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A Reassessment of Athenian Tribute

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Preface

This paper is one part of a larger project conducted through the Mellon Summer Research Program and the College Honors Program at the College of the Holy Cross. The components of this project are:

- an archive of original photography the photos of the inscriptions (taken at the Epigraphic Museum in Athens)
- an archive of TEI-conformant XML editions, including both diplomatic and normalized texts, for each year, together with delimited-text data files for related information (e.g., geographic information about locations referred to in the texts)
- code for viewing and working with the archival material in a web interface (delivered as a java servlet)
- a virtual machine that runs the servlet interface from any machine with the open-source Virtual Box (<https://www.virtualbox.org/>) and Vagrant (<http://www.vagrantup.com/>) software for running virtual machines

The diplomatic edition referred to throughout this paper is not printed here, since it is a digital edition. The images in Chapter 5: “Applications and Visualizations” are screenshots of the web interface to the digital edition. All work for the project is publicly available online at <http://phoros.github.io/> which is a github repository that allows people to collaborate on open source projects. This address has links to the software for viewing the material and a virtual machine for running the viewing software interactively. All the components are part of the digital version of this project filed with Crossworks. The bibliography on the Athenian Tribute Quota Lists is massive, and I have read widely on the subject, mostly in English but also in Greek. In the appended list of “Sources Consulted,” I have included references to the most important sources I have used, but in the text of this paper, I try as far as possible to cite only the primary evidence of the inscriptions themselves. This paper is meant as a guide to understanding the Athenian Tribute Quota Lists, the principles I have defined for work on this edition, and a guide to the future study of Athenian imperial tribute.

Chapter 1

Introduction

In 478/7 B.C., in response to Persia's remarkably failed attempts to invade Greece in 490 and 480 B.C., a group of Greek states formed a naval alliance to provide for their common defence. Member states either contributed triremes (specialized war ships) or φόρος/phoros (tribute) to the alliance. The league's treasury was originally kept on the island of Delos, which is where the alliance's modern name, the Delian League, derives from. After the treasury was moved to Athens (although not necessarily starting the same year), the Athenians started keeping records of the ἀπαρχαί/*aparchai* ("first-fruits"), one sixtieth of the total tribute paid, which was given to Athena. The Athenian Tribute Quota Lists record the *aparchai* contributed by each member state (Meiggs 1972, p. 43). The quota lists are a uniquely important source, since tribute is often cited as the cause of the transformation of the Delian League into the Athenian Empire. They offer a different kind of evidence than literary and historical sources for this time period since they are administrative records.

In order to reassess Athenian imperial tribute, I went back to the primary evidence: the Athenian Tribute Quota Lists. These are exceptionally complex and fragmentary inscriptions from the fifth century B.C. Stele 1, the massive stone recording the first fifteen years of tribute quota payments, is by far the largest block of marble ever used for an inscription in Athens (Stroud 2006, p.12). They were displayed publicly on the Acropolis, and were meant to be permanent records. Today the inscriptions are housed in the Epigraphic Museum in Athens where they stand reconstructed with plaster from hundreds of stone fragments. My research has focused on the first eight years of the lists, which make up the entire front face of this stele and the right lateral face of Stele 1 and is some of the most extensively preserved material.

Since the evidence for the tribute is fragmentary by nature, it is necessary for an edition to indicate explicitly what is and is not preserved. Since there are so many lacunae, partial letters, and unclear readings, the ability to refer to the visual evidence of the stones is essential. There is a tendency for discussions of the quota lists to separate questions concerning the implications of the tribute's role in the Athenian Empire from an epigraphic examination of the visual evidence for tribute. In this way restorations are proposed based

on other restorations, and reasoning can quickly become circular. This is mostly because the Athenian Tribute Quota Lists are extraordinarily difficult to work with.

The quota lists are difficult to work with not only because they are so fragmentary, but also because their contents are multidimensional. The data include chronological and geographic references, numerical figures, records of group payments, multiple payments by the same state, late and partial payments, etc. The Athenian Tribute Quota Lists are so complex and so crucial to our understanding of the fifth century B.C. that they demanded a new approach. We need a new kind of edition that explicitly records information about the state of preservation and that incorporates the visual record for the stones alongside the edited text. This has not been possible before this newly conceived digital edition.

In 1949 the inscriptions were edited and published in four volumes called the *The Athenian Tribute Lists* by Benjamin Dean Meritt, H. T. Wade-Gery, and Malcolm Francis McGregor (abbreviated *ATL* hereafter). These books have been the basis for all scholarship on the Athenian Tribute Quota Lists since, but even this lavish folio-sized series runs into inherent limitations of the print medium. Apart from an occasional photograph, the edited text is completely separate from the visual evidence. A book is not especially conducive to coordinating photographs with edited text. Restorations are printed alongside extant text, and although differentiated, cannot be disentangled from the extant text. The format forces the reader to trust the editors' reading of the stone, and makes it hard to assess the editors' restorations.

A digital edition can address these issues. All edited text can be viewed directly alongside the photos forming the basis of the edition. And since the digital text encodes which readings are restored, readers can choose to hide or view restorations according to their needs. This allows new interpretations to be formed based on the primary evidence rather than off of previous editorial choices (although it does not preclude those types of interpretations either). Just as valuable are the ways in which a digital edition supports reorganizing the data for visualization and innovative analyses. For example, seeing a list of payment records in sequential order can lead to an understanding of patterns from year to year. Seeing this sequence projected on a map can lead to further insight about any geographical patterns.

A digital edition can also facilitate the study of the inscriptions by integrating its varied and complex contents. If you are reading the edition of Year 1 in Volume II of *ATL* and want to look up a place name, you must look it up in the gazetteer in Volume I. But in the digital edition, the map of member states and the edited text are linked, so that going from one to another only takes one click. While this may sound trivial, when working with data sets this large and complex, ease of access to the information is essential.

This is why I decided to go back to the primary source evidence for the inscriptions and study the stones themselves. When I was studying abroad in Athens, I got permission to study and photograph the inscriptions at the Epigraphic Museum. My original photos are the only readily available photos of the material and I created my editions of the first eight years by editing the source text directly from this primary photographic evidence. My work would not have been possible without the work of the editors of *ATL*. And although I have used and have the utmost respect for their work, I have been de-

terminated not to yield blindly to their authority. For example, I have chosen to refer to each document as “Year 1” instead of their “454 B.C.” This is both to avoid problems with chronology and to be consistent with the way the text refers to itself. The only exception to putting complete faith in their authority has been the arrangement of the stones in the stelae, which I used as the starting point for my research. I have necessarily had to take for granted the arrangement of the stone fragments on the stelae in the Epigraphic Museum. I have set out to reimagine the study of the Athenian Tribute Quota Lists from the ground up, but a complete and even more comprehensive approach would require taking apart the reconstruction of Stele 1 in the Epigraphic Museum and examining the physical relationships of the stones to one another, as Ronald Stroud called for in his lecture.

Chapter 2

Editorial Method

Source material

I relied almost exclusively on the drawings instead of the photographs for editing the first two years. Due to the height of Stele 1 and the nature of its reconstruction in the Epigraphic Museum, it was not possible for me to get photos of these years (which are at the topmost part of the obverse face) that were clear and detailed enough to use as the primary source for editing. I worked directly from my photography for Years 3-8. All characters marked in the TEI XML edition as `<supplied resp="ATL">` come from ATL Volume II. This tag attributes the responsibility of the restoration to the ATL editors.

Goals

The goal of my diplomatic edition is to accurately and completely record what is on the stone. The stelae are similar to classical stoichedon inscriptions, which have no spaces between words and are organized so that each letter takes up an equal amount of space. In order to reflect this, my diplomatic edition also contains no spaces between words and treats letters the same way. The first step in creating the edition was transcribing the text from my photographs (or in the case of Years 1-2, the ATL drawings). Then I identified which letters are extant and which are unclear and tag them using TEI markup as documented below. Lastly, I identified the semantic elements of the text, labeling whether a group of characters is a place name, a payment amount, or a header.

I also created a parallel normalized edition for each year. The Attic alphabet used for inscriptions is different than the classical literary alphabet most students of Ancient Greek are familiar and therefore the normalized edition is made acceptable to that audience. I created each normalized edition immediately after creating the diplomatic edition for that year, converting the text from the Attic to literary alphabet. Since transliteration

equivalences may require two letters to be put in the place of one or vice versa, the normalized edition cannot stay true to the stoichedon layout. I have removed all stone numbers in the normalized editions in order not to misrepresent transliteration equivalences as characters present on the actual stone. Another benefit of the normalized edition is its compatibility with automated processing, like the Perseus morphological parser. While normalized edition is helpful for ease of reading, the reader concerned with epigraphic certainty should consult the diplomatic edition.

After both the normalized and diplomatic editions for each year were complete I assigned each place name and each payment a confidence level, which is recorded separately from the edited text. When I was not sure what confidence level to assign based on the TEI markup, I re-examined the visual evidence in order to make my decision.

Character set

Digital editors need to make decisions about character sets; unlike print editors who need to choose glyphs that look right on paper. I used Unicode, the standard for encoding text, for writing the characters. However, Unicode does not have the Attic alphabet. Therefore I had to come up with the best solution available. I wrote letters using the classical Greek alphabet (Unicode 370) and typed them using the program SophoKeys. But some letters in the Attic alphabet are represented with different glyphs than classical letters (e.g. pi, zeta). This means that some letters will look differently in the edition than they do on the stone.

The lists use the Attic alphabet which is slightly different from the alphabet readers of literary Ancient Greek are familiar with. No accents or breath marks are used. The table below allows the reader to convert the text to literary Greek and is what I used to convert the characters in the diplomatic edition to those in the normalized edition.

For most numbers, I used those in the “Ancient Greek Numbers” category (Unicode 10140). However, some acrophonic numerals use the same glyph as an Attic letter (e.g. pi=5 drachmae, iota=1 obol) and these do not have separate Unicode characters. So I had to use the Greek letters that are visually the same as the numbers, even though those characters are not semantically numbers. I used the Greek high-stop (·) to represent the epigraphic punctuation mark that is two or three dots stacked vertically (Unicode 387). I chose to use this punctuation instead of a colon (:), even though the visual form of their glyphs is similar, in order to stay within the Greek alphabet and because the high-stop and the epigraphic punctuation mark have the same semantics.

TEI markup

I wrote the code for all editions using Extensible Markup Language (XML) which allows the text to be both machine-readable and human-readable. Within the XML I used the Text Encoding Initiative (TEI), which provides a vocabulary for tagging different semantic elements in the text.

Attic	Literary
Ε	ε
Ε	ει
Ε	η
ΕΙ	η
Η	·
ΝΓ	ΓΓ
Ο	ο
Ο	ου
Ο	ω
ΦΣ	ψ
ΧΣ	ξ

Figure 2.1: Transliteration Equivalences

Editorial certainty

All readings belong to one of three levels of editorial certainty. When characters are not given a tag, this means they are extant, and the text is unambiguously legible, even if not completely preserved. Therefore, this includes both characters that are completely and unambiguously visible on the stone and characters that may be partially missing but only have one real possibility and are therefore semantically clear. The TEI `<unclear>` tag is used for characters that are not fully extant on the stone and that could, based on their visual form, allow more than one possible restoration. This includes partial characters and characters that are faded or otherwise damaged. The TEI `<supplied>` tag is used for characters with no traces extant on the stone that have been restored by an editor. Where the ATL editors have made restorations, they are identified with the tag `<supplied resp="ATL">`. Often the ATL editors have a character marked as clear in their edition, but there is no trace of the character visible on the stone in my photograph. In these instances I mark the character as `<supplied resp="ATL">`. These discrepancies may be due to additional wear on the stelae since the ATL's publication in 1949 rather than overly confident editing. Nevertheless, my editorial work is guided by the principle to represent as clear only what remains extant and can be seen on the stone today. I always include their restorations so that, if it is the case that the characters were visible on the stone sixty years ago, this valuable information will not be lost.

All extant text is wrapped with a tag `”` identifies which stone it is on (the stone identification numbers are from the ATL drawings). Supplied text is not with this tag, since it does not exist on a stone. All lost stones are encoded using the identifier `<seg n="1" type="stone" ana="lost">` but are not marked as `<supplied>`. For all lost stones, I have examined the ATL drawings and encoded them using the same conventions of clear and unclear as I used for the photographs.

The ATL editors use the notation `< >` to mark “letters read by the editors which were wrongly cut or inadvertently omitted by the stonecutter” (ATL Volume II, p. 7). These are instances where there is a clearly legible character visible on the stone but they have chosen to change it to another. Reasons for doing so include supposed misspellings of place names and odd payment amounts. Although these may be valid interpretations, I could not call this a diplomatic edition if I chose to handle these possibly puzzling entries in the same way. I do not want to eliminate the possibility that these are examples of alternate forms rather than misspellings of place names and that *poleis* only paid tribute in neat round amounts.

Where the ATL editors have used the notation `()` to mark “letters added by way of interpretation of an abbreviated text” I use the TEI markup

```
<choice><abbr></abbr><expan></expan></choice>
```

In these cases, the stonecutter abbreviated the place name due to limited space and the added letters are simply giving the full form of the place name.

I have assigned a numerical identifier to each place name. When there are variant spellings of a place name, they are all given the same identifier since they refer to the same place.

There are a few editorial concerns specific to the normalized version. I have added accents, breath marks, spaces between words, and made changes from the epigraphic alphabet to its corresponding literary equivalences. When two letters in the diplomatic edition would form one in the normalized edition (e.g. $\Phi\Sigma$ to ψ) and one of the two letters is completely missing, the normalized letter is marked as `<unclear>`. When one or both letters are partially missing but are semantically clear, the normalized letter is marked as clear.

Chapter 3

Guide to Reading the First Eight Years of the Quota Lists

The Athenian Tribute Quota Lists recorded the *aparchai* on four stelae for the at least 34 years of tribute collection (the *ATL* editors give 49 years, but Year 34 is the latest preserved header). I edited the first eight years of the lists, which are inscribed on Stele 1. Years 1-2 are inscribed on both the obverse and the lateral faces, Years 3-7 are inscribed on the obverse face, and Year 8 is inscribed on the right lateral face.

Each year should be understood as an individual document. Stele 1 itself is not a single document, since it was inscribed on an annual basis over the course of many years. There is a heading for each document that gives the relative number of the year (i.e., first, second) and the name of the secretary (Hellenotamiai). While the relative year numbers can not correlate to the beginning of tribute collection at Delos, the headings explicitly indicate that the quota lists were the beginning of *something* (e.g., the first time the league treasury was housed in Athens, or the first time *aparchai* were given to Athena). Underneath the header there are multiple columns listing the *aparchai* payment amount and the name of the place that contributed. The place name is usually, but not always, written as the nominative plural name for its people.

The payments are recorded using the Attic acrophonic numeral system. The character used to represent a number is determined by the first letter of the word for that letter (e.g. Π represents 5 drachmae because the word for five is πέντε). Unlike the Roman numeral system, the acrophonic system is only additive (e.g. 9 drachmae is ΠΙΠΙ not ΙΔ). The number five in increasing orders of magnitude are represented with composites of pi (e.g. 50 is written as a delta nesting within a pi since $5 \times 10 = 50$).

Calculating Tribute Payments

1 drachma= 6 obols

1 talent= 6,000 drachmae= 36,000 obols

All amounts recorded on the Athenian Tribute

Lists are ἀπαρχαί, therefore they must be multiplied by 60 to get the full amount paid.

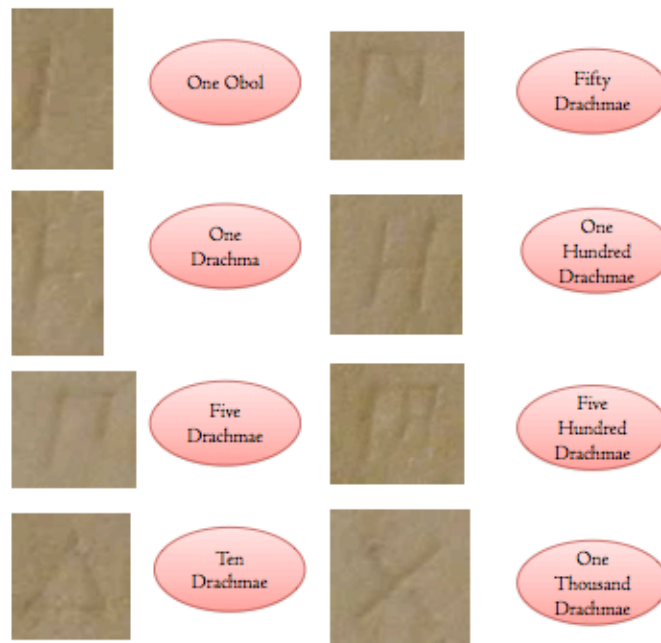


Figure 3.1: Calculating Tribute Payments

Layout of the texts

The layout of the inscriptions resembles the stoichedon method. This term is derived from the adverb στοιχηδόν translated as “in a row,” or “letter by letter.” The Attic alphabet only has uppercase letters. There are no spaces between words, and the text is laid out in a grid pattern where each character gets one space. However, the quota lists are not perfectly stoichedon. Since place names and payment amounts are of varying lengths, the layout is not nearly as uniform as a stoichedon decree. Place names are all aligned, beginning from the same position. But the payment amounts are not as uniform. Some will begin at the edge of a column while others will begin in the middle of a line. While one payment will be expressed using seven characters, a different amount will only require one character. This same principle applies to place names, since different names are spelled using different amounts of letters. Therefore one line may use all of the available space and another may have blank gaps where the space was not needed.

Year-by-year guide

The following is a guide to reading each of the first eight years. I have noted exceptions to the general format of the list and changes in recording practices.

Year 1 was inscribed at the top of Stele 1’s obverse face. Its header is four lines long. The list contains six columns on the obverse face with twenty-four rows in each (the numbering for the columns starts at line 5 to account for the header). In each column, the place name is inscribed first on the left side of the column. The corresponding payment amount is inscribed on the right side of the same column. The place name and its payment amount are consistently separated in Year 1 by a punctuation mark that is two vertically stacked dots.

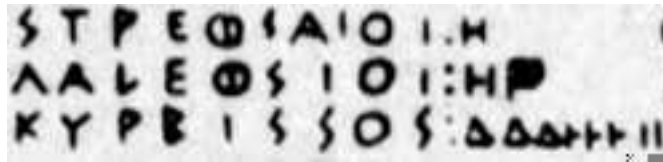


Figure 3.2: Punctuation Mark

In Year 1 there are multiple instances (Column 2 lines 25-26, Column 4 lines 4-5, Column 4 lines 12-13, Column 4 lines 17-18, Column 4 lines 19-20, Column 5 lines 3-4, Column 5 lines 4-5, Column 5 lines 11-12) of long place names that are written across two separate lines (e.g.: “ΗΑΛΙΚΑΡ” on line 12 and “ΝΑΣΣΕΣ” on line 13). However, there is no similar instance of a single long place name that was arbitrarily divided in two parts on two lines after Year 1.

After Year 1, the only instances when two lines are used for a single entry occur when there is a copayment (i.e., two distinct places pay together, with one name on each line)

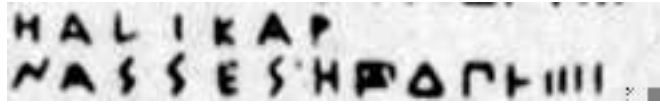


Figure 3.3: Column 4 lines 12-13

and when there is a place name that contains multiple words. This practice of splitting a “compound” name across two lines according to their inherent word divisions is common throughout the lists but the practice of simply splitting a long name halfway and inscribing it on two separate lines does not continue after Year 1. This must be the reason for the abbreviated forms in Year 2, Column 10 (see below).

Year 2 is the only other list inscribed across two faces of Stele 1, but unlike Year 1 which has a postscript on its right lateral face, Year 2’s right lateral face is a continuation of its list and contains Columns 8-10. Its header is one line long and each column has seventeen entries. Column 10 is shorter with only ten entries and there is preserved blank space beneath the tenth entry on stone 11 before the start of Year 8. Three entries in Column 10 appear to be abbreviated because the stonecutter ran out of room on the right lateral face. Line 5 has BOYΘEIE for BOYΘEIEΣ; line 6 has XEPPONE for XEPPONEΣITAI; line 11 has ΔΙΑΥΜΟΤΕΙ for ΔΙΑΥΜΟΤΕΙΧΙΤΑΙ. There is plenty of spare space at the end of Column 10, so the stonecutter seemingly could have used two lines to write these three names, but instead they are abbreviated. I think the reason must be that the convention changed and it was no longer the convention to allow a single place name to run over onto a second line when it was not a compound name.

In Year 2 Column 6, line 14 the amount reads 5 drachmae, 2 drachmae, and 3 obols equalling 45 obols. But the ATL editors believe that the stonecutter mistakenly inscribed 2 drachmae and 3 obols instead of correctly inscribing 3 drachmae and 2 obols, which would equal 50 obols. I have chosen to leave the character as it appears on the stone and in their drawings: as an obol. My edition seeks to represent what is extant on the stone. I have therefore refrained from making judgments about potential stonecutter errors.

Year 3 is inscribed on the obverse face only. It has a single line header and 5 columns each with 30 entries. A single payment record may take up more than one line. It is not uncommon for a long place name to be split across two lines, but it is rare for a payment amount to do so. Year 3, Column 3, lines 2-3 is one example of this rare case. On line 2, the first half of the place name is inscribed “BEPY” and the rest of the name is inscribed on line 3 “ΗΥΠΟΤΕ.” The payment is also split across two lines. Line 2 lists 10 drachmae, 5 drachmae, and 1 drachma; line 3 lists 4 obols. Together these two lines form the single payment of 100 obols, just as together the two lines form a single place name.

Year 4 is inscribed on the obverse face only, and each of its five columns has 32 lines. None of the columns has its bottom preserved, so the list was most likely longer than 32 lines per column.

Year 5 is inscribed on the obverse face only, and each of its five columns has 41 lines. Column 2, lines 13-17 form a group payment, although no payment amount is preserved.



Figure 3.4: Year 2, Column 10

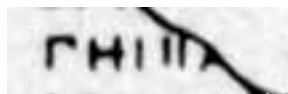


Figure 3.5: Year 2 Column 6, line 14



Figure 3.6: Year 3, Column 3, lines 2-3

There is no record for Year 6. The end of Year 5 and the heading of Year 7 are both clearly enough visible to show definitively that there was not another list between them. Therefore, the absence of Year 6 is not simply an accident of preservation.

Year 7 has four columns with 38 lines each and is inscribed on the obverse face only. In Column 3, from lines 28-32 there is a large “copayment” of six different places paying together. In line 28 there is a place (most likely EPYΘPAIOI because it is preserved with the same places in other years, but only OI is preserved) that is consistent with the typical letter size of the list. But lines 29-32 were inscribed using significantly smaller letters. This text is highly unusual. It explains that Erythrai paid for itself and for Polichne, while Sidousa, Boutheia, Elaioussa, and Pteleon all paid for themselves. These six places formed one joint payment; the amount is not preserved on the stone, but is restored by *ATL* as 5,400 obols.



Figure 3.7: Year 7, Column 3, lines 28-32

There is another oddity in Year 7, Column 4, line 2. The last 4 obols of the payment for Lampsakos are written slightly underneath the rest of the payment. This seems to have caused the next few payments to be slightly misaligned with their corresponding place names.

Year 8 is inscribed on the right lateral face only. It has two columns with 113 preserved-lines each, but the bottom of neither column is preserved. Its header is four lines long. Since the right lateral face is much narrower than the obverse face, the header and columns are longer than those years inscribed on the obverse face. Year 8 begins by

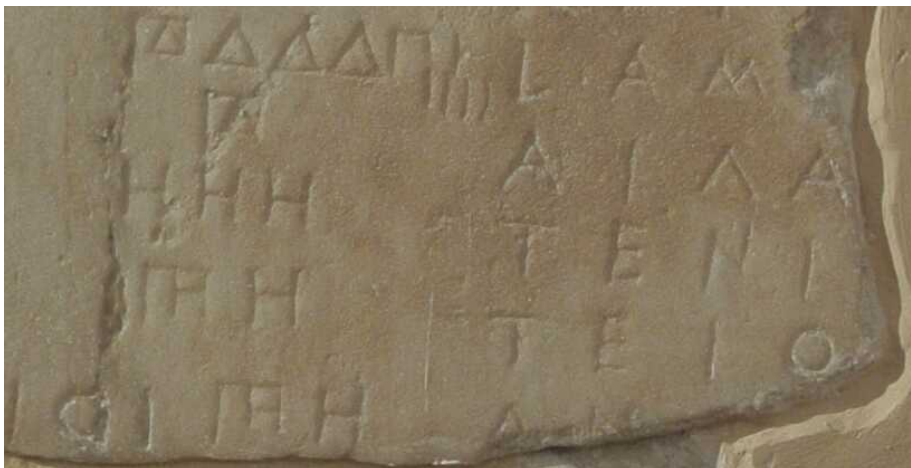


Figure 3.8: Year 7, Column 4, line 2

repeating the names of Year 7 in a similar order. In Column 1, lines 58-64, there is a large group payment by six members of the Erythrai syntely. On line 60, there is a sentence that extends across Column 1 into Column 2. This large group entry has a unique organization. The stonecutter inscribed at least one character on each line of the group entry, so that the entire amount is distributed across seven lines. This is the only instance in the first eight years of the quota lists where a group payment was inscribed in this way.

Byzantion is listed twice in Year 8: once in line 103 and again immediately underneath in line 104. In each line, the amount is split with some numerals on the left side of the place name (where they typically go) and the right side of the place name. We can be sure that the numerals on the right side belong with Byzantion and not another entry in Column 2 because there are punctuation marks separating them.



Figure 3.9: Year 8, Column 1, lines 103-104

The first evidence for partial payments and arrears occurs in Year 8. Column 5 is, at least partially, a “complementary appendix” listing several names that are already listed earlier for the same year as well as arrears.

In order to better filter the data, I have established identifiers to signify the epigraphic confidence levels of place names and payments. These are for the diplomatic editions only, as they are the truest representation of the evidence.

All three levels may contain partially restored readings. Therefore, the confidence levels

do not simply denote whether a reading has been restored or not; the markup tag serves this purpose. The levels are intended to denote the true reliability of the reading and therefore to avoid arbitrary classifications; a place name missing its last letter is no less semantically clear than if it were fully extant.

Place Names

These are not based on historical context, geography, or patterns within the text. Restorations supplied by the ATL editors are often based on such factors, but these are separate from the confidence levels. I have based the confidence level classifications on the visual epigraphic evidence: the clarity of the letters. Arguments could be made on these factors later, but I considered it most important to first establish epigraphic confidence levels. The only factor I have considered other than the letter forms is the place name's uniqueness in the corpus of place names. So if there are only a few letters extant in an entry, but the order and combination of letters is so unique that it appears in no other name in the corpus of places, than that name would be classified as extant. This decision entails the implicit assumption that there is at least one extant record for every polis that ever paid tribute. While arguably flawed, I think this approach is necessary in order avoid classifying a place name as confident or restored when it is not necessary to do so.

The highest level is "extant": the place name is completely visible on the stone or there is no other possible reading. A few letters may be unclear or missing (e.g. the common masculine ending OI) but there is virtually no doubt as to the reading.

For this entry, "ΦΑΣΕΛ" is visible and "ITAI" is restored. Since only the ending of the name is missing, there is no doubt as to the identity of this place name and therefore it is classified as extant.

The middle level is "confident": there has been a significant restoration, but there is good reason to believe it is correct. There may be more than one potential reading.

The first three letters, "ΛΑΜ," of this place are clearly preserved and the rest, "ΦΣΑΚΕΝΟΙ," is restored. However since there are limited options for the three preserved letters it is considered a confident reading.

The lowest level is "restored": the reading has been either completely restored by the ATL editors or there is so little extant epigraphic evidence (e.g. one letter) that there are several possible readings.

Here only "TE" is preserved on the stone and "PMEPEΣ" is restored. Since there are several different options for places that start with these two letters (e.g. TEΑΑΝΔΡΙΟΙ, TENIOI) there are too many possible restorations for it to be a confident reading.

N.B. When there are only a few letters preserved in a line and no restoration has been attempted by the ATL editors, then it has not been tagged as a specific place and therefore there will be no confidence level applied to it.

Payments

The Athenian Tribute Lists use the acrophonic numeral system, which has higher numbers preceding lower numbers from left to right across a line. Any number must be either

the same or a lower denomination than the one that precedes it (on the left). Therefore numeric characters which are unclear or missing on the right side of a line do not impact the confidence of a reading as much as those which are missing on the right side of a line.

The highest level is “extant” and has the same criteria as for place names. The payment is either completely visible on the stone or there is no other possible reading. A few numbers may be unclear or missing but there is virtually no doubt as to the payment amount. When a payment is extant, both the minimum and maximum amounts will be the amount recorded on the stone since there is only one possibility.

is an example of when a line is missing a character but the reading is completely confident. The crack in the stone only leaves enough space for one character, and it can only be an obol because an obol precedes it.

There is only room for one character in the space between the two stones, and it must be a delta because pi cannot occur twice in a row.

The middle level is “confident”: there has been a significant restoration, but there is good reason to believe it is correct. There may be more than one potential reading. When there is blank space on the left side of a line and there may have been characters preceding the extant one(s), making the amount much higher. In these cases, maximum and minimum values will be assigned. The minimum is the total amount of the numbers extant on the stone because the payment could obviously not have been any lower than this. The maximum is the largest payment amount possible considering which characters can come before/after those extant. When there is a blank gap where characters most likely would have been, the size of the gap is taken into account. If there is only enough space for two characters then the maximum amount cannot be a number that would require three more characters.

An eta (representing 100 drachmae) is clearly legible on the stone, but there is missing space to its left that may have contained a larger number (such as a chi/ 1,000 drachmae). This would be an appropriate instance to use min/max values.

A reading may also qualify as “confident” if there are several characters unclear or missing on the right side of the payment, but there are multiple options. The minimum value cannot only be the amount of the extant characters if there is a space for more characters on the right side.

The lowest level is “restored” and has the same criteria for place names. The reading has been either completely restored by the ATL editors or there is so little extant epigraphic evidence (e.g. one obol) that there are several possible readings. When an amount

1. Chronological Chart of Payment Record Sequence

This is a chronological list of all the payments. It is useful for analyses of the sequences of different years. If there are repeated sequences of different poleis in the same order or in similar orders, this could tell us something about the administrative practices of the hellenotamiai.

Phoros: extant payment records by year

payrec	siteName	year	obols
urn:cite:phoros:payrec.1	Stageira	1	100
urn:cite:phoros:payrec.2	Pharbelos	1	100
urn:cite:phoros:payrec.3	Elaia	1	100
urn:cite:phoros:payrec.4	Ephesos	1	4500
urn:cite:phoros:payrec.5	Ainos	1	7200
urn:cite:phoros:payrec.6	Naxia	1	100
urn:cite:phoros:payrec.7	Madnasa/Medmassa	1	1200

Figure 3.10: Chart of Payment Records

2. Chart of Surviving Records Listed by Polis

Overview of surviving payment records through year 8

Key to table

Color	Meaning
Green	Place name and amount paid preserved
Orange	Place name preserved, but amount not legible
Red	No record for place name preserved

Numbers record the amount of tribute in obols.

Surviving records by city (alphabetical)

Site	Year 1	Year 2	Year 3	Year 4	Year 5	Year 7	Year 8
Abdera	7712		9000		9000	8400	9000
Abydos	2626						
Aige				300		300	300
Aigina	3000	18000	18000				
Aineia					1800	1800	1800
Ainos	7200	7200	1800	1800	7200	7200	855

Figure 3.11: Alphabetical Chart of Surviving Records

This chart lists each polis alphabetically. The entry for a year will be red if the place name is not preserved for that year. This could mean that the polis did not pay tribute that year or it could mean that there is simply no extant record of its payment. The entry for a year will be orange if the place name is preserved but the payment amount is not. The entry will be green and an amount will be listed if both the payment amount and place name are extant for a year. This is useful as a reference to track one city's payment records over every year.

3. Map of Payments Adjustable by Year and Amount

When nothing is selected (as in Figure 3.12) this map shows all of the payment records for the first eight years. The graphs beneath the map can be used to select the information displayed on the map. The lefthand graph shows the amount of payment records per year. The righthand graph shows the number of payments per each payment amount.

Phoros: overview of payments by year and amount

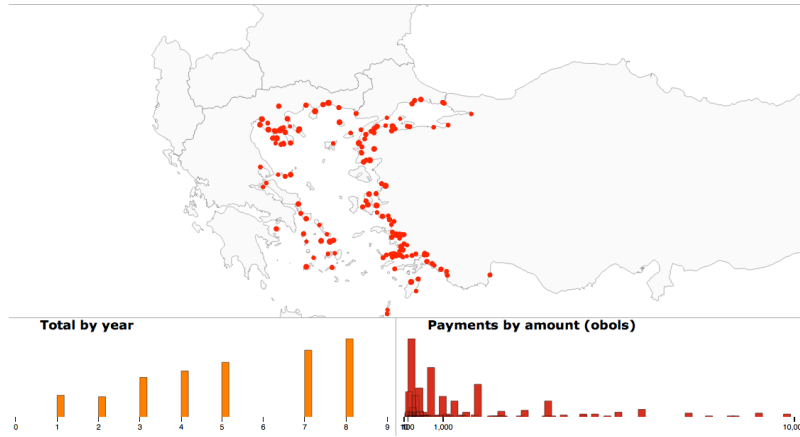


Figure 3.12: Map of All Payments for the First Eight Years

Phoros: overview of payments by year and amount

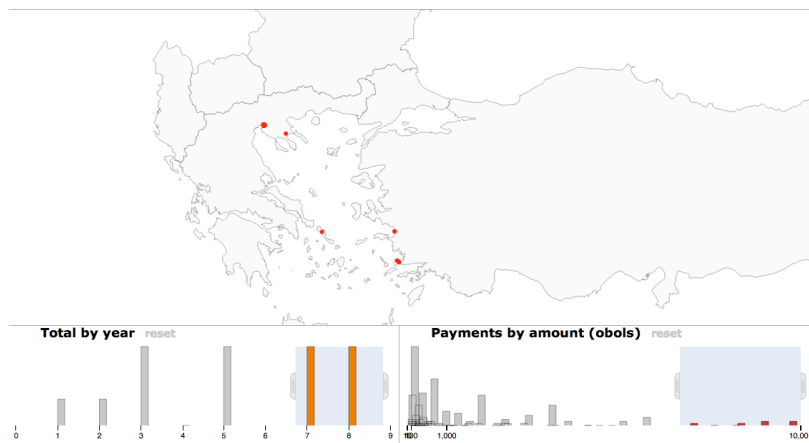


Figure 3.13: Map of High Payers in Years 7 and 8

Figure 3.13 is an example of a display when both the years and payment amounts are selected. Years 7 and 8 are selected and the highest payment amounts are selected. This shows which places paid the most in Years 7 and 8 and where they are located geographically.

4. Map of Surviving Records of Payments by Year

Phoros: extant payment records by year

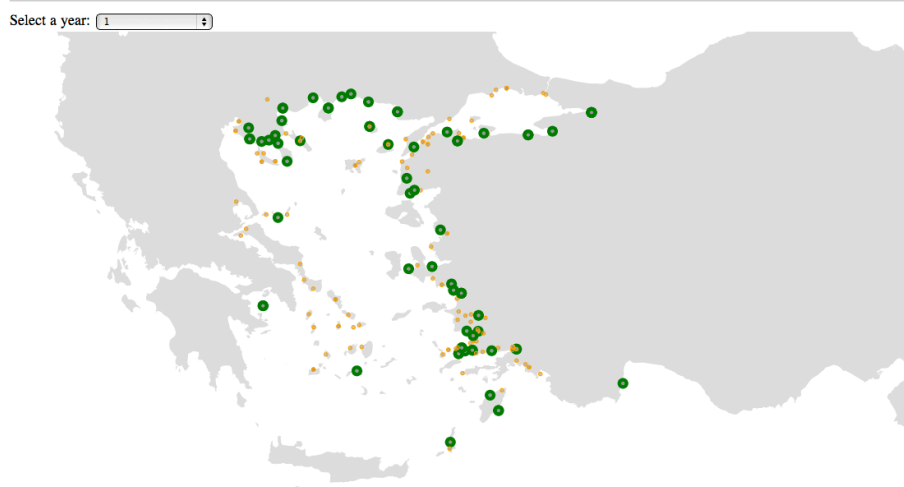


Figure 3.14: Extant Records for Year 1

This visualization shows which places have extant records for a certain year. All of the places from the entire corpus of place names from the first eight years are plotted on the map, but those with records for the selected year appear larger and colored green on the map. Figure 3.14 displays all of the extant payment records for Year 1.

5. Map of the Changes in Payment and the Payment Amounts by Year

The relative amount of a payment is represented by the size of the circle used to plot it on a map. The colors of the circles represent changes (or lack thereof) from the previous record for each individual place. Figure 3.15 is selected to display Year 5. The colors do not show the Year 5's payments in relation to Year 4's payments. Rather, the color for each individual place represents its relation to the previous record for that place. Therefore, if a polis paid in Year 1 and did not pay again until Year 5, the color displayed in this view would be in relation to its payment in Year 1. This map can be used to track the changes in payments for various places over time.

6. Map of the Sequence of Payments and the Amounts of Payments by Year

Phoros: changes and size of payment

Key to map

- Size of circle reflects amount of tribute
- Color shows relation to previous extant record

Color Meaning

- | | |
|--------------------------------------|-----------------|
| ■ | No change |
| ■ | Payment lowered |
| ■ | Payment raised |

Select year:

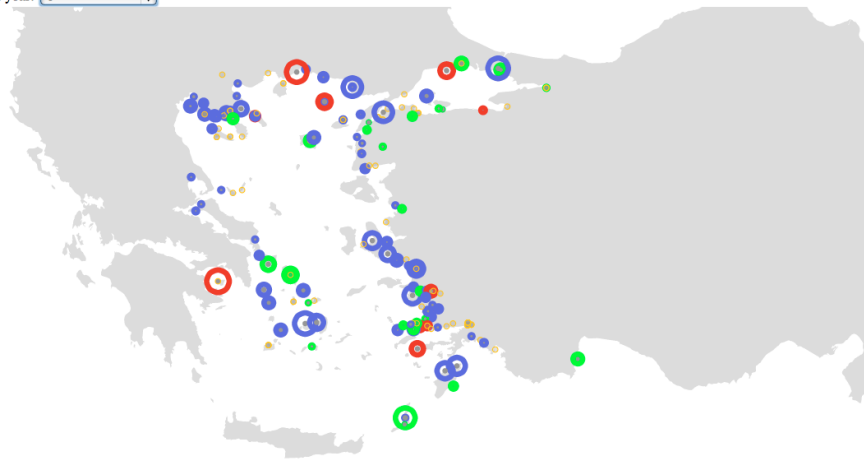


Figure 3.15: Map Displaying Changes and Sizes in Payments for Year 5

Phoros: sequence and size of payments by year

Key to map

- Size of circle reflects amount of tribute
- Color shows position of payment in the list for the year (ramped from dark green = first to dark red = last)

Color	Meaning
Dark Green	First in list for year
Dark Red	Last in list for year
Blue	No record preserved for year

Select year:

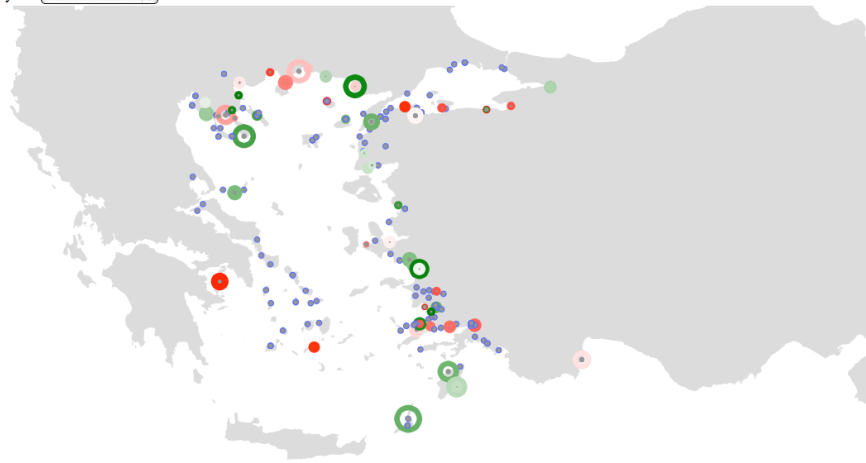


Figure 3.16: Map of Year 1 Sequence

As in the previous map, the relative amount of a payment is represented by the size of the circle used to plot it on a map. The color of the circle represents its sequence in the list for that year. All circles are on a gradient from green, the first polis listed, to red, the last polis listed. Figure 3.16 is selected to display Year 1.

Chapter 4

Conclusions

An article entitled *The Wrongful Execution of the Hellênôtamiai (Antiphon 5.69–71) and the Lapis Primus* published in *Classical Philology* in January 2014, during the second semester of my thesis work, demonstrates how pressing the need for a digital edition of the Athenian Tribute Quota Lists is. Stephen Tracey makes a compelling argument in his article that Year 6 is missing because of the tragedy of the wrongful execution of the treasurers of Athena. He points to internal difficulties, showing that there were serious irregularities in Years 7–8 following the tragedy. These years do not seem to be planned out as deliberately as other years, and there are many more instances of the same state paying multiple times in each of these years. His entire argument is based off of visual evidence from the quota lists of disruptions in the previously orderly collection and recording of tribute. Reading this article alongside *ATL* is not very helpful, since the disorderly years look orderly in a print edition. In order to make sense of his argument, a reader must view the visual evidence for the stones. This digital edition could help make arguments like this more meaningful to a reader, who can see photos of the evidence.

The more time I have spent poring over photos of the stones that compose the Athenian Tribute Quota Lists rather than a neatly organized print edition, the harder it has become to make sweeping generalizations about the inscriptions. States come in and out of the record. They pay as part of a group one year and as an individual state the next. Sometimes a state pays twice in one year. Payment amounts change on a seemingly ad-hoc basis. Record-keeping practices change over the years. Based on my edition of the first eight years of the quota lists, I can confidently say that the Athenians did not take a simple systematic approach to the assessment and recording of tribute in this period, but rather had a nuanced and evolving system. Instead of trying to impose macro patterns, such as assessment periods, upon the lists we should examine the data on a micro level and let the stones speak to us.

My thesis is only the beginning of work that should be done with the Athenian Tribute Quota Lists. I have laid the groundwork for reexamining the primary source material in innovative ways and exploring the many dimensions (e.g., sequencing, geography) of the data. I have defined my editorial principles clearly with the intention that someone else

can pick them up and begin where I left off. With more development and future work, this new approach to studying the Athenian Tribute Quota Lists can get at the heart of what is happening in Athens and the Mediterranean in the fifth century B.C.

Appendix A

Appendix 1: Overview of important literary sources

The problem of how to edit editions of literary texts is much better understood than the problem of epigraphic texts. There are already openly licensed XML editions of literary sources available for download through the Perseus Project. It would be helpful to have primary sources related to tribute available in the same archive as the epigraphic sources. While I have focused on studying the epigraphic evidence, the literary evidence is also essential to understanding tribute. The sources listed here should be studied alongside the Athenian Tribute Quota Lists. While the quota lists can tell us about changes in tribute over time, the literary sources can answer the most basic question: what is φόρος /tribute? What did φόρος represent? Why did the Athenians record 1/60th of it so painstakingly on stone? This appendix lists a very brief overview of the important passages related to tribute in the primary literary sources. This is by no means an exhaustive list, but rather one that I think could most benefit from analysis in relation to the digital edition of the Athenian Tribute Quota Lists.

Old Oligarch/Pseudo-Xenophon's Constitution of the Athenians

The author is against democracy, but gives an explanation of how it functions and what makes it successful in Athens. Athens' navy and tribute are listed as important parts of its democracy's success. This text is essential for understanding the regularity of tribute reassessment. The Old Oligarch makes a big distinction made between things done every year and things done from time to time. The author first describes duties that the Athenian government constantly has to deal with as they arise: πολλά δὲ περὶ τῶν κατὰ πόλιν ἀεὶ γιγνομένων (3.2). Among these duties is the receipt of tribute: φόρον δέξασθαι (3.2). The discussion then shifts to annual duties such as the appointment of trierarchs.

This section ends with the statement: ταῦτα μὲν οὖν ὅσα ἔτη (3.5). The sentence immediately following this starts with the phrase διὰ χρόνου, “at times,” which sharply contrasts with those things done every year. This includes unexpected issues (ἐξαπιναῖον ἀδίκημα γίγνηται) such as instances of hubris. The author then says he has skipped over many things, but he has discussed the most important except for the assessment of tribute (αἱ τάξεις τοῦ φόρου). This still seems to be in the category of things that happen διὰ χρόνου. Therefore, when he describes assessment as occurring τοῦτο δὲ γίγνεται ὡς τὰ πολλὰ δι’ ἔτους πέμπτου, the ὡς τὰ πολλὰ has more force. If reassessment had consistently occurred on a quadrennial basis, it would fit better with the structure of the Old Oligarch’s essay to mention it along with Athens’ annual duties rather than with its occasional duties. I think the theory, set out in *The Athenian Tribute Lists* and *The Athenian Empire*, that there was a reassessment every four years at the Great Panathenaea is difficult to reconcile with this passage especially since we only have evidence for one comprehensive reassessment: the Reassessment Decree. The digital edition could be utilized to re-examine the question of reassessment in a more efficient way.

Thucydides

Thucydides gives us a narrative of the Pentekontaeteia, the fifty year period between the Persian Wars and the Peloponnesian War, when tribute was collected. The vocabulary he uses is important to our understanding of tribute. The word φόρος is used in the singular to mean the whole tribute for that year while the plural is used to mean discrete payments made by individual allies. The verb τάσσω is used to describe the assessment of tribute.

The first time the word φόρος appears is in 1.19 where Thucydides contrasts how Sparta and Athens have control over their allies. Sparta establishes oligarchies while Athens assesses tribute. All except Chios and Lesbos brought Athens tribute. In 1.96 Thucydides again emphasizes that the Athenians determined who would contribute ships and who would contribute money: ἔταξαν ἅς τε ἔδει παρέχειν τῶν πόλεων χρήματα πρὸς τὸν βάρβαρον καὶ ἅς ναῦς. This use of τάσσω in the aorist active voice makes it clear that the type of contribution was determined by the Athenians and not the allies.

But there do seem to be exceptions to this rule and how Thucydides uses the verb τάσσω. In 1.99.1 he explains that the largest cause of revolts were arrears in tribute payments and ships. Those who could no longer contribute ships negotiated with the Athenians: χρήματα ἐτάξαντο ἀντὶ τῶν νεῶν τὸ ἰκνούμενον ἀνάλωμα φέρειν (1.99.3).

The word ἐτάξαντο here can be translated as “arranged” and it has the sense that the allies who no longer wished to contribute ships negotiated with the Athenians to pay money instead. This use of τάσσω in the middle voice conveys that they made arrangements for their own benefit. This contrasts with the previous use of the verb τάσσω with the Athenians as the active subject. The middle-voice usage of the verb parallels a header on Stele 2 in Year 21 Column 6 of the Athenian Tribute Quota Lists which reads “πολεῖς αὐταὶ ταξάμεναι.” It is possible that the eleven poleis listed under this heading previously contributed ships.

The Thasian episode described in 1.101.3 could shed light on instances of multiple entries for the same year that can be explained by late and partial payments. Thasos did not receive aid from Sparta due to an earthquake and Helot revolt, so they surrendered to Athens under these terms: ναῦς παραδόντες, χρήματά τε ὅσα ἔδει ἀποδοῦναι αὐτίκα ταξάμενοι καὶ τὸ λοιπὸν φέρειν. While this incident dates to 466 B.C. and therefore predates the Athenian Tribute Quota Lists, it could still give us an idea of under what terms different poleis would contribute payments in installments (i.e., paying money now and bringing the rest later).

Plutarch's *Life of Aristides*

Plutarch tells us that Aristides was chosen by the Greeks to assess the amount of tribute they should pay since he was considered just. Plutarch and Thucydides both use the same verb to refer to assessment: τάσσω (the aorist passive infinitive ταχθῆναι is used in 24.1). Aristides determined the amounts by each ally's power (δύναμιν) and ability to pay. It could be worthwhile to do an analysis for the places in the Athenian Tribute Quota Lists to see how strong the correlation between tribute payments and the wealth of allies is. In 25.2 Aristides is asked his opinion on the transfer of the league treasury from Delos to Athens. He answers that it is unjust but that it is advantageous for Athens.

Appendix B

Chronology of the Quota Lists

I could not find an explanation for the traditional dating of Year 1 as 454 B.C. in any secondary literature. Many sources seem to imply that the dating is based on the archon's name in Year 1's heading. But this is not true, since the archon's name is entirely restored. The only other year that lists an archon name in the header is Year 34, which is not on Stele 1. All other years list the secretary name in the header. Ferguson's Law states that secretaries of the Boule revolved through the ten tribes on a regular cycle. But the secretaries named here do not follow Ferguson's Law: they cannot be secretaries of the Boule, and must instead refer to the secretary of the Hellenotamiai. *ATL* Volume I has a roster of the Hellenotamiai, which shows that they did not rotate through the tribes on a regular cycle.

The Hellenotamiai names cannot be used for dating purposes as archons can. So we must turn to our only year with a preserved Archon name: Year 34. This year has a long header, similar to that of Year 1, that has both the Archon name and the number of the year preserved. The archon Aristion is datable to 421 B.C. (Bickerman 168). Therefore, this locks the first year of the Athenian Tribute Quota Lists as 454 B.C. Hopefully this appendix can save someone else from my frustration with this chronology.

Epigraph

Some of us will not be around to see the new *lapis primus* but many younger scholars and students will be witnesses, perhaps even participants in what could be a radical rewriting of Athenian history from the stones.

Ronald Stroud, David M. Lewis Memorial Lecture

Sources Consulted

Epigraphic Sources

In addition to the tribute lists, the following inscriptions are essential for a study of the tribute system:

- IG I2 66: A decree regulating collection
- IG I2 91 + 92: The Decree of Kallias
- IG I2 65: Appointment of tribute collectors
- IG I2 63: Tribute reassessment Decree

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