratid archaeology still remains dependent upon some of the earliest Athenian archaeological discoveries, namely the pre-Periclean architecture and sculpture from the Acropolis, and upon the stylistic chronologies of Athenian vase painting and sculpture.

Angiolillo has divided her book into four sections. The first deals with what Angiolillo terms "la politica urbanistica," or Peisistratid building programs organized topographically and encompassing discussions of the style and content of architectural sculptures, including all of the poros pediments from the Acropolis. The second and third sections treat vase painting (Athenian black- and red-figure) and freestanding marble sculpture (funerary and votive). The fourth and shortest section takes up the subtitle of the volume ('Ο ἐπὶ Κρόνου βίος, quoting *Ath. Pol.* 16.7) for a well-referenced discussion of the chronology and cultural significance of the Peisistratid period.

The placement of this discussion at the end rather than the beginning of the book reveals the book's most serious methodological problem. The disputed chronology of Peisistratos's three periods of tyranny, combined with ancient testimonia that provide little information about what exactly Peisistratos and his sons did in Athens, makes it difficult to decide which buildings, vases, and sculptures can authoritatively be called Peisistratid and which cannot. It seems to me that anyone who would systematically treat Peisistratos and his sons' legacy in Athenian art and architecture needs to decide whether to build a picture from the literary sources and sift the archaeological evidence thematically, or to limit him- or herself to monuments dated stylistically within the chronological range of Peisistratos's third tyranny (the third quarter of the sixth century B.C.), the only archaeological period it is safe to call "Peisistratid." In the course of the earlier sections, Angiolillo consistently settles for stylistic dates of ca. 550–540 or ca. 520 when discussing monuments that she considers to be Peisistratid; the dates 15 years up or down preferred by other scholars would knock some thematically important contenders, such as the poros Herakles pediment and Old Athena Temple on the Acropolis, off the list. Angiolillo determines throughout the book that some monuments should be Peisistratid and others should not, but the book's structure makes it difficult to discern the reasons governing her choices.

Angiolillo presents an encyclopedic collection not only of the buildings, vases, and sculptures that might date to the tyranny, but also of scholarly opinions about them. For this reason, too, a methodology and historiography section at the beginning of the book would be helpful. Readers not already familiar with archaeological scholarship on Peisistratid Athens will not be able to find the real milestones (Boardman's articles on Herakles and Peisistratos (supra), and Frank Kolb's article on "Die Bau-, Religions- und Kulturpolitik der Peisistratiden," *JdI* 92 [1977] 99–138) amid references to every published theory about the art and architecture of Athens in the second half of the sixth century B.C. The feeling of abundance extends to the numerous high-quality illustrations included in this volume. The color plates are especially fine, though they are not referenced in the text, and at least one of them reproduces in color an object shown in an identical black-and-white figure.

The longest part of the first section on building programs deals with the Archaic Acropolis. In the midst of a thorough presentation of arguments and counterarguments, Angiolillo reaches the following conclusions. Peisistratos probably had a residence on the Acropolis by analogy with Polykrates, tyrant of Samos (30); Peisistratos or his sons must have established the sanctuary of Brauronian Artemis on the Acropolis because krateriskoi characteristic of the cult appear there by the end of the sixth century (68–69); a passage from Photios's *Lexicon* attributes construction of the *hieron* at Brauron to Peisistratos, strengthening the supposition that Peisistratos installed his family's neighborhood cult on the Acropolis (85–86); the H-architecture and associated poros pediments belong to a Peisistratid temple of ca. 550 B.C. connected with Peisistratos's foundation of the Greater Panathenaia and located under the Parthenon; the Old Athena temple on the Doerpfeld foundations was then built by Hippias and Hipparchos ca. 520 B.C. (66–68). The worrisome fact (duly noted by Angiolillo) remains that no ancient source attributes any buildings on the Acropolis to either Peisistratos or his sons. Nor do the sources agree that Peisistratos had anything to do with the foundation of the Greater Panathenaia, despite his sons' memorable participation in the 514 B.C. festival.

It is no accident that the title of Angiolillo's book echoes that of H.A. Shapiro's *Art and Cult under the Tyrants in Athens* (Mainz 1989). Like Shapiro's book, Angiolillo's substantial second section focuses on the iconography of vase paint-