PERSEPOLIS FORTIFICATION ARCHIVE (PFA) PROJECT

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In mid-May 2013, Persepolis Fortification Archive Project editors Mark Garrison and Wouter Henkelman were crossing Germany on an intercity train after delivering a joint presentation at the Free University of Berlin. Their lecture, a survey of the religious landscape of early Achaemenid Persia, drew on their years of collaborative work on texts and images preserved in the Persepolis Fortification Archive (http://persepolistablets.blogspot.com/2013/05/from-humban-to-auramazda-image-and-text.html). They were bound for Castelen, near Basel, Switzerland, to discuss the administration of the Achaemenid Persian empire at a conference co-sponsored by the University of Basel and the Oriental Institute. The conference would commemorate the eightieth anniversary of the discovery of the PFA by Ernst Herzfeld (1879–1948), who is buried nearby (http://persepolistablets.blogspot.com/2013/05/celebratory-conference-on-occasion-of.html). The proceedings were to focus on the PFA as the most detailed known manifestation of an "imperial signature" that is traceable across the breadth of the continent that the Achaemenid empire once governed.

On the train, Garrison and Henkelman were discussing Garrison's recent discovery among the fragments of Fortification tablets a few months earlier: a seal impression that links the PFA with the Arshama correspondence. This corpus of Aramaic letters from the Achaemenid satrap who governed Egypt about a hundred years after the time of the PFA had been the topic of a series of workshops at Oxford University (http://arshama.classics.ox.ac.uk/workshops/index.html), in which Garrison and Henkelman had taken part. The text that accompanied the related seal impression in the PFA was lost, but now, as they conversed on the train, they realized that another fragmentary impression of the same seal might accompany the text on one of the Elamite documents that Henkelman was editing as part of the PFA Project.

Figure 1. Wouter Henkelman at the Berlin train station

Was a Wi-Fi connection possible on the train? It was. Laptops came out. Garrison and Henkelman connected to the PFA Project's dedicated server in Chicago. They located the digital images of Henkelman's document made by student Project workers. They found an image of the impression on the damaged edge of the tablet. Was it made by the same seal? It was. Now the seal, already tied to later circumstances in Achaemenid Egypt, was also tied securely to a name, a person,

a situation in the dense social and institutional fabric that the PFA reveals.

A few months earlier, in Kabul, NELC graduate student Michael Fisher e-mailed Oriental Institute director Gil Stein about a surprising find in the collections of the National Museum of Afghanistan. Fisher was working there as part of the Institute's collaborative cataloging project (http://www.youtube.com/watch?v=GdSt7LVmZH8, and see elsewhere in this *Annual Report*) when he found a fragment of a cuneiform tablet. But when had Afghanistan been in the sphere of cuneiform recording? Stein surmised that the fragment might be Achaemenid. I suggested it might be a fragment excavated at Old Kandahar in 1977.[1] We sent Fisher scans of the original excavation photos. Fisher sent back new high-resolution digital images. It was the same object. It preserves only a few cuneiform signs, representing only a few complete words, but comparison with the PFA makes it instantly recognizable as part of a larger record compiled at a regional administrative hub. This unprepossessing relic of a vanished archive is strong testimony to the Achaemenid imperial signature in the eastern territories of the Empire—but only because of what we have learned from the PFA.

Figure 2. Achaemenid Elamite tablet fragment from Old Kandahar. Photograph by Michael Fisher, by permission of the National Museum of Afghanistan

Eighty years ago, Ernst Herzfeld sent a telegram from Iran to James Henry Breasted in Egypt, to announce the discovery of the PFA. Breasted wrote to Henri Frankfort in Iraq with a mixture of enthusiasm and reserve:

> This is a demonstration that [the] Persepolis Terrace contains cuneiform tablets and gives us just ground for hoping, or even expecting, that tablet documents from the

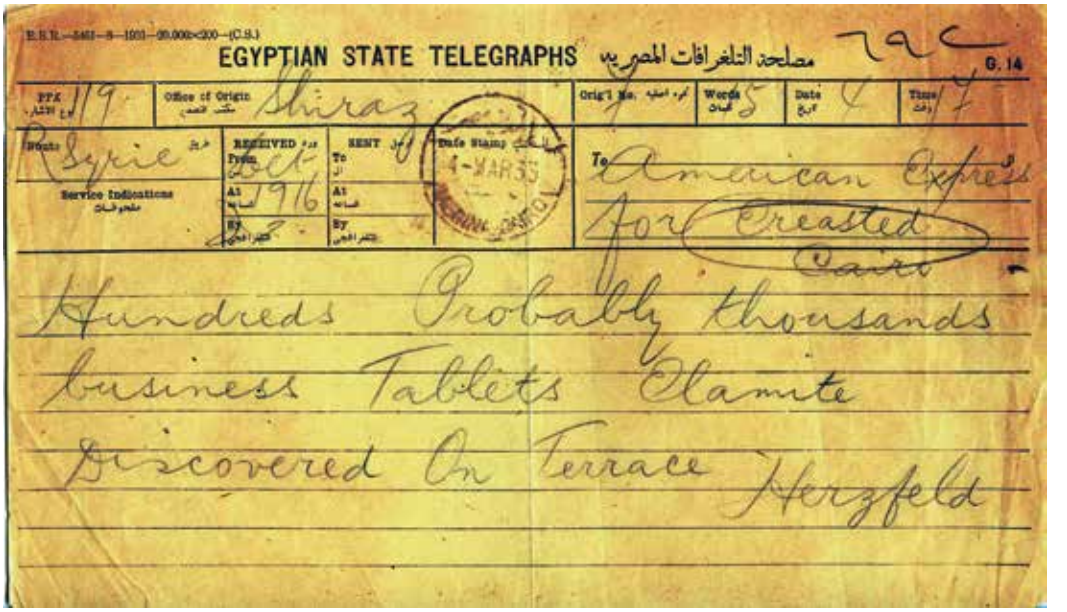

Figure 3. Herzfeld's telegram to Breasted, March 4, 1933, terser than a Tweet: "Hundreds Probably thousands business Tablets Elamite Discovered On Terrace. Herzfeld"

> State Archives of the Persian Kings are still lying under the rubbish of the Terrace. If so a new period in the history of the East has begun. Even these business tablets should contribute essentially to a full understanding of the Elamite language.[2]

Richard Hallock was more reserved than enthusiastic when he wrote, after thirty-five years of painstaking study of the PFA, that "The Achaemenid Elamite texts found at Persepolis add a little flesh to the picked-over bones of early Achaemenid history."[3] But today these mere "business tablets" call for more enthusiasm than reserve as they add much more than a little historical flesh, surpassing Breasted's hopes in unexpected ways. Because the PFA Project is building a comprehensive record that represents the Archive's combination of complexity and integrity, because it is distributing the record in forms that can support ongoing research, because it engenders collaborative contributions of specialists, and because it relies on digital methods and media, it has been possible for investigators in Germany and Afghanistan to document the PFA's implications for organization, society and history across the continent-wide reach of the Achaemenid empire, from Memphis to Kandahar (fig. 4). If a legal crisis sparked the PFA Project, consequences like these kindle its ongoing efforts.

During the past year, PFA Project editor Mark Garrison (Trinity University, San Antonio, Texas) and summer worker Erin Daly (Notre Dame University) finished surveying the uninscribed, sealed tablets (PFUT) in the ca. 2,600 boxes of PFA tablets and fragments. They resurveyed about 350 boxes that Garrison had gone over at the beginning of the Project, looking now with more practiced eyes. Garrison and Daly selected 450 more PFUTs for recording. The cumulative sample of PFUTs now exceeds 3,500, between a quarter and a third of the entire sample that the Project expects to record. More than 600 previously unknown seals have been identified so far from impressions on these uninscribed tablets. Daly returned to the Project during the summer of 2013 to join other student workers supported by a grant from Roshan Cultural Heritage Institute, to continue cataloging and recording the PFUTs and the new seals.

Figure 4. The reach of the PFA, from Memphis to Kandahar

Figure 5. Mark Garrison oversees student workers recording uninscribed, sealed Fortification tablets; left: Christine Chandler (University of Colorado), right: Erin Daly (Notre Dame University)

Along with Daly and graduate students Tytus Mikołajczak (NELC) and Emily Wilson (Classics), Garrison checked seal identifications on more than 650 of the unpublished Elamite documents first edited by the late Richard Hallock (PF-NN) and being revised for final publication by PFA Project editor Wouter Henkelman (École Pratique des Hautes Études, Paris). They cataloged more than 180 new seals and recorded them with preliminary sketches. More than a thousand previously unidentified seals have been identified until now from impressions in this sub-corpus. Garrison also reorganized the classification of thematic seal types in the burgeoning record of the PFA in the Online Cultural Heritage Resource Environment (OCHRE, see elsewhere in this *Annual Report*), enlarging the number of categories and differentiating them in greater detail. Student worker Megan Kruse (Trinity University) began to populate the entries of the new scheme with data on published seals and new seals.

PFA Project editors Annalisa Azzoni (Vanderbilt University) and Elspeth Dusinberre (University of Colorado) continued to record the Aramaic component of the Archive. Azzoni selected PFATs recorded at the beginning of the PFA Project for new high-resolution scanning with improved techniques. She reviewed and updated the OCHRE public view of monolingual Aramaic documents (PFAT) and the Aramaic epigraphs on Elamite documents (PFAE), set up OCHRE entries for about fifty newly identified PFATs (for a cumulative total of 817), and added draft editions of forty PFATs to pending content in OCHRE, to be processed, glossed, linked, and made public soon. Dusinberre examined and recorded seals on about eighty monolingual Aramaic tablets (PFATS), including the fifty new items. She completed final pencil drawings of about 200 and final inked drawings of more than 180 seals on Aramaic tablets, for a cumulative total of more than 450 final drawings of almost 600 such seals identified until now.

PFA Project editor Henkelman re-collated about 400 of the 2,600 texts in the Hallock *Nachlass* (PF-NN), bringing to about 1,200 the running total of near-final editions entered in OCHRE. I resurveyed more than 500 boxes of Fortification tablets and fragments and selected almost 500 more Elamite tablets and fragments for conservation, image capture, cataloging, and editing. I made draft editions of more than 250 new Elamite texts, bringing the running total over 1,300.

When these and Henkelman's editions of the PF-NN texts are brought to final form they will almost triple the published sample of Achaemenid Elamite Fortification texts. Azzoni's editions of monolingual Aramaic texts will enlarge the unpublished corpus that the late Raymond Bowman studied by almost half. The texts will be intimately linked with a corpus

of more than 3,000 seal impressions, nearly double what was known from published tablets, and opening what Albert T. Olmstead foretold as "a whole museum to present a new Achaemenid art."[4]

Dedicated PFA Project conservator Robyn Haynie treated another 100 PFA tablets and fragments before leaving the Project in November for a permanent museum post. When the PARSA Community Foundation agreed to extend its grant to support a full-time conservator, Simona Cristanetti joined the Project in May.

Staff turnover also continues on other phases of the Project. After student photographers Dan Whittington (Classics) and Matt Susnow (NELC) left in 2012, Ami Huang (NELC) continued to make and edit conventional digital images of Elamite Fortification tablets, and then trained undergraduates Taylor Coplen (Philosophy), Rachel Jackson (Visual Arts), and Naomi Harris (Common Year) to carry on the work. In the high-resolution imaging lab, graduate student workers Tate Paulette, Ben Thomas (both NELC), and Jason Herrmann (University of Arkansas) all left for other opportunities. Graduate students Vincent van Exel and Kate Grossman (both NELC) came on the production line. Thomas, with a new PhD, returned to the Project as a postdoctoral researcher, but Grossman, also with a new PhD, will soon leave for a tenure-track academic appointment.[5] The lab made about 3,700 high-resolution flat scans with the BetterLight apparatus, mostly reshoots of Aramaic documents, and about 3,600 Polynomial Texture Mapping (PTM) batches, mostly of sealed, uninscribed tablets. At the University of Southern California, student workers Bekir Gurdil, Claire Shriver, and Kristin Butler processed BetterLight and PTM images of about 650 objects, and at the Oriental Institute, student workers Amee Genova (History) and Naomi Camp (University of Illinois) processed images of almost 100 more. At InscriptiFact (http://www.inscriptifact.com), Marilyn Lundberg and Leta Hunt uploaded images of more than 700 objects to public or staging servers.

Altogether, more than 4,150 PFA tablets and fragments have been recorded with one or both kinds of high-quality images since the beginning of the Project, and high-quality images of more than half of them are public on InscriptiFact and OCHRE, complementing conventional images of about 3,000 more. Looking ahead to the time when the PFA Project winds

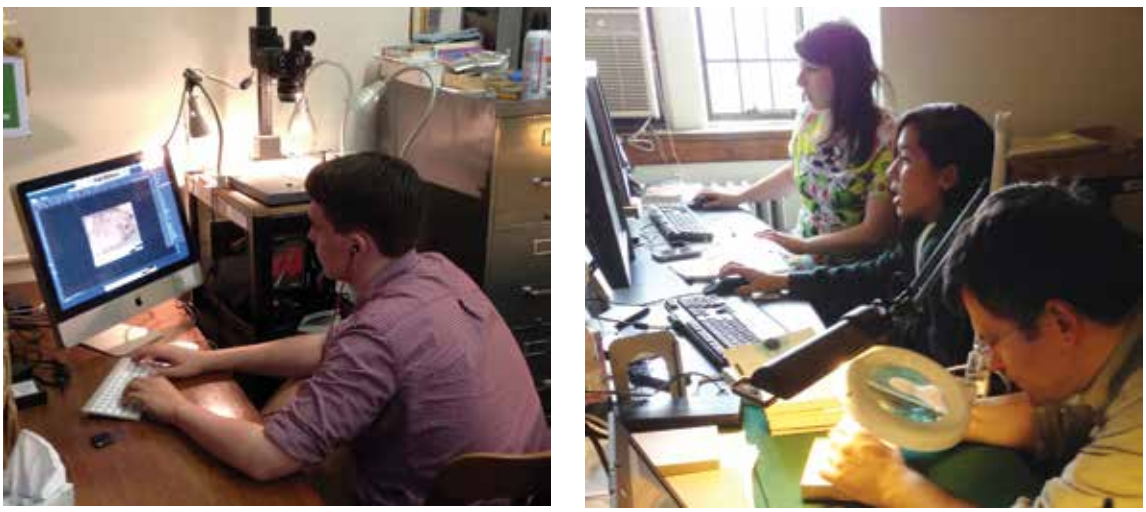

Figure 6. PFA Project myrmidons at work. Left: Taylor Coplen (Philosophy) processes photographs of new Elamite tablets. Right: Amee Genova (History) and Naomi Camp (University of Illinois) process PTM sets, while Tytus Mikołajczak (NELC) records seal impressions on new Elamite tablets

down and the imaging lab becomes part of the Oriental Institute's research-support armory, the lab also produces occasional images of other materials (seals and impressions, Sumerian and Akkadian cuneiform tablets, Egyptian mummy labels, fossils, etc.) as a service to colleagues.

Figure 7. OCHRE whisperer Dennis Campbell works on the PFA Project instruction manual

Postdoctoral project manager Dennis Campbell, assisted by student workers Özgun Sak (History) and Seunghee Yie (NELC), formatted, parsed, glossed, and linked about 500 new and about 350 published Elamite texts in OCHRE, editing the Elamite glossary and correcting previously entered texts. Undergraduate worker Douglas Graebner (Art History) tagged conventional photographs of Elamite texts to make sign-by-sign links between transliterations and images. Currently entered in OCHRE are more than 5,000 of the ca. 6,100 Elamite documents recorded until now, about 4,500 of them public, almost all glossed, parsed, and with attached images (including about 500 with images that are tagged and linked sign-by-sign to transliterations); about 195 Aramaic epigraphs (PFAE) on Elamite tablets (of about 245 identified to date), all public; 815 Aramaic documents (PFAT), about 30 of them public; about 1,000 PFUT, about 900 of them public with linked photos, about 200 with editorial information. The glossaries now include about 3,200 Elamite lemmas and about 150 Aramaic lemmas.

Campbell also began to prepare a manual for managing PFA Project contents, to be used by Project workers who will succeed him when he departs for a tenure-track position at San Francisco State University in the coming academic year. He expects to continue collaborating with the Project, and to draw on Project data in his own research and publication, but his departure will require drastic adjustment, for he has been an integral part of the PFA Project since it began and every element of the OCHRE record reflects his touch.

Under the auspices of Charles Blair, director of the Digital Library Development Center, the University of Chicago Library made more than 70 TB available on its ODS server for PFA Project use. Sandra Schloen and Miller Prosser of the OCHRE Data Service (https://ochre.sites.uchicago.edu/ and see elsewhere in this *Annual Report*), continue to reorganize and rationalize Project files for short-term access and for long-term archival preservation, alleviating the constant pressure on the Project's aging server maintained by Humanities Division Computing.

A historic connection with the Persepolis Fortification Archive (see http://persepolistablets.blogspot.com/2010/06/persepolis-chicago-blackhawks-and.html), may have contributed to the Chicago Blackhawks' dramatic capture of the Stanley Cup in June 2010.

The PFA Project weblog, maintained by Charles Jones (New York University), was viewed more than 7,500 times by more than 5,400 visitors in the last year (about 67,000 pageviews since inception). The newsfeed has seventy-eight subscribers. PFA Project members gave more than twenty-five public lectures and presentations at academic meetings during the last year, including presentations at the annual meetings of the American Schools of Oriental Research (Azzoni, Campbell, Mikołajczak, Prosser, and Stolper) and the American Oriental

Figure 8. Wouter Henkelman and Annalisa Azzoni at Castelen, Switzerland, during a break in the conference marking the 80th anniversary of the discovery of the PFA

Society (Mikołajczak and Stolper), and at the anniversary conference in Switzerland mentioned above (Azzoni, Garrison, Henkelman, and Stolper): lectures by Henkelman in Berlin, Brussels, London, Oxford, Paris, and Tehran; by Garrison at the University of Minnesota, UCLA, and the Metropolitan Museum of Art; by Dusinberre at the Boulder, Colorado, society of the Archaeological Institute of America; and by Stolper in Philadelphia, San Francisco and at Humanities Day in Chicago. Notable among eight more articles and monographs by PFA Project members based substantially on Project results is the forthcoming publication of Garrison's invited lectures at the Collège de France, *The Ritual Landscape at Persepolis: The Glyptic Imagery from the Persepolis Fortification and Treasury Archives* (Persika 17), on the same topic that he and Henkelman had lectured about before they boarded their train from Berlin.

Notes

[1] See Helms 1997, p. 101; Kuhrt 2007, pp. 814f., no. 58.

[2] Breasted to Frankfort, March 8, 1933 (emphasis original). He wrote to Herzfeld on the same day in the same vein: "The fact that you found such documents … even though they are business tablets … justifies the hope that we may now look for state documents in the same form" (Breasted to Herzfeld, March 8, 1933). I am indebted to John Larson for making these letters available.

[3] Hallock 1985, p. 588 (published separately in 1971).

[4] Olmstead 1948, p. 178.

[5] Among the Project's collateral results, Grossman and Thomas are the seventh and eighth PFA imaging lab workers to complete doctorates while partially supported by Project work; undergraduate alumni of the Project are nearing completion of doctorates at Michigan, Yale, and elsewhere.

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