THE PERSEPOLIS FORTIFICATION TABLETS
AND THE PERSEPOLIS FORTIFICATION ARCHIVE PROJECT
AT THE ORIENTAL INSTITUTE

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1. Introduction

The Oriental Institute began to excavate Persepolis in 1931. The excavators discovered the Persepolis Fortification tablets in 1933. The Iranian government loaned the tablets to the Oriental Institute for study in 1936, and they became available for study in 1937, so they have been under study for 70 years, but the work is far from complete.

The Persepolis Fortification tablets are in crisis because of a lawsuit that seeks to have them seized and sold. The University of Chicago is trying to defend the tablets. Attorneys representing the Islamic Republic of Iran have also entered the suit. I believe that the claim against the tablets is wrong, not only on intellectual, cultural and ethical grounds, but even on legal grounds, but I am not a lawyer, and for amateurs, it is tempting to confuse what we think reasonable with the facts of law and equity.

This is an important struggle in a much larger conflict, for the outcome will have an impact on many kinds of research. The process has moved very slowly, but as long as the litigation continues, they are available to us for recording, presentation and study.

Either extreme outcome of the case is perilous. If the plaintiffs win, the tablets could be dispersed, and lost to research. If the plaintiffs lose, the tablets could be sent back to Iran, interrupting research. What actually happens may depend, at least in part, on what we can accomplish now. So I want to comment on three questions about work on the tablets.

First, what are the Persepolis Fortification tablets? The short answer is that they are documents of several different kinds, and there are many thousands of them, but they are all pieces of one thing, the Persepolis Fortification Archive.

Second, what are they good for? The short answer is that the results of the work so far have radically transformed every aspect of serious study of the Achaemenid Persian Empire and there is much more to be done.

Third, what are we doing? The short answer is that we are trying to record as much of the Archive as possible and also trying to distribute what we record as quickly as possible.[1]

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2. What are the Persepolis Fortification Tablets?

The discovery of the tablets was a wonderful accident. The excavators were building a ramp for truck access to the Persepolis terrace where the palaces stand. They cleared away part of the brick fortification wall on the edge of the terrace, and they found two little rooms full of clay tablets and fragments. Hence the name, Fortification tablets, not because they say anything about fortifications, but because they were found in the wall.

There were tens of thousands of tablets and tablet fragments, of four main kinds:

- Pieces with cuneiform texts in Elamite, most of them with seal impressions; about 10,000-20,000 of these.
  - Pieces with texts in Aramaic, most of them with seal impressions; about 750-1000 of these.
  - Pieces with no texts at all, but with seal impressions; about 5,000-6,000 of these.
  - Miscellaneous pieces: one each in Greek, Old Persian, Phrygian(?), Akkadian, tablets stamped with coins instead of seals, etc.
  - Myriads of fragments, flakes and crumbs from tablets of every kind.

They are remains of about 15,000-25,000 original documents. About 8,000-10,000 are in good enough shape to produce useful information. Many more may be useful on a second or third pass. About 5,000 of them have been closely studied, and every day we catalog more. The essential point is that they are all pieces of one thing, a single information system, stored together, discovered together, linked by common contents and purpose. That one thing is what we call the Persepolis Fortification Archive.

When the discovery was announced people were very excited. After all, here was an unexpected flood of new information from the heart of the Persian Empire. But soon the excitement faded into disappointment. The texts were only records of barley, flour, wine and sheep, mostly in a badly-understood language, all from a short time, a period less than twenty years around 500 BC. There was nothing to compare them with, so working on these documents would require long, painstaking work before it paid off.

So the real work of discovery began after the tablets were excavated. Results were a long coming. It was only when Richard T. Hallock of the Oriental Institute published about

2,000 of the Elamite tablets in 1969[2] that answers to the second question began to emerge.

3. What Are They Good For?

The largest number of the texts written on the tablets are in the Elamite language, the indigenous pre-Iranian written language of western Iran, in use for royal inscriptions and practical recording long before the Iranians arrived, since at least 2400 BC. The fact that Elamite is a dead language and a linguistic isolate, with no demonstrable relatives or descendants, makes it hard to study. Scholars of ancient languages knew something about the language since the decipherments of the cuneiform scripts in the 1840s, because the Achaemenid royal inscriptions were mostly written not only in Persian, but also in Babylonian and Elamite. But understanding of Elamite remained limited. One effect of the discovery of the Fortification tablets is that increased the documentation of the latest phase of Elamite language by at least 1,000%.

Furthermore, these Elamite texts were written by and for Persians, so they are full of Iranian names, titles, and administrative terminology, transcribed in Elamite cuneiform. This is unparalleled testimony to the Iranian languages used at the Achaemenid court, and it is the largest single source of indirectly transmitted Old Iranian vocabulary. The ordinary, mundane purpose of these tablets, along with their specific administrative context, means that it is a vocabulary that we do not have from other Old Iranian sources.

The very thing that makes these documents mundane also makes them lifelike. They are not narratives of the deeds of great men, or critical observations of Iranian lifeways, or credulous misapprehensions of Iranian traditions, as we sometimes find in the Greek historians. They are the actual statements of actual people doing actual business in real time, and we have them exactly as they left the hands of the people who spoke them, wrote them down, and put them in the files.

So, for example, when we read in one of Darius's inscriptions that the palace at Susa was *frašam*, 'wonderful,' that is an interesting use of an ideologically freighted term. When we see the Elamite transcription of that same Old Persian word, *pirrašam*, used in one of these texts to describe, not a 'wonderful' palace, but 'wonderful' poultry—then the language starts to come alive. And if we consider the possibility that these birds are Old Iranian counterparts of Middle Iranian *frašamurgh*, 'wonder-bird, peacock,' then we are considering the possibility of seeing how an Old Iranian belief system portrayed even the most mundane of matters.

These words are also accompanied by images, that is impressions of cylinder seals and stamp seals. As the languages give us low-register counterparts of things otherwise known only from the pomp of royal inscriptions or gravity of religious texts, so this "minor" art form also gives us a different register for images that are also found in

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[2] Richard T. Hallock, *Persepolis FortificationTablets*, Oriental Institute Publications 92 (Chicago, 1969). available in free electronic form at http://oi.uchicago.edu/research/pubs/catalog/oip/.

monumental art. Here we see them in a way that shows experiment, development, the hands and minds of individual craftsmen. They show variation and development, precisely at the time that the canons of Achaemenid monumental art were being fixed. And in addition, we find them among many other images that were never used for monuments. This is the largest and best corpus for the exact study of Achaemenid art: its development, its iconographic range, its administrative functions and its social and political meaning.[3]

The texts and seal impressions are functionally connected data streams of a single recording system. The recording system was used by a single administrative unit, one that handled the storage and payment of food for people on the government payroll. It was organized in five main branches: one dealing with grain and flour, one with beer and wine, one with fruit, one with livestock and poultry, and one with personnel. The people who received the food were ordinary workers or skilled craftsmen, many of them identified as foreigners; official travelers going to or from the remote provinces of the empires; administrators, clerks and auditors working the system around Persepolis; members of the royal family and inner court circles, the king's own daughters, uncle, in-laws; transport animals; even gods and religious officiants. The texts reveal an exceptionally wide spectrum of Achaemenid imperial society, from serfs to gods, through the narrow window of their groceries.

We apprehend this society through interconnected data points in many transactions. That is a biggest thing that is at risk now: while each piece has some information value, the real importance of the Archive is in its integrity, the connections among the pieces. Every new document adds data that strengthens connections or fills gaps in the network.

In fact, we know that there are at least two big gaps in our understanding. Most of what we know comes from the Elamite tablets and the seals on them. But two other categories of documents, namely, the Aramaic tablets and their seals, and the text-less, sealed tablets, were almost unexplored until members of our team began work on them.

In the Achaemenid Persian Empire, Aramaic was the language of choice for some local recording, but also for much inter-regional communication between areas that had different local traditions of literacy. Achaemenid Aramaic texts are found in both uses all the way from Egypt to Central Asia, with enough consistency in form and usage that they are generally thought of as representatives of a single dialect, called "Imperial Aramaic.". The Aramaic Fortification texts will almost double the number of known Achaemenid documents in Imperial Aramaic, and much more than double the number of tightly dated and contextualized Achaemenid Aramaic documents.

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[3] See above all Mark B. Garrison and Margaret Cool Root, *Seals on the Persepolis Fortification Tablets*, I : *Images of Heroic Encounter, Oriental Institute Publications*, 117 (Chicago, 2004), available in free electronic form at http://oi.uchicago.edu/research/pubs/catalog/oip/.

The uninscribed, sealed tablets show us a wide range of entirely new images. Making functional sense of these tablets without texts will be especially difficult, so it is especially important that we have this material in its original archival context. There is enough overlap among the seal impressions to make it certain that the Aramaic, Elamite and uninscribed tablets were all streams of a single information flow. But the overlap is small enough to make it equally certain that they are parallel streams, recording related operations in different terms, not just identical operations in different media. If we can understand the uninscribed tablets at all, and if we can connect them to the Aramaic and Elamite tablets systematically, we will add two completely new dimensions to an already complex picture of ancient realities.

At the same time, the work reveals unexpected evidence that raises unanticipated questions. The biggest surprise was the discovery of an Old Persian administrative tablet—not only the first and only thing of its kind, but actually a refutation of stated expectations.[4] Most of the Fortification texts were written in Elamite, the local language used for such purposes even before Persians arrived; some of the texts were written in Aramaic, the language that was coming into use in every literate society of the Near East alongside its indigenous recording media. But here for the first time is an everyday practical document in the language that was actually being spoken by the people who made this archive, in the script of the rulers. We can now show that at least one Persian in Persia wrote Persian in Persian script, and probably expected somebody else to read it. Many more records like this may await discovery somewhere. After all, administrative texts simply do not function as isolates. If they are ever found, it will be because the Persepolis Fortification archive raised the possibility. In the meantime, this document reorients discussions of languages, ethnicity and identity, and literacy in the Persian Empire.

The Persepolis Fortification Archive made it impossible to go on thinking of the Achaemenid Persians as illiterate barbarian rulers of civilized subjects. They were the conscious successors to millennia of statecraft and administrative and political technique. In this sense, the expectations of 1931 were fulfilled after 1969, when the publication of the first Fortification texts started a fundamental redirection of Achaemenid studies. Part of the effort of the Persepolis Fortification Archive Project is to build on that, make it deeper, wider, more diverse and more intricately interconnected.

4.   What Are We Doing?

That is a fine way to describe a program of research, but this is a crisis. Before we interpret the data, it is urgent to capture it. The Persepolis Fortification Archive Project[5] has two priorities: record as much as possible while the tablets are available; and make as

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4 See "From the Persepolis Fortification Archive Project, 1: An Old Persian Administrative Tablet from the Persepolis," ARTA 2007.001 (http://www.achemenet.com/ressources/enligne/arta/pdf/2007.001-Stolper-Tavernier.pdf) (with Jan Tavernier).

[5] See http://oi.uchicago.edu/research/projects/pfa/.

much data available as quickly and widely as possible. The PFA Project is working working on five tracks.

a. Images

The PFA Project is making four kinds of images as permanent records of the tablets, records of different qualities, produced at different rates.

First, conventional digital photographs of the Elamite tablets, beginning with more than 2,600 pieces that Hallock worked on but did not publish--about 15-25 images per tablet for complete coverage, about 170 tablets/month with the current crew of student photographers.

Second and third, in collaboration with the West Semitic Research Project at the University of Southern California,[6] two kinds of very-high-resolution images of the 600-1,000 Aramaic Fortification tablets and a similar number of uninscribed tablets. One set of images is made with ultra-high-resolution large-format scanning backs, very long exposures, various sorts of cross-polarized and filtered lighting to deal with glare, discoloration, etc. The other set is made with Polynomial Texture Mapping apparatus and software, a technology that knits 32 sequentially lit images together in a way that allows the viewer to manipulate the apparent light source on a computer screen—especially good for documenting seal impressions on irregular tablet surfaces. This part of the project works more slowly slowly, about 50-100 pieces a month, so it is working specifically on critical, otherwise poorly recorded components of the archive.

Fourth, in collaboration the Cuneiform Digital Library Initiative at UCLA,[7] images of the cuneiform Elamite tablets made on flatbed scanners, using procedures that CDLI has developed for Mesopotamian cuneiform texts. These are comparatively low-quality images, not good enough for permanent records, but they are very useful when they accompany editions of the texts, and they can be done very quickly—500-600/month.

b. Editions

Elamite, Aramaic, seals and seal-impressions are all very specific academic specialties. No-one has the skill and the time to handle them all, so the PFA Project has an editorial team working in concert on the parts of the archive, under the constant mandate to treat them as compatible, connected parts of a single original archive. Some have long experience and intimate knowledge of the Archive and its problems—Wouter Henkelman (Leiden and Paris), finishing the edition of Hallock's unpublished Elamite texts, and Mark Garrison (Trinity University, Texas), overseeing all work on seal impressions. Others are new to this data set but they have proved their abilities with comparable material—Annalisa Azzoni (Vanderbilt), editing the Aramaic texts, Elspeth Dusinberre (University of Colorado), working with Azzoni on the seals on the Aramaic tablets. In

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[6] See http://www.inscriptifact.com/.

[7] See http://cdli.ucla.edu/.

addition to overseeing and co-ordinating their work, I work especially on new Elamite texts.

c. Catalog and Triage

Some tablets and many fragments have never been cataloged, curated, conserved, or even cleaned. They still have the original dirt of Persepolis on their surfaces, stored in boxes that correspond to the ones in which they were shipped from Persepolis in 1936. My foremost task is to go through the boxes; count and classify the contents; assess their condition for conservation, reading and editing; read what I can; select pieces for other editors; select pieces that will reward the effort of conservation by producing readable material; make snapshots to record the contents; enter the observations and pictures in an on-line database. There are about 2,360 boxes, more than a thousand of them never examined before. I have gone through about a third of them, finding new texts of all kinds.

d. On-Line Delivery

The PFA Project will make the data that is being recorded available on a continuous basis. Before the litigation is resolved, we will be producing streams of data for an audience of scholars who can do new research, and I hope—perhaps too optimistically—that these streams of data and results will influence what happens to the tablets.

The data will appear on-line via at least four sites: Achemenet and its associated Musée Achéménide (based at the Collège de France),[8] CDLI (UCLA), InscriptiFact (the site of the West Semitic Research Project at USC) and the On-Line Cultural Heritage Research Environment (based at Chicago).[9] Once substantial bodies of data are finished, corrected and stable, they will also come out as conventional publications in hard copy and free PDF, but there are some kinds of things that can only be done well on-line, and not so well in books—for example, exact study of paleography, or of seal impressions—so the electronic presentations will not be superseded.

Why four redundant websites, not just one? For one thing, data security and backup; for another thing, collaboration, shared effort, avoidance of re-inventing the same wheel. For another, three of these sites are already going concerns serving established audiences that are overlapping but not identical—cuneiformists, Semitic epigraphers, Achaemenid historians, each particularly interested in a part of the Archive, seen in its own disciplinary context. The one site at which all the components will be housed and displayed, in ways that allow intricate interconnections among Elamite, Aramaic, seals, etc., will be the On-Line Cultural Heritage Research Environment, based at the University of Chicago. This was designed as an environment in which diverse kinds of textual and archaeological information can be integrated for research and publication, so

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[8] See http://www.achemenet.com/ and http://www.museum-achemenet.college-de-france.fr/.
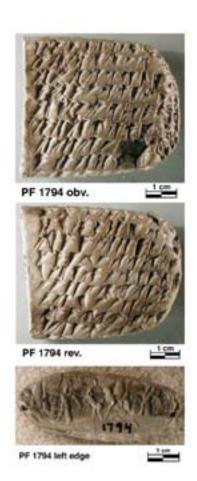
[9] See http://ochre.lib.uchicago.edu/.

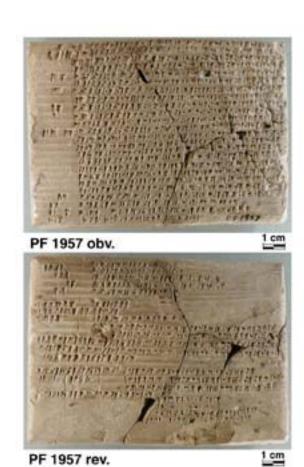it is particularly suitable for presenting the original composition of the Persepolis Fortification Archive.

e. Conservation

Finally, conservation is a grave problem. The tablets cannot be read and recorded unless they are clean. Many still have the dirt and salt of Persepolis on them. Many are broken, some hopelessly shattered. Cleaning and stabilizing them requires painstaking work, mostly done by hand by skilled museum professionals—in effect, removing the last of the dirt means finishing the excavation that began in 1933. A grant from the University of Chicago Women's Board will permit the Project to acquire a laser-cleaning apparatus that will help blast away the last layers of dirt on the surfaces. But generally speaking there is no way speed up this part of the work, bringing new pieces into the recording stream, except to hire more conservators to spend more man-hours on it, and to select objects that will repay their work with significant information.

There is no doubt that the status of the project will remain desperate for the near future. That makes it exciting. There is also no doubt that the project is producing new knowledge of lasting value and importance. That is what makes it more exciting, more urgent, and most rewarding, both for its participants and for its audiences.

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PF 1794 obv.
1 cm

PF 1794 rev.
1 cm

PF 1794 left edge
1 cm

PF 1957 obv.
1 cm

PF 1957 rev.
1 cm

9

[Stolper SSZ Images, Captions:]

[Figs.1-4]: Clockwise from upper left: Persepolis Fortification tablet with primary administrative record in Elamite. Persepolis Fortification tablet with secondary administrative record in Elamite. Four unedited fragments of Persepolis Fortification tablets with administrative records in Aramaic. Six sealed, uninscribed Persepolis Fortification tablets.

[Figs. 5-8]: Clockwise from upper left: Unique Persepolis Fortification tablet with administrative record in Greek. Unique Persepolis Fortification tablet with text in Phrygian (?). Unique Persepolis Fortification tablet with administrative record in Old Persian. Persepolis Fortification tablet with impression of Athenian owl-stater.

[Figs. 9-12]. Clockwise from upper left: Setting up for conventional digital photography of Persepolis Fortification tablet. Very-high-resolution digital photography of Persepolis Fortification tablet. Polynomial Texture Mapping apparatus. Two unedited Persepolis Fortification Tablets after cleaning and conservation.

PF 0698

1 cm

PF 0698, an administrative document from the Persepolis
Fortification archive. The cuneiform text, in Elamite
language, records an outlay of poultry, more than 400 birds,
to supply the Achaemenid king and court, in year 21 of King
Darius (501-500 BC). The reverse has an incomplete impression
of Persepolis Fortification Seal 0007. A complete impression
of this seal (as we know from comparing many incomplete
impressions) would show that it has an inscription with the
name and title of Darius, identifying its owner as figure of
high adminsitrative rank and high social status.