



**Wouter F.M. Henkelman (CNWS - Leiden),
Charles E. Jones (Oriental Institute -
Chicago), Matthew W. Stolper (Oriental
Institute - Chicago)**

**Clay Tags with Achaemenid Seal
Impressions in the Dutch Institute of the
Near East (NINO) and Elsewhere**

1 Introduction and acknowledgements

The Dutch Institute for the Near East (NINO) in Leiden possesses twenty-one uninscribed clay objects of a kind variously called “bullae” or “clay tags” or “anepigraphic tablets” bearing Achaemenid cylinder-seal impressions (LB 893-913). The editorial board of ARTA thanks the curators of the NINO collection, Prof. dr. K. R. Veenhof and Prof. dr. J. de Roos, for their generous permission to illustrate, describe and discuss these hitherto unpublished objects. Thanks are due also to the curators of the Département des Antiquités Orientales of the Musée du Louvre, Drs. Béatrice André-Salvini and Annie Caubet, to the Conservateur en Chef of the Cabinet des Médailles of the Bibliothèque Nationale, Dr.



Michel Amandry, and to the Conservatrice, Mathilde Avisseau-Broustet, to the keepers of the Yale Babylonian Collection, Profs. W.W. Hallo and B. R. Foster and Dr. Ulla Kasten, and to the Special Projects Librarian at the Ambrose Swasey Library of the Crozer Theological Seminary, Lenore Rouse, for information, assistance, and permission to illustrate previously published and unpublished objects of the same kind with impressions of the same seals. The authors wish to express their gratitude to Mme. M.-F. Clergeau of the Collège de France for painstakingly scanning and upgrading the images of the tags in the NINO, the Musée du Louvre and the Bibliothèque Nationale. We are especially indebted to the Musée Achéménide Virtuel & Interactif, which paid for the majority of the photographs (also to be included in the MAVI data-base at www.musée-achéménide.org) and its director, Prof. Pierre Briant of the Collège de France, for his efforts in support of the present publication.

Images of the impressions on the Leiden, Louvre, Yale, and ex-Crozer tags can be accessed by clicking on the references indicated in color (**low/high** resolution) in the text and in the **index table** at the end of this paper. The digital images of the Leiden tags were taken by J. Prins (Leiden University). Images of the tags in the Bibliothèque Nationale were taken by Jean-Pierre Martin (Collège de France). The tags in the Musée du Louvre were photographed by Cyril Frésillon (Collège de France). Images of the tags in the Yale collection are by courtesy of the Yale Babylonian Collection. Images of the ex-Crozer tag and YBC 17070 were taken by M.W. Stolper.



2 The Leiden Tags

Origin of the collection – The Leiden tags are part of the “collectie Liagre Böhl,” a collection that consists mostly of cuneiform tablets acquired by the Leiden professor of Assyriology, Franz Marius Theodor de Liagre Böhl (1882-1976). They were most probably part of the *c.* 950 objects (mainly cuneiform tablets) that had been the private collection of Felix Ernst Peiser (1862-1921) and that Böhl acquired in 1922/23 and 1925 from Peiser’s widow, Toni Peiser. This collection was first brought to Groningen, where Böhl held a professorship until 1927, and subsequently most of it was moved to Leiden, where it was housed in the “Oostersch Instituut” (the predecessor of the NINO) from 1929 onwards. A small part of Böhl’s collection, including one of the Achaemenid clay tags, remained in the possession of the Groningen Institute of Semitics (later the Department of Middle and Near Eastern Languages and Cultures).¹

The clay tags cannot be attributed to the Peiser collection with complete certainty, as Böhl never described or alluded to them in any of his publications on this collection.²

¹ Niek Veldhuis, “Cuneiform Tablets at the Groningen Institute for Semitics,” *Zeitschrift für Assyriologie* 93, 2003, 53.

² F.M.Th. de Liagre Böhl, “Mededeelingen uit de Leidse Verzameling van Spijkerschrift-Inscripties” I-III (1933a; 1934; 1936). Two subsequent series, the



Nevertheless, the inventory numbers given by Böhl to the tags strongly suggest that they were part of this collection. Also, the number “P45” written in ink on LB 910 is probably Peiser’s number.³ As far as could be established, the NINO does not possess any additional documentation on the acquisition, content or origin of the Peiser collection.

A little additional information can be distilled from the Böhl correspondence in the special collections department of the University Library of Leiden.⁴ Apart from the letters to and from Toni Peiser, the correspondence with Böhl’s friend and colleague Ernst Weidner is of particular interest. Weidner, then a student of Peiser, had worked on a catalogue sometime

Tabulae Cuneiformes F. M. Th. de Liagre Böhl and the *Studia de Liagre Böhl* are equally silent on the tags. On the acquisition of the Peiser collection in 1922 see Böhl, *AfO* 2, 1924-5, 50. For a brief account on the origins of the “collectie Liagre Böhl” see A. A. Kampman, *Fs. Böhl*, 1973, 214-7.

³ Apart from the number “P45” written on **LB 910 edge 1**, the number “20” is written (in a different hand and with different ink) on the **base of LB 899**. **LB 900** has “2H7”(?) written on edge 2; **LB 904** has “171” on side 1. **LB 902 side 1** has a paper label with “G248”; the “G” (Groningen?) is written over a #-like monogram, conceivably a combination of “A” and “F,” for Allotte de la Fuÿe (see below). Böhl had started to use the siglum Gron[ingen] for objects formerly in the Peiser collection (Kampman, *Fs. Böhl*, 1973, 214). Once he had moved to Leiden, he started using the LB siglum, probably *not* after his initials (*pace* Kampman *loc. cit.*; “de Liagre” was not yet added to Böhl’s name at that point), but using the customary museum and library siglum for Leiden: L[ugdunum] B[atavorum].

⁴ The siglum of the Böhl correspondence is: BPL 3081 F.M.Th. de Liagre Böhl.



in the years 1910-1913 and was first to draw Böhl's attention to the collection when it was on sale by the end of 1921.⁵ In a letter to Böhl, dated 3/V/1922, Weidner explained that the collection consisted of two parts: Peiser kept c. 400 pieces at home, while another 550 pieces were loaned to the Prussia-Museum in the Königsberger Schloß. Weidner had worked on the latter part of the collection only and had his catalogue finished up to inv.no. P387. This means that, *if* the "P45" on LB 910 (see above) does indeed refer to Peiser's inventory number, a) the clay tags were already in the possession of Peiser in 1910-1913 or earlier and b) they were kept in the Prussia-Museum until 1922/23.

The Prussia-Museum published several catalogues, the fourth volume apparently including objects from the Peiser collection.⁶ We have not been able, however, to check this volume for possible images of or references to the Leiden tags. Also, the tags are not mentioned anywhere explicitly in the Böhl correspondence.⁷

⁵ Weidner to Böhl, *dd.* 25/VII/1921. Peiser's widow first offered the collection for sale to Böhl in a letter *dd.* 30/IX/1921. Apart from Weidner, Ferdinand Bork (Königsberg) was involved in the transaction as well.

⁶ Böhl in a letter to Toni Peiser, dated 15/X/1923, referring to two objects "beides auf S. 12 des Katalogs des Prussia Museums, Teil IV, 1907." The catalogue seems to be extremely rare; only its first volume is found in major libraries: *Katalog des Prussia-Museums im Nordflügel des Königlichen Schlosses zu Königsberg i. Pr.* T. I: *Steinzeit-, Bronzezeit-, Pfahlbau-Funde aufgestellt in Zimmer Nr. 1*, Königsberg 1893.

⁷ There is a packing list of 946 items, though, in one of Toni Peiser's letters to



From his correspondence with Peiser's widow, it appears that Böhl had at least part of Peiser's files at his disposal. Unfortunately, this documentation could not be retrieved. It is almost certain, however, that Peiser himself did not have accurate information on the provenience of most of his collection which was probably largely acquired via antiquities dealers.⁸ One of these dealers, the Paris-based I.E. Géjou, is reported to have sent 21 tablets to Peiser in 1914. Peiser may have acquired the Leiden tags from the same dealer, but there is no further evidence to substantiate this possibility.⁹

Böhl, which mentions several groups of tablets and has an entry with "21 Tontafeln" (letter *dd.* 25/IV/1922). Peiser's widow did not have much insight into the collection or into cuneiform tablets in general – it is certainly conceivable that she would have described the 21 Leiden tags as "21 Tontafeln."

⁸ Böhl remarks that two objects from Boğazköy (given by their excavator Winckler to Peiser) were the only ones with a reliable provenience: "Dies sind somit die einzigen Stücken, deren Herkunft und Fundort mit absoluter Sicherheit feststeht." (letter to Toni Peiser *dd.* 29/X/1923). On these pieces and their provenience see also Böhl, *AfO Beih.* 1 (1933), 9-12.

⁹ Böhl in a letter to Toni Peiser, *dd.* 15/XI/1923: "Ferner sende ich Ihnen als Belegstück beiliegend den Umschlag, auf welchem Ihr entschlafener Gatte notierte, dass die letzte Sendung Géjou's im Geldschrank der Prussia deponiert sei. Im diesem Umschlag befanden sich 21 Kopien von der Hand des Verstorbenen, die ich hier zurückbehalte, aus welchen sich aber ergibt, dass diese [*sic*] Sendung von 21 Tontafel am 23. Juni 1914 in Königsberg eingetroffen ist." It appears that I.E. Géjou had large shipments of antiquities at his disposal. Böhl himself acquired several hundred tablets from Géjou in the period 1931-1939.



Shape and size – The twenty-one clay tags are all of similar shape and size. They are triangular or subtriangular, tapering from a wide flattened base (the thickest part) to a rounded apex, presenting five surfaces to which seals were applied, namely, the surfaces corresponding to the obverse and reverse of similarly shaped inscribed objects, the two edges between the obverse and reverse, and the flattened base of the triangle, oval in section. At the ends of the long axis of this flattened base are holes from which the strings around which the objects were originally formed emerged from the clay. Except for LB 894 (on which see below), the seal impressions on the broadest sides (the “obverse” and “reverse”) are oriented in a consistent way implying that the flat edge with the string-holes (the base of the triangle) is the top of the object and the rounded end (the apex) is the bottom. The maximum height from top to bottom is 38 mm, the minimum 32 mm, the average 34.3 mm. The width of the top is always slightly greater than the height; the maximum width is 46 mm, the minimum 35 mm, the average 39.1 mm. The average thickness at the widest point of the top is 20 mm. Surfaces of some tags show impressions of a coarse material, possibly a textile (*see below*). Clear imprints are visible on **LB 893 side 1**, **LB 901 side 1** and **side 2**, **LB 908 side 1**, **LB 911 side 1** and **side 2**, **LB 912 side 1**. Vague or dubious traces appear on **LB 893 side 2**, **LB 900 base**, **LB 905 side 2**, **LB 908 side 2** and **edge 1**.

Seal impressions – Seals are impressed on all five surfaces of the tags except in four cases. On those four, one or two surfaces are without impressions. All impressions are from



seven seals, referred to as RB 1-7 (after the first publication of impressions made by the same seals, by Père Vincent Scheil, in *Revue Biblique* 10; **see below**).

One of the Leiden tags, LB 894, appears to have impressions of only one seal, RB 7, as does A O 29963 (**see below**). Impressions of this seal do not appear together with impressions of other seals. The impressions on the flat surfaces (the “obverse” and “reverse”) of this tag are oriented in a way that implies base of the triangle is the left edge of the object, rather than the top.

Except for LB 894, each of the Leiden tags has impressions of either three or four distinct seals. The top edge of each has the impression of either RB 6 or RB 5, and these two seals appear only on the top edges. The table below shows where impressions of RB 1-7 appear on the twenty-one Leiden tags (LB 893-913). The measurements of the impressions are indicated in mm. (width x height). In two or three cases one seal may have been rolled out twice on the same surface (see below), in which case two sets of measurements are given preceded by l(ef) and r(igh)t). Possible textile imprints are indicated by t(extile).

tag	top	side 1	side 2	edge 1	edge 2
LB 893	RB 6 33x12	RB 1 t 20x17	RB 3 (t) 18x19	RB 3 25x10	RB 3 21x11
LB 894	RB 7 10x16	RB 7 09x16	RB 7 19x14	/	/
LB 895	RB 6 22x14	RB 1 21x18	RB 3 26x15	RB 1? 08x07	RB 3 17x14



LB 896	RB 5 21x11	RB 2 21x17	RB 2 21x16	RB 1? 06x07	RB 1 21x09
LB 897	RB 6 28x14	RB 3 22x17	RB 4 21x14	RB 4 23x12	RB 3 07x09
LB 898	RB 5 21x15	RB 3 (2x?) l. vague r. 09x18	RB 2 19x17	RB 1 26x10	RB 1 23x09
LB 899	RB 5 25x15	RB 2 20x14	RB 3 23x18	RB 1 25x09	RB 1 24x09
LB 900	RB 6 t? 26x14	RB 1 24x16	RB 4 22x14	RB 4 20x12	RB 1 15x14
LB 901	RB 5 25x18	RB 1 t 21x15	RB 4 t 23x17	RB 3 23x08	RB 3 19x08
LB 902	RB 6 27x12	RB 3 15x15	RB 1 20x17	RB 4 23x13	RB 4 22x12
LB 903	RB 5 29x16	RB 3 25x22	RB 2 19x21	RB 1 07x10	RB 1 29x09
LB 904	RB 6 30x14	RB 3 23x17	RB 1 23x19	RB 4 21x09	/
LB 905	RB 5 30x21	RB 3 (2x) l. 04x13 r. 10x18	RB 2 t? 21x21	RB 1 24x10	RB 1 25x10
LB 906	RB 5 26x13	RB 3 15x13	RB 2 21x19	/	/
LB 907	RB 5 25x13	RB 2 21x18	RB 3 09x14	RB 1 19x09	RB 1
LB 908	RB 5 30x17	RB 3 t 27x20	RB 4 (t) 23x18	RB 3 (t) 25x10	RB 4 23x11
LB 909	RB 6 34x14	RB 4 22x18	RB 1 27x15 ¹⁰	RB 4 22?x14	RB 1 20x14

10 In this case a single rolling of seal RB 1 has resulted in one complete image and the beginning of a second one to the right of it.



LB 910	RB 5 27x16	RB 3 17x21	RB 2 21x25	RB 1 15x08	RB 1 14x09
LB 911	RB 5 27x16	RB 2 t 21x18	RB 4 t 18x19	RB 2 24x11	RB 4 21x13
LB 912	RB 6 31x16	RB 4 t 24x23	RB 3 26x16	RB 3 (2x) l. 03x06 r. 12x09	RB 4 23x14
LB 913	RB 6 30x17	RB 4 25x16	RB 3 18x19	RB 3 18x11	RB 4 23x13

Most impressions are carefully placed in the center of the surface and parallel to an axis of the surface. Most impressions are made so as to show as complete a scene as the space allows, in proper, symmetrical arrangement. Exceptions are impressions of RB 3 on two, possibly three, tags (**LB 905 side 1** and **LB 912 edge 1**; doubtful: **LB 898 side 1**; also **H. 891 side 2** and **edge 2**, in the Bibliothèque Nationale, **see below**), rolled in such a way that the two figures which would appear facing each other from opposite extremes of the complete scene appear back-to-back instead. Even these present a symmetrical scene, positioned carefully on the surface. If this back-to-back scene is made by a single partial rolling of the seal centered on a point diametrically opposite the center of the complete scene, then the cylinder was very large, with an uncarved space some 7.5 mm wide between the backs of the two spearmen.



3 Similar Tags in Other Collections

Objects of the same kind with impressions of the same seals have been previously described and illustrated as follows:

- 1 V. Scheil, “Mélanges, I: Empreintes achéménides,” *Revue Biblique* 10, 1901, 567-570 discussed triangular “bullae” *c.* 30-40 mm high and *c.* 15 mm thick, with string holes, and with impressions of eight seals (here = RB [= *Revue Biblique*] 1-8). Impressions of seven of these seals also appear on the Leiden tags. Scheil said that several impressions of each seal occurred, sometimes more than one impression of a single seal on a single clay tag. He said that the tags came from the southern Mesopotamian site of Telloh, without giving any information to support or narrow this provenience (*Revue Biblique* 10, 1901, 567). He did not say how many tags there were or where they were (although his article is by-lined “Constantinople”). The phrase “nos propres exemplaires” (*ibid.*) leaves open the possibility that they belonged to Scheil’s personal collection.¹¹ At about the same time that Scheil’s publication appeared, C.S. Clermont-Ganneau said that some exemplars of the two inscribed impressions among those discussed by Scheil had

¹¹ Böhl studied with Scheil in Paris after 1908, so it is not impossible that he was acquainted with this group of tags before he acquired some of them from the Peiser *Nachlaß*. The Böhl correspondence does not include letters to or from Scheil.



entered the collection of F.-M. Allotte de la Fuÿe, raising the possibility that other tags with impressions of uninscribed seals had also become part of the same collection.¹² Later, however, L. Delaporte said that the tags that Scheil published were in the Imperial Ottoman Museum, though he did not supply museum numbers.¹³

- 2** L. Delaporte, *Catalogue des cylindres orientaux*, 1910, xx and pl. B, H. 890 and H. 891, published two tags donated by M. Delécluse to the Bibliothèque Nationale in 1906 (Mme. Avisseau, pers.comm.). We have no information on their earlier history or their ultimate provenience. They are commensurate with the Leiden pieces: H. 890 = 31.5 mm (top edge to apex) x 38.5 mm (width at top edge) x 16.5 mm (thickness at top edge); H. 891 = 31 mm (top edge to apex) x 38 mm (width at top edge) x 21 mm (thickness at top edge). Delaporte's published photographs show seal impressions identical with some of those described by Scheil. Complete photographs of the tags show impressions of six seals, distributed in this way:

12 *Répertoire d'épigraphie sémitique*, 1900-05, I, 202 nos. 244 and 245. The Allotte de la Fuÿe collection was offered for sale to Böhl in 1923, but it is unlikely that the Leiden tags (see above) were acquired directly from this collection and not as part of the Peiser collection (as their inventory numbers and the label "P45" on LB 910 suggest). At any rate, Böhl does not seem to have acquired the Allotte de la Fuÿe collection after all. On the offer see the letter by Weidner to Böhl, *dd.* 22/VI/1923.

13 *Catalogue des cylindres orientaux II: Acquisitions*, 1923, 176 A. 801; similarly Goetze, *Berytus* 8, 1944, 98.



tag	top	side 1	side 2	edge 1	edge 2
H. 890	RB 6	RB 1	RB 4	RB 4	RB 1
H. 891	RB 5	RB 2 t	RB 3 ¹⁴	RB 3	RB 3

3 L. Delaporte, *Catalogue des cylindres orientaux II: Acquisitions*, 1923, 176 and pl. 122, fig. 1, A. 801 published Louvre AO 7701 with impressions **A. 801a** (broad side) = RB 2, **A. 801b** (top edge) = RB 5, **A. 801c** possibly = RB 3. The Louvre has no information on its provenience (B. André-Salvini, personal communication).¹⁵

4 A. Goetze, *Berytus* 8, 1944, 97-101 + pl. XI published three clay tags with impressions of some of the same seals that Scheil and his successors had described and illustrated: one in the collection of the Crozer Theological Seminary (Rochester, NY), Crozer 200 (39 x 35 x 20 mm), and two in the Yale Babylonian Collection,¹⁶ YBC 9901 (46 x 40 x 22 mm), and

14 The impression of RB 3 on **H. 891 side 2** and **edge 2** is made in the same way as impressions of RB 3 on LB 905 and 912, described **above**, centered on the gap between the two figures at the extreme ends of the scene, so that they appear back-to-back on the tag. The impression continues from the broad surface to the edge.

15 One of Weidner's letters to Böhl (*dd.* 23/IX/1923) discusses the possibility that Peiser sold "einige bessere Stücke seines Sammlungs" during the 1914/18 war. The claim is unsubstantiated, however, and the sale of tags would not have done much good financially. Thus, there is no reason to believe that the tags listed here under nos. 3-4 came from the Peiser collection.

16 Crozer 200 was put up for auction sale with the Colgate Rochester Crozer



YBC 9900 (38 x 34 x 21 mm). Another such tag is also in the Yale Babylonian collection, YBC 17070 (after baking 42 x 41 x 19 mm). The Yale Babylonian Collection has no information on the provenience of these objects. The tags have impressions of five seals, distributed in this way:

tag	top	side 1	side 2	edge 1	edge 2
Croz. 200	RB 5	RB 2	RB 3	RB 1	RB 1
YBC 9900	RB 6	RB 1	RB 1	RB 1	RB 1
YBC 9901	RB 5	RB 2	RB 3	RB 1	RB 1
YBC 17070	RB 5	RB 3	RB 2	RB 1	RB 1

- 5** The Département des Antiquités Orientales of the Louvre acquired thirteen tags of the same kind from the former Allotte de la Fuÿe collection (AF) between 1957 and 1990.¹⁷ The Louvre has no information on where Allotte de la Fuÿe acquired these objects. The tags have impressions of seven of the seals published by Scheil, as well as impressions of three more seals; the impressions are distributed in this way:¹⁸

Divinity School's collection of cuneiform tablets by Sotheby's New York, 20 June 2003. We do not know the current location of this tag.

17 AO 20317, 20318, 20319, and 20320 were acquired from Mlle. Allotte de la Fuÿe in 1957; AO 20428, 21424, 21425, 21426, and 21427 were given by the Comtesse de Chalais, daughter of Colonel Allotte de la Fuÿe in 1964; AO 29963, 29964, 29965 and 29966 were acquired from Henri Courtois, a descendant of Allotte de la Fuÿe, in 1990 (Béatrice André-Salvini, personal communication).

18 An image of AO 20319 edge 2 was not available to us.



tag	AF	top	side 1	side 2	edge 1	edge 2
AO 20317	AF 66	RB 5	/	RB 3	RB 4	RB 3
AO 20318	AF 54	RB 5	RB 2	RB 3	*S 9	*S 10
AO 20319	AF 61	RB 5	RB 3	RB 2	RB 1	--
AO 20320	AF 67	RB 5	RB 3	RB 2	RB 1	RB 1
AO 21424	AF 73	RB 6	RB 1	RB 4	RB 1	RB 4
AO 21425	AF 64	RB 6	RB 3	RB 1	/	RB 1
AO 21426	AO 62	RB 6	RB 1	RB 4	RB 1	RB 4
AO 21427	AF 71	RB 6	RB 1	RB 4	RB 1	RB 4
AO 20428	AF 55	RB 6	RB 1	RB 4	*S 11	RB 4
AO 29963	AF 52	RB 7	RB 7	RB 7	/	/
AO 29964	AF 70	RB 5	RB 2	RB 3	RB 1	RB 1
AO 29965	AF 74	RB 6	RB 1	RB 4	RB 1	RB 4
AO 29966	AF 76	RB 6	RB 1	RB 3	RB 4	RB 4

AO 20318 and AO 20428 bear partial impressions from seals that do not appear on any of the other clay tags discussed in this paper. Since the same tags also bear impressions from the RB seals, we have numbered the seals that made these additional impressions in sequence with the RB seals: *S 9 (AO 20318 edge 1), *S 10 (*idem*, edge 2) and *S 11 (AO 20428 edge 1).

- 6 N. Veldhuis, *ZA* 93, 2003, 68-69 No. 24, published the single tag from Böhl's collection that remained at Groningen Institute for Semitics (now the Department of Middle and Near Eastern Languages and Cultures, Groningen University). It has impressions of three seals, distributed in this way:

tag	top	side 1	side 2	edge 1	edge 2
GIS 24	RB 6	RB 1	RB 4	RB 1	RB 4



An ancient group of clay tags – The tags that have impressions of three or four seals must belong to a single ancient group, as the distribution of the impressions implies. It is most parsimonious to suppose that the two tags with impressions of only one seal, RB 7, (LB 894 and AO 29663) also belonged to the same group. It is not possible to determine the original number of items in the group. In fact, since Scheil did not say how many items were available to him, and since some of the tags may have moved from one collection to another, it is not possible to determine how many distinct items are represented by the published notices. At least 42 distinct pieces can be definitely identified now (21 in the Böhl Collection of NINO, 1 in the former Böhl collection at Groningen, 14 in the Musée du Louvre, 3 in the Yale Babylonian Collection, 2 in the Bibliothèque Nationale, 1 in the former Crozer collection). Since Scheil described impressions of one seal that is not found on any of these 42, there was at least one more survivor of the ancient group. Its current location is unknown.

The only indication of the group's provenance is Scheil's statement that the tags came from Telloh. Goetze's skepticism about this attribution, on the grounds that there are no other known Achaemenid remains from Telloh, remains appropriate.¹⁹

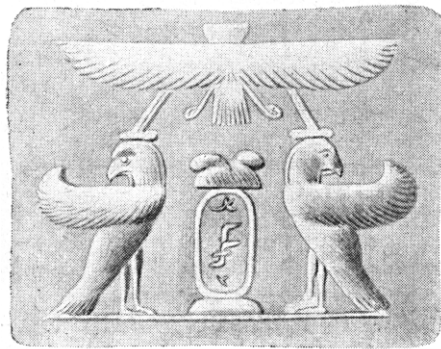
¹⁹ Scheil, *Revue Biblique* 10, 1901, 567; Goetze, *Berytus* 8, 1944, 97; cf. Garrison & Root, OIP 117, 2001, 37, who are unconvinced by Goetze's doubts.



4 Description of Seal Images

The additional Leiden, Louvre and Yale exemplars complement the previous illustrations and descriptions of the seal impressions:

RB 1 – (see especially **LB 904 side 2**, **LB 905 edge 1** and **edge 2**, **YBC 17070 edge 1**, **AO 20320 edge 2**, **AO 21425 side 2**, here figs. 2-7): an oval cartouche enclosing an inscription is flanked by two birds, their bodies facing the cartouche, their heads turned away from it, their wings



extending horizontally away from it. Atop each bird's head are two horns with rounded tips sloping slightly backwards and a third sloping sharply forward.²⁰ A winged disk with tendrils is centered in the field above the scene. Above the center of the winged disk is a horizontal line (see **LB 902 side 2**). The cartouche and the birds stand on a ground line (see especially **LB 904 side 2**)

²⁰ The birds' horns are especially clear on YBC 17070. Scheil's sketch (here fig. 1), showing bird's legs and feet reaching down from the winged disk to the bird's heads, is not accurate.



fig. 2. (above). LB 904 side 2



fig. 3 (top right). LB 905 edge 1



fig. 4 (middle right). LB 905 edge 2

fig. 5 (below right). YBC 17070 edge 1



At the top of the cartouche are two objects with rounded tops that face away from each other. Goetze called them volutes (*Berytus* 8, 1944, 100), and Garrison and Root saw them as probable addorsed animal protomes (OIP 117, 2001, 36), but none of the Leiden impressions shows unequivocal identifying details. They may instead be versions of the two feathers normally found atop the Egyptian royal name cartouche. Squat versions of the feathers are found on other scarabs without royal names.²¹ Yet such a distorted misrepresentation

²¹ E.g., Porten & Yardeni, *Textbook of Aramaic Documents ...* 4, 1999, 230 D14.8; Stolper, *JNES* 48, 1989, 285 fig. 2. In both of these examples, a disk separates the



of the feathers would be surprising, considering the overall quality of the carving. The maximum attested dimensions of the impressions are 29 mm wide (**LB 903 edge 2**) and 18 mm high (**LB 895 side 1**).

If the characters in the cartouche form a genuine text, and are not merely impressionistic imitations of Egyptian hieroglyphs, a royal name is expected. Scheil, Lidzbarski, Clermont-Ganneau and Goetze interpreted the characters as Aramaic, rather than Egyptian hieroglyphic, but without obtaining a plausible reading. Goetze's reading, *hrmy*, perhaps a royal epithet, is otherwise unattested.²² No one has ventured an interpretation of the characters as hieroglyphs or impressions of hieroglyphs. The absence of a recognizable circular *re-sign* at the beginning discourages reading a *praenomen* of an Achaemenid ruler. The indistinct impressions on the Leiden tags do not clarify the text.

stems of the plumes. Also comparable is MDP 43 2231, an impression of a scarab on a fragmentary sealing excavated at Susa, attributed to Egyptian Dynasty XXVI, although the royal name in the cartouche of the impression is Menkara, Dynasty VIII; the cartouche is flanked by two winged creatures with birds' bodies similar in proportion and arrangement to those in RB 1; the plumes atop the cartouche have no disk between the stems. Squat plumes without discs between their stems also appear over the cartouches with Old Persian text on the cuneiform side of the Shallufa stele of Darius I (most accessibly illustrated by M. Roaf, *Cahiers de la DAFI* 4, 1974, 82 fig. c) while the cartouche on the hieroglyphic side of Darius' Maskhuta is topped with large plumes separated by a disk (*ibid.* 80, fig. a).

22

Fitzmyer & Kaufman, *An Aramaic Bibliography*, I, 1992, 172f. No. 53SI.



figs. 6-7. AO 20320 edge 2 and AO 21425 side 2



RB 2 – (see especially **LB 898 side 2**, **LB 905 side 2**, **LB 911 edge 1**, **YBC 17070 side 2**, **AO 20319 side 2**, here figs. 9-13): a lion attacks a stag from behind, its tail curved down, its rear



fig. 8. RB 2 (after Scheil, *Rev.Bibl.* 10)

legs spread, its right forepaw clawing the stag's hind-quarters. The bodies of both animals face right. The lion's head is turned, showing the front of its face, biting the stag's back. The stag's head turns back to face the lion, showing a broad rack of antlers. A winged disk with tendrils and a human figure

with crenelated crown on top of it (facing right, with one arm bent at the elbow, the other holding a lotus in front of the body) is in the field above the center of the scene. The animals stand on a ground line (see **LB 910 side 2**). At least four Aramaic characters run approximately horizontally to the left of the lion's shoulder. Maximum attested dimensions of the impressions are 25 mm high (**LB 910 side 2**), 24 mm wide (**LB 911 edge 1**). The bottom edge of the seal is visible on **LB 896 side 2** and **LB 910 side 2** (both also with groundline).

Goetze (*Berytus* 8, 1901, 98f.) dismissed readings of the Aramaic characters by Scheil, Lidzbarski, and Clermont-Ganneau as unacceptable. His own reading, $\check{s}sh^{\Gamma} \dots ^{\Gamma}$, does not yield a clear interpretation. He suggested restoring $\check{s}sh^{\Gamma} mr^{\Gamma}$, interpreted as a transcription of a postulated Persian-dialect



fig. 9 (above). LB 905 side 2

fig. 10 (below left). LB 898 side 2

fig. 11 (below right). AO 20319 side 2



figs. 12-3. YBC 17070 side 2 and LB 911 edge 1



word otherwise unattested in Old Iranian or in the *Nebenüberlieferungen*.²³ The impressions on the Leiden tags do not clarify the text.

RB 3 – (see especially **LB 899 side 2**, **LB 903 side 1**, **LB 905 side 1**, **YBC 17070 side 1**, **AO 20317 side 2**, here figs. 15-19): a boar charges toward the left, followed by a hunting dog. To

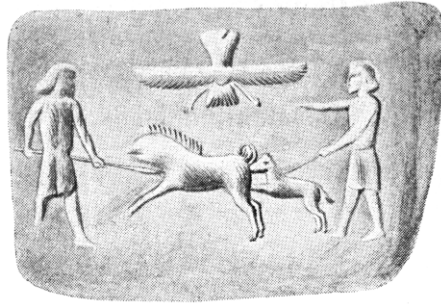


fig. 14. RB 3 (after Scheil, *Rev. Bibl.* 10)

the left, a spearman facing right stabs the boar in the chest with spear held at waist level. To the right a second standing man faces left behind the animals. The second man (clear on YBC 17070 side 1, but not in impressions on the Leiden tags) has his right arm extended at shoulder level and his left arm holding the hunting dog's leash. Both men are bare-headed, wearing knee-length garments. A winged disk with tendrils and a human figure on top of it (facing left, with one arm bent at the elbow) is in the field above the center of the scene.²⁴ The maximum attested width of the impressions is 27

²³ The suggestion is entered in Fitzmyer & Kaufman, *An Aramaic Bibliography*, 1, 1992, 186f. No. 268SI.

²⁴ An approximate comparandum is an impression on Murashû tablets from Nippur (L. Legrain, PBS 14, 1925, No. 987) showing a spearman in knee-length tunic and bashlyk with raised spear facing right, stabbing a boar charging toward the left,



fig. 15. YBC 17070 side 1

with a winged disk in the field overhead. Another comparandum is a seal impression from Daskyleion, DS 61 (D. Kaptan *The Daskyleion Bullae* (Achaemenid History 12), Leiden 2002, I, 139; II, 85-6) again showing a spearman with bashlyk in right profile, plunging his spear into a charging boar, an Aramaic inscription and a winged disk above (compare also DS 92, *ibid.* I, 152; II, 111 and DS 96, *ibid.* I, 154-5; II, 114-115). On DS 90 a mounted warrior is hunting a boar and its piglet (?); a winged disk appears above the scene (*ibid.* I, 152; II, 110). Compare also a painted boar-hunt scene on a recently recovered Graeco-Persian sarcophagus from Çan (Turkey): Sevinç *et al.*, *Studia Troica* 11, 2001, 383-420.



fig. 16 (above). AO 20317 side 2
fig. 17 (below left). LB 899 side 2

fig. 18 (below right). LB 903 side 1



fig. 19. LB 905 side 1

mm (LB 908 side 1), the maximum height 22 mm (LB 903 side 1). The bottom edge of the seal appears on LB 903 side 1.

RB 4 – (see especially LB 908 side 2, LB 911 edge 2, here figs 21-22): a rampant lion seen in profile faces left, with its right forepaw raised behind its head, its left forepaw extended toward the left, towards a bowman with a four-pointed dentate crown who is shooting at the lion's face. His bow appears to have birds' heads as finials. To the right, a spearman with legs set apart stabs down at the lion's back from behind. The crowned bowman to the left wears the Persian court robe.



The spearman on the right wears a knee-length garment with something showing at his waist, perhaps the loose end of a double belt. The figures are set on a ground line (LB 912 side 1); another line terminates the scene above.²⁵ The height of the seal was at least 23 mm, as can be deduced from LB 912



fig. 20: RB 4 (after Scheil, *Rev. Bibl.* 10)

- 25** A notable comparandum is one of the hoard of seal-impressions on pieces of clay found at Ur, most recently and completely presented by Dominique Collon, *BCH Suppl.* 29, 1996, 65-84 and pl. 11-25: WA 1932-10-8, 192, showing two crowned figures wearing court robes attacking a rampant lion, the figure on the left with bow and arrow, the figure on the right with spear; the hunters' attitudes are similar those of the figures in RB 4, but the lion's body faces right with head turned back over its shoulder to face left, and the scene also shows another, fallen lion and two hunting dogs (*ibid.*, 68 and pl. 12:2 a-b, also in Collon, *First Impressions*, 1988, No. 422). The piece of clay bearing this impression is thought to be not an administrative artifact but a craftsman's sample-piece. The impression was made by a single complete rolling of the cylinder. The impression was not centered on the winged figure that occupies the field in the upper center of the complete scene. Instead, it was made like some impressions of RB 3 on the Leiden, etc. tags, so that the two crowned hunters appear back-to-back, rather than facing each other from the far sides of the scene, while the central figure is split into two partial views.



side 1 where both the lower edge of the seal impression and the



line terminating the seal image above have been preserved (the seal's lower edge is also visible on **LB 901 side 2**, **LB 911 side 2**). The maximum attested width is 25 mm (**LB 913 side 1**).



figs. 21-22. LB 908 side 2 and LB 911 edge 2



RB 5 – (especially **LB 905 top**, **LB 910 top**, **LB 911 top**, here figs. 24-6): a lion rears over a crouching or collapsed humped bull from behind. Both animals face right. To the right, a

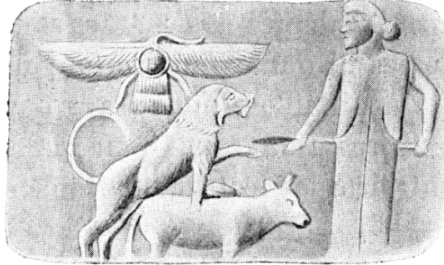


fig. 23. RB 5 (after Scheil, *Rev.Bibl.* 10)

spearman, his body turned to the viewer, his head in profile facing left, holds a spear at waist level, stabbing the lion in the chest. The man wears the Persian court robe. The handle and scabbard of the “Elamite” dagger, characteristic of the royal warrior,²⁶ emerge from the sash at the front of his body (not shown in Scheil’s drawing). The lion’s tail is curled upward, its rear legs together, its right foreleg straight, the paw supported on the back of the bull, its left

emerge from the sash at the front of his body (not shown in Scheil’s drawing). The lion’s tail is curled upward, its rear legs together, its right foreleg straight, the paw supported on the back of the bull, its left



fig. 24. LB 905 top

26

P. Calmeyer, *AMI n.s.* 21, 1988, 32f.; Henkelman, “Persians, Medes and Elamites,” 2003, 190-1.



figs. 25-6. LB 910 top and LB 911 top

foreleg extended towards the spearman, its head in profile, open-mouthed. The bull's hump is depicted awkwardly. In the field above the lion is a winged disk with tail and tendrils. The maximum attested width and height are on **LB 905 base**: 30 and 21 mm respectively.



RB 6 – (see especially **LB 912 top**, **AO 21424 top**, **AO 21425 top**, **AO 29966 top**, here figs. 28-31): a lion attacks a crouching



ibex from behind, both animals facing right. To the right, a spearman, legs set apart, head turned facing left, holds his spear at waist level, stabbing the lion in the chest. To the left, a second spearman, legs set apart with one leg bent, facing right, holds his spear overhead, stabbing down at the lion's neck from behind. The spearman on the right wears the Persian court robe (see AO 21425 base). Fine carving marks a fringe on the sides and front of the upper part of the garment. The spearman on the left wears an Assyrian robe with forward leg exposed (see AO 21424 base). The figures are set on a thick ground line (see **LB 912 top**; cf. **LB 913 top**). The maximum attested width of the seal impressions is 33 mm (**LB 893 top**); the maximum height 17 mm (**LB 913 top**).



fig. 28. AO 21424 top



figs. 29-31 (top to bottom). AO 29966 top, AO 21425 top and LB 912 top



RB 7 – (see **LB 894 side 1** and **side 2**, and **AO 29963 side 1**, here figs. 33-5): a warrior on the left, facing right with legs apart, holds a spear between his right hand raised behind his head and left hand held at shoulder level to stab downwards at



fig. 32. RB 7 (after Scheil, *Rev.Bibl.* 10)

another warrior; the second figure is fleeing toward the right with legs separated and bent, body turned to his right, head turned back toward the spearman, right arm raised above his head, left arm held low, holding a weapon, probably a spear. The spearman is bare-headed or wearing rounded, “Median,” headgear, with a knee-length garment. The fleeing figure wears a bashlyk, with pointed front, and baggy trousers. Both figures wear bowcases at their waists behind them. Their upper bodies appear as very slim. A winged disk is centered in the field above the scene.²⁷

27

Similar elements appear in a more elaborate composition in the seal attributed to Arsham, satrap of Egypt, recently illustrated by J. Boardman, *Persia and the West*, 2000, 164 fig. 5.21; cf. Porten & Yardeni, *Textbook of Aramaic Documents ...* 4, 1999, 230 D14.6.



fig. 33 (above). AO 29963 side 1

fig. 34 (below left). LB 894 side 1

fig. 35 (below right). LB 894 side 2



RB 8 – The last impression described by Scheil, RB 8, is not represented on the accessible tags: a team of humped bulls pulls a plow toward the right; ahead of them a man sows broadcast from an open sack of seed at his waist; a winged disk with a human figure shown in profile, facing right, is centered in the field above the scene.

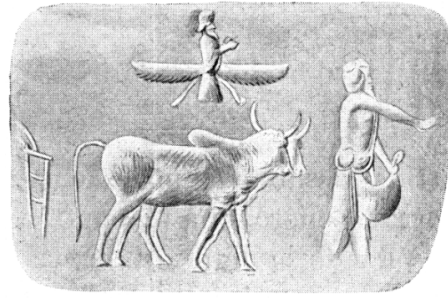


fig. 36. RB 8 (after Scheil, *Rev. Bibl.* 10)

***s 9** – A partial impression of *S 9 appears on **AO 20318, edge 1** only (here fig. 37). A spearman (?), facing right, his right arm raised above his head, is attacking an opponent who is not visible on the impression. The man is wearing a bashlyk and a knee-length garment. The orientation of the impression, lengthwise on the edge of the clay tag, is unparalleled in the corpus discussed here.



fig. 37. AO 20318 edge 1



***s 10** – **AO 20318** also bears the only attested impression of *S 10, on **edge 2** (here fig. 38). A boar charges toward the left (compare RB 3), towards a spearman facing right (the head is not preserved). There may be a piglet between the spearman and the boar.



fig. 38 (above). AO 20318 edge 2

fig. 39 (below). AO 20428 edge 1



***s 11** – A faint impression of *S 11 appears only on **AO 20428 edge 1** (here fig. 39, see above). The image represents a hero, apparently facing right, holding two inverted animals by a single hind leg. The animals may be goats or deer. The theme is common on seal impressions from Persepolis.²⁸

5 Other Clay Tags from the Achaemenid Period

Scheil treated the objects he described as examples of a type found in southern Mesopotamia since the Old Akkadian and Ur III periods.²⁹ Lumps of clay formed around or over knotted strings and impressed with seals are indeed found at many times and places in ancient Mesopotamia, western Asia and Egypt. They are of various shapes, and show impressions of various materials resulting from attachment to various kinds of objects, and they are certainly connected with various purposes and uses.³⁰ Achaemenid examples of several different

²⁸ Garrison & Root, OIP 117, 2001, Cat.Nos. 171-189.

²⁹ *Revue Biblique* 10, 1901, 567.

³⁰ For an extensive but not exhaustive bibliography of third-millennium Mesopotamian clay labels, see Postgate, *Early Mesopotamia*, 1992, 309 n. 88. On the so-called “Langetten” (long tongue-shaped tags) found in Old Babylonian Tall Bi’a (Syria) see Otto, *Damaszener Mitteilungen* 8, 1995, 85-93 and Taf. 7 and Stein, *Mit Sieben Siegel versehen* 1997, 111-112 and Abb. 117, both with bibliography on



forms were excavated at Susa, Pasargadae, and Persepolis.³¹ Schmidt refers to triangular labels among the Persepolis Treasury finds (OIP 69, 6). These may be comparable to the Leiden tags, but no clear illustrations or detailed descriptions of them are published.

Anepigraphic tablets from Persepolis – The items most closely comparable to the Leiden, etc. tags were found among the Persepolis Fortification tablets discovered in two chambers in the fortification wall on the northeastern corner of the Persepolis terrace in 1933. The find included not only some tens of thousands of clay tablets and fragments with Elamite cuneiform texts, some hundreds of tablets with incised or inked Aramaic texts, and single tablets with texts in Akkadian, in Greek, and in what is thought to be Phrygian (all recognized by Herzfeld as early as 1933),³² but also some thousands of anepigraphic tablets, that is, clay pieces shaped approximately like the inscribed tablets, without writing, but

comparable items. On the typology and functions of Neo-Assyrian clay “dockets” specifically (see **below**), see Herbordt, SAAS 1, 1992, 53-70 and Postgate, *Taxation and Conscriptioin in the Assyrian Empire*, 1974, 19-28, citing earlier publications.

31 Susa: MDP 43 340, 2202-3, 2226, 2230-31 etc. Pasargadae: D. Stronach, *Pasargadae*, 1978, 179-80 with n. 12. Persepolis: E. F. Schmidt, OIP 69, 1957, 5-7 and pls. 2-14 and www-oi.uchicago.edu/OI/MUS/PA/IRAN/PAAI/PAAI_Contents.html and www-oi.uchicago.edu/OI/MUS/PA/IRAN/PAAI/PAAI_Seals.html.

32 Anon., “Recent Discoveries at Persepolis,” *JRAS* 1934, 231f.



with seal impressions on some or all surfaces.³³ Most of these anepigraphic Persepolis tablets are triangular or pyramidal, less rounded and less “tongue-shaped” than the most common form of the Elamite tablets, but also generally longer from base to apex than the Leiden, etc. pieces. Like the inscribed Fortification tablets, they have string-holes at the extremes of the flattened ends. Like the inscribed tablets, they have impressions of one or more seals. As many as four seals (perhaps more) are impressed on a single piece. Some pieces are sealed on all surfaces. Others leave one or more surfaces unsealed. The impressions are both from stamp-seals and from cylinder-seals. In some cases, the seal impressions are oriented so that the flat end with string-holes is the top, as is true of most of the Leiden, etc. tags. In more cases, the impressions are oriented so that the flat end with string-holes is the left edge, as is true of most of the cuneiform tablets and most of the Aramaic tablets (and the two tags with impressions of RB 7, LB 894 and AO 29963). A study of these objects, including a typology of shapes, range of seal impressions, and patterns of seal use, is still to be done.

33 Root, BCH Suppl. 29, 1996, 11f.; Garrison & Root, OIP 117, 2001, 3. Examples are illustrated in Chiera, *They Wrote on Clay*, 1938, 128 and at www-oi.uchicago.edu/OI/MUS/PA/IRAN/PAAI/IMAGES/PER/SSI/5F8_4.html.



Other comparable objects – Objects that are comparable to the anepigraphic Persepolis tablets (or that have been compared to them) have also appeared in the antiquities trade.

- 1 Christie's (London) auction sale of tablets in the Erlenmeyer collection in 1988, which included Achaemenid Elamite administrative tablets and Achaemenid Aramaic administrative tablets similar to those excavated at Persepolis, also included two lots of nine items each, described as Elamite triangular tags, with string holes and seal impressions but with no cuneiform texts.³⁴ One of these items, with a circular stamp seal impression, is illustrated in the catalogue of a later Christie's sale, when one of the Erlenmeyer lots was offered again.³⁵ These pieces may have come originally from the Persepolis Fortification find, as Achaemenid Elamite tablets in the Erlenmeyer collection probably did.
- 2 Excavations made in 1968 at one of the upper towers of the fortification wall running from the Persepolis terrace up the Kuh-i Rahmat found a group of 52 clay sealings near a broken clay vessel that may once have contained them. The initial excavation summary published in English does not describe the shape of these objects. The subsequent Persian report illustrates small circular clay pieces, apparently with dia-

³⁴ Christie's London 13/XII/1988: *Ancient Near Eastern Texts from the Erlenmeyer Collection*, 61, lots 129 and 130.

³⁵ Christie's London 12/XII/1990: *Fine Antiquities*, 112f. lot 291.



metrically opposed string-holes, each with a partial impression of a single seal – that is, sealings of the kind found elsewhere to secure knotted strings over folded papyrus or parchment documents. Some of them have partial impressions of the distinctive Persepolis Treasury Seal 28.³⁶

- 3** Two clay tags with Achaemenid seal impressions were purchased by the Museum of Fine Arts, Boston, one in 1985, and the other in 1989, from the antiquities dealer Eshagh Sakhaei. The on-line catalogue says of the single illustrated example that the seller bought it in Iran at an unknown date, and suggests that the sealings came from the original excavation of Persepolis Treasury room 33 (i.e., the room in which most of the Persepolis Treasury tablets and sealings were excavated in the collapsed remains of a second storey). The illustrated item is a flattened disc with the impression of what appears to be a circular stamp seal, its upper edge sharply defined in the impression. The impression itself, however, appears to be a fragmentary impression of Persepolis Treasury Seal 28, a cylinder seal.³⁷ The object closely resembles items

36 Akbar Tadjvidi, *Iran* 8, 1970, 186-7; Garrison & Root, OIP 117, 2001, 34, citing illustrations in Tadjvidi, *Danistaniba-ye nuvin...*, 1976, 196f., Nos. 140-148 (Nos. 140-1, 143-4 with PTS 28). Tadjvidi does not report finding anepigraphic sealed tablets still contained in the jar (*pace* Garrison & Root, *ibid.*).

37 www.mfa.org/artemis/fullrecord.asp?oid=164578&did=200, www.mfa.org/artemis/fullrecord.asp?oid=164620&did=200 (illustrated), www.mfa.org/artemis/ (and search for “Scarabs and Seals”).



from Tadjvidi's excavation in the fortification tower.³⁸

- 4** Schmidt excavated a small but unspecified number of uninscribed pieces of clay shaped like the Persepolis treasury tablets in Yard 21 of the Fortification complex on the eastern edge of the Persepolis Terrace. The published references to them mention neither string-holes nor seal impressions.³⁹ These are evidently objects of a different type and purpose from the Leiden tags.
- 5** A group of several hundred mostly fragmentary sealed clay tags, with a total of 185 discrete seal images, was excavated in 1954 by Ekrem Akurgal at the site of Ergili/Daskyleion (northwestern Anatolia). In her publication of these objects, Deniz Kaptan describes them as "round, ellipsoidal lumps of clay approximately the size of a thumb, with seal impressions on the outer surfaces and markings of the papyrus fiber and leather documents and the cavities of strings on the back."⁴⁰ Given their shape and the impressions of papyrus and leather, it is unlikely that the Daskyleion sealings served a similar purpose to the Leiden, etc. tags. As Kaptan says, most of the Daskyleion sealings were probably used on documents pertaining to the satrapal economic and administrative activities,

38 Especially Tadjvidi, *Danistaniha-ye nuvin*, 1976, fig. 140.

39 Schmidt, OIP 68, 1953, 209; OIP 69, 1957, 5f.

40 Kaptan, *The Daskyleion Bullae* (Achaemenid History 12), I, 2002, 13. For an overview of other Achaemenid period tags see *ibid.*, 17-21.



a view supported by the large number of impressions from three royal name seals.

6 Comparable in a general sense to the Ergili/Daskyleion archive is a corpus of objects excavated by Flinders Petrie in the palace of Apries at Memphis in Egypt:

The principal discovery at the palace was at the west end of the fosse, on the southern side. There, beneath a berm which contained a late Ptolemaic coin, we found a layer of dust and rubbish, which contained the sweepings of an office that had existed in the upper part of the building above it. In this dust were dozens of clay sealings from parcels—none from papyri—mostly bearing impressions of seals, and a dozen labels of wood split very thin.⁴¹

The same find also included pieces of wood with Demotic and Aramaic texts. Neither the seal impressions nor texts on pieces of wood have been adequately interpreted. They appear to have an administrative function, but these objects are also of a different type and purpose from the Leiden, etc. tags.

⁴¹ W.M. Flinders Petrie *et al.*, *Meydum and Memphis (III)*, 1910, 41ff. and plates XXXIV-XXXVIII (see cwru.edu/UL/preserve/Etana/meydum_memphis3/meydum_memphis3.htm; also illustrated at the Petrie Museum website: www.petrie.ucl.ac.uk/digital_egypt/memphis/persianseals.html)



Function of the clay tags – The find-spot of the anepigraphic Fortification tablets and the almost perfect topical consistency of the Elamite and Aramaic Fortification texts found with them imply that the anepigraphic tablets were products of the same administrative system and the same system of collecting and transferring information as the Elamite and Aramaic Fortification documents. By the same token, it is possible that the Leiden, etc. tags were a subgroup in a larger collection of administrative artifacts that might also have included inscribed clay tablets in one or more languages and/or leather or papyrus documents.

This supposition is necessarily vague. There is little consensus on the functions and practices implied by the distinctive features of these tablets and “bullae,” that is, on such interrelated questions as these:⁴²

- 1 To what were the knotted strings, around which the objects were formed, attached? Parchment or papyrus duplicates? Storage or transport devices? Items or containers of items to be accounted for?

⁴² E.g., Vallat, *Res Orientales* 10, 1997, 171-73, with references to earlier discussions of Persepolis Treasury and Fortification texts by Cameron, Hallock and Gershevitch; Root, *BCM Suppl.* 29, 1996, 10-23; Leith, *Wadi Daliyeh* I, 1997, 17-20; H. Koch, *Es kündigt Dareios der König*, 1992, 29-35; Kaptan, *The Daskyleion Bullae*, I, 2002, 24-27.



- 2 Were the texts and tags meant primarily as locking devices to secure goods or documents, or as verifying devices to associate responsible individuals with commodities?
- 3 What kinds of accountability do different patterns of sealing represent?
- 4 Where were the objects made, sealed and sometimes inscribed in relation to where they were deposited and sometimes transcribed?
- 5 Do answers to these questions proposed for some classes of items apply equally to the whole group of documents and artifacts?

The most nearly comparable earlier Mesopotamian objects are triangular or heart-shaped Neo-Assyrian tablets formed around knotted strings, with texts in Neo-Assyrian, Aramaic, or both.⁴³ Examples have been excavated at Assur, Nineveh, Til Barsip, and other sites. Other examples are without known provenience. Most are records of obligations expressed in naturalia (barley, wine, straw, animals) or silver (only in Aramaic exemplars). The texts are legal records, not administrative records like the Persepolis texts. They are terse,

⁴³ Akkadian *nibzu* is probably not the native term for these objects, despite H. Tadmor, in: *Mesopotamien und seine Nachbarn*, 1982, 465 n. 64; Stolper, *BASOR* 239, 1980, 79 and others; see Radner, *SAAS* 6, 1997, 66.



even elliptical, enough so to suggest that information needed to use them was conveyed by some other medium or circumstance. Radner's recent review of the the debate on the purpose and uses of these objects endorses Postgate's proposal, similar to Cameron's interpretation of the Persepolis tablets, that the triangular tablets were tied to rolled documents written in Aramaic on papyrus or leather, and that the tablets served some of the same purposes as clay envelopes around a clay tablets.⁴⁴

As Radner observes (SAAS 6, 1997, 28), the Neo-Assyrian triangular tablets differ in form and application from the sealings actually used with Aramaic legal documents from Achaemenid Egypt, and from similar sealings thought to have been used with Aramaic letter-orders in Achaemenid Babylonia. These are small, flat, roughly circular pieces of clay placed over the knot of a string that kept a folded document secure.⁴⁵ If the triangular tablets (or the Elamite tablets or

⁴⁴ Cameron, OIP 65, 1948, 25-29 (explicitly comparing the Neo-Assyrian triangular tablets, 26 n. 11); Postgate, *Fifty Neo-Assyrian Legal Documents*, 1976, 5f. §1.2.3 (explicitly comparing Persepolis texts, p. 6); Fales, *Aramaic Epigraphs*, 1986, 17-23; Herbordt, SAAS 1, 1992, 38f.; Lemaire, *Nouvelles Tablettes Araméennes*, 2001, 69; Postgate in: *Private Archive Texts of the First Millennium B.C.*, 2000, 3 and Nos. 2-3, cf. pl. 122; Radner, SAAS 6, 1997, 26-31. On the larger triangular tablets formed around knotted strings called "textile docketts," see Fales & Postgate, SAA 7, 1992, XXVif., Nos. 93-106, plates V-VI, and Herbordt, SAAS 1, 1992, 68f.

⁴⁵ Similar sealings are also associated with other kinds of papyrus or leather



tags) were attached to parchment or papyrus rolls, they hung loose. Hence, unlike the sealings on folded documents and unlike clay envelopes, the triangular tablets were ill-suited to keeping the documents locked with their contents secure. Like clay envelopes, but unlike the sealings on folded documents, they were well suited to displaying information, including text and impressions of more than one seal.

The sealed Persepolis Elamite tablets, are almost always sealed on the bases (left edges). Most but not all of the anepigraphic Persepolis texts have seal impressions on the bases, as do all the Leiden, etc. tags. For these impressions to be visible, the tablets or tags must have hung freely from the objects to which they were attached.

6 Observations on the Leiden, etc. tags

The Leiden, etc. tags merit a few particular observations in connection with the open questions of purpose and use:

Impressions of textile (?) – Some of the Leiden tags show the impressions of a coarse material, perhaps a textile (see

documents, and found at Achaemenid sites outside Mesopotamia and Egypt, e.g. Wadi Daliyeh (see Leith, *Wadi Daliyeh I, passim*), Susa (e.g., MDP 43 2229), Persepolis (e.g., OIP 69, 1957, pl. 12 PT 6 441, PT 5 248).



above). The same is true of some Persepolis Fortification tablets (Root, BCH Suppl. 29, 13; the impressions are also found on unsealed, inscribed, portions of tablets) and Treasury tablets (Schmidt, OIP 69, 1957, pl. 11 PT 4 610). It is also true of some other sealings.⁴⁶

The textile(?) impressions are over the seal impressions, hence made either soon after the seals were applied, while the clay was still moist, or at some later time when the clay was re-moistened (deliberately or not). The phenomenon is a result of the handling of these objects after they were made, but it is probably not a useful clue to their purpose. Various explanations have been brought forward:

- 1 The conjecture that cloth impressions on tablets result from pressing them against the writer's clothing while they were being inscribed⁴⁷ does not apply to the tags and sealings, and it imagines that the tablets were held or handled during writing in implausible ways.

⁴⁶ E.g., Schmidt, OIP 69, 1957, pl. 7 PT 4 847, pl. 9 PT 4 865, PT 4 830, and *passim* on sealings from the Persepolis Treasury. On sealings with the seal assigned to Arsam, satrap of Egypt, the texture is not visible in the original publication, but clear in the photograph published by Boardman, *Persia and the West*, 2000, 164 fig. 5.21.

⁴⁷ Root, BCH Suppl. 29, 1996, 13.



- 2** The conjecture that some cloth impressions came from hanging the tablets around the necks of consigners⁴⁸ would also not apply easily to the tags and sealings, and would lead one to expect the impressions on tablets to show signs of movement of the tablet against the clothing as the person moved about while the clay dried.⁴⁹
- 3** The conjecture that the still-moist tablets, tags and sealings were put into cloth sacks or wrappings is also problematic. If the items were still soft enough to take impressions, why would one risk damaging the text or seal impressions by putting several of them into a container in which they could be knocked together?⁵⁰
- 4** The idea that some of the tags were attached to jars or similar containers closed off with a cloth bound together with piece of rope is problematic because again it does not answer the question why still-moist documents would have been attached to the textile at the risk of damaging the seal impressions.

48 Root, BCH Suppl. 29, 1996, 13 and following Fales, *Aramaic Epigraphs*, 1986, 21 and 24 on CT 53 46.

49 Fales's interpretation of the crucial passage of CT 53 46 is open to doubt. In Radner's critical reinterpretation of the same passage, it is the seals, not the sealed documents, that are hung around the necks, and the necks belong to the seal-owners, not the obliged parties: SAAS 6, 1997, 29-30.

50 The sack in which the Aršām documents and sealings were thought to have been kept is leather, not cloth.



Moreover, it would leave the impressions of textile (?) on inscribed tablets (other than labels) unexplained.⁵¹

In fact, it is often difficult to distinguish shallow or partial impressions of textiles from smeared fingerprints. As a matter of course, ancient objects formed from moist clay, including the Persepolis tablets, bear fingerprints. Occasionally these are clearly visible in patterns determined by how the tablets were held in the hand; others are less distinct. Further study of the source, patterning, and significance of these fugitive impressions would clarify their identification and analysis.⁵²

Size, seal use and seal quality – The Leiden, etc. tags differ from the anepigraphic Fortification tablets in particulars that may be meaningful. The ratio between the altitude (base to apex) and the base is generally greater in the anepigraphic Fortification tablets than in the Leiden, etc. tags. That is, the altitude is usually the maximum dimension of the Persepolis pieces, but the base is the maximum dimension of

⁵¹ Note that the so-called ‘Langetten’ from the Old-Babylonian period are dissimilar from the Leiden, etc. tags in both shape and number of seal impressions (see note 30 above).

⁵² A. Invernizzi & C.M. Papoti, “Sealings and Fingerprints at Seleucia-on-the-Tigris,” 1991, 33-43 for tablets specifically, and P. Åström & S.A. Eriksson, *Fingerprints and Archaeology*, 1980, more generally. See also Bretschneider, Pieper, Stefan, Deling & Jens, “Erste Untersuchungen daktyloskopischer Spuren auf Siegelabrollungen von Tell Beydar,” 2001, 139-154.



the Leiden pieces. The orientation of the seal impressions with respect to the base is regular on all but two of the Leiden, etc. pieces but varies on the Persepolis pieces. Stamp seals are common on the anepigraphic Persepolis tablets. The use of three or more different seals, regular on the Leiden pieces, is well attested but relatively uncommon among inscribed Fortification tablets.⁵³ It appears to be more common among the anepigraphic tablets.

If the 42 or more Leiden, etc. tags, very consistent in size, seal use, seal type and seal quality have a close formal counterpart in the Persepolis archive, then the counterpart is a subset (not yet identified but probably small) of some thousands of anepigraphic pieces that vary considerably in size, appearance, and especially in seal use. If the diverse characteristics of the anepigraphic Persepolis pieces reflect diverse purposes or relationships, the Leiden tags, in contrast, reflect much narrower administrative purposes and relationships. A notable exception in the Leiden, etc. corpus is seal RB 7 that is applied with a different orientation, and only on two tags (LB 894 and AO 29963) that do not carry impressions of other seals. The implications of this variation (perhaps including the separation of these two tags from the others in the Leiden, etc. corpus) are not apparent.

⁵³ Among the 2,120 published Fortification tablets, there are 147 known tablets bearing impressions of more than two seals, 6.93% of the total (three seals: 104 tablets; four seals: 33 tablets; five seals: 4 tablets; six seals: 2 tablets).



Prestige seals – The cylinders that made the impressions on the Leiden, etc. tags are large, finely worked and valuable. What Garrison and Root say about some of these seals applies to all, that they are “uniformly magnificent prestige items of great intrinsic interest. They must derive from a high-level courtly context ... they would classify as Court Style products” (OIP 117, 2001, 36). Seals of this kind often, and perhaps always, belonged to individuals of high social and political or administrative status, or to offices controlled by individuals of high rank.⁵⁴ In the Persepolis Fortification archive, seals of high-ranking officials or offices, including the uncommon Court Style seals, normally appear alone, without impressions of other seals on the same tablets.⁵⁵ The collocation of three or four such impressive seals on the Leiden tags is remarkable.

RB 6 and RB 5 are the only seals found on the top edges of the Leiden tags; they are found only on the top edges; hence they are never collocated with each other. They seem to represent the controlling authority behind the transaction, communication or relationship that produced these objects. Each transaction or communication required the presence of two or three other seal-owners of similarly high rank, or else the presence of their representatives. The Leiden, etc. tags therefore probably do not reflect mundane administrative

⁵⁴ See especially Garrison, *Ars Orientalis* 21, 1991, 18. Garrison suggests (personal communication) that RB 4 and RB 6 are more closely connected to Persepolitan Modeled Style (see OIP 117, 2001, 16f.) than to Court Style.

⁵⁵ OIP 117, 2001, 67, 72 etc. An egregious exception is PFS 7 (see *ibid.*, 70 Cat.No. 4).



events like the issue or receipt of rations for workers, the issue of administrative letter-orders, etc. that would ordinarily need the authorization of no more than one high-ranking figure or office. The events or relationships that required the presence of three or four owners of prestige seals (out of a circle of seven or eight such individuals) were surely of a different kind from those recorded in the Persepolis administrative tablets.

Wouter F.M. Henkelman
w.f.m.henkelman@let.leidenuniv.nl

Charles E. Jones
cejo@midway.uchicago.edu

Matthew W. Stolper
mwst@midway.uchicago.edu



Indices

Tags : Seals – The index below indicates seal use on all the clay tags discussed in this paper (cited by museum number). **Low** and **high** resolution images of each surface of each tag can be accessed by clicking on the references in the table below (high res. images available by the end of 2004).

tag	top	side 1	side 2	edge 1	edge 2
AO 7701	RB 5 low high	RB 3? low high	RB 2 low high	/	/
AO 20317	RB 5 low high	/	RB 3 low high	RB 4 low high	RB 3 low high
AO 20318	RB 5 low high	RB 2 low high	RB 3 low high	*S 9 low high	*S 10 low high
AO 20319	RB 5 low high	RB 3 low high	RB 2 low high	RB 1 low high	<i>no image available</i>
AO 20320	RB 5 low high	RB 3 low high	RB 2 low high	RB 1 low high	RB 1 low high
AO 21424	RB 6 low high	RB 1 low high	RB 4 low high	RB 1 low high	RB 4 low high
AO 21425	RB 6 low high	RB 3 low high	RB 1 low high	/	RB 1 low high
AO 21426	RB 6 low high	RB 1 low high	RB 4 low high	RB 1 low high	RB 4 low high



AO 21427	RB 6 low high	RB 1 low high	RB 4 low high	RB 1 low high	RB 4 low high
AO 20428	RB 6 low high	RB 1 low high	RB 4 low high	*S 11 low high	RB 4 low high
AO 29963	RB 7 low high	RB 7 low high	RB 7 low high	/	/
AO 29964	RB 5 low high	RB 2 low high	RB 3 low high	RB 1 low high	RB 1 low high
AO 29965	RB 6 low high	RB 1 low high	RB 4 low high	RB 1 low high	RB 4 low high
AO 29966	RB 6 low high	RB 1 low high	RB 3 low high	RB 4 low high	RB 4 low high
Croz. 200	RB 5 low high	RB 2 low high	RB 3 low high	RB 1 low high	RB 1 low high
GIS 24	RB 6 (ZA 93)	RB 1 (ZA 93)	RB 4 (ZA 93)	RB 1 (ZA 93)	RB 4 (ZA 93)
H. 890	RB 6 low high	RB 1 low high	RB 4 low high	RB 4 low high	RB 1 low high
H. 891	RB 5 low high	RB 2 low high	RB 3 low high	RB 3 low high	RB 3 low high
LB 893	RB 6 low high	RB 1 low high	RB 3 low high	RB 3 low high	RB 3 low high
LB 894	RB 7 low high	RB 7 low high	RB 7 low high	/	/



LB 895	RB 6 low high	RB 1 low high	RB 3 low high	RB 1? low high	RB 3 low high
LB 896	RB 5 low high	RB 2 low high	RB 2 low high	RB 1? low high	RB 1 low high
LB 897	RB 6 low high	RB 3 low high	RB 4 low high	RB 4 low high	RB 3 low high
LB 898	RB 5 low high	RB 3 low high	RB 2 low high	RB 1 low high	RB 1 low high
LB 899	RB 5 low high	RB 2 low high	RB 3 low high	RB 1 low high	RB 1 low high
LB 900	RB 6 low high	RB 1 low high	RB 4 low high	RB 4 low high	RB 1 low high
LB 901	RB 5 low high	RB 1 low high	RB 4 low high	RB 3 low high	RB 3 low high
LB 902	RB 6 low high	RB 3 low high	RB 1 low high	RB 4 low high	RB 4 low high
LB 903	RB 5 low high	RB 3 low high	RB 2 low high	RB 1 low high	RB 1 low high
LB 904	RB 6 low high	RB 3 low high	RB 1 low high	RB 4 low high	/ low high
LB 905	RB 5 low high	RB 3 low high	RB 2 low high	RB 1 low high	RB 1 low high
LB 906	RB 5 low high	RB 3 low high	RB 2 low high	/ low high	/ low high



LB 907	RB 5 low high	RB 2 low high	RB 3 low high	RB 1 low high	RB 1 low high
LB 908	RB 5 low high	RB 3 low high	RB 4 low high	RB 3 low high	RB 4 low high
LB 909	RB 6 low high	RB 4 low high	RB 1 low high	RB 4 low high	RB 1 low high
LB 910	RB 5 low high	RB 3 low high	RB 2 low high	RB 1 low high	RB 1 low high
LB 911	RB 5 low high	RB 2 low high	RB 4 low high	RB 2 low high	RB 4 low high
LB 912	RB 6 low high	RB 4 low high	RB 3 low high	RB 3 low high	RB 4 low high
LB 913	RB 6 low high	RB 4 low high	RB 3 low high	RB 3 low high	RB 4 low high
YBC 9900	RB 6 low high	RB 1 low high	RB 1 low high	RB 1 low high	RB 1 low high
YBC 9901	RB 5 low high	RB 2 low high	RB 3 low high	RB 1 low high	RB 1 low high
YBC 17070	RB 5 low high	RB 3 low high	RB 2 low high	RB 1 low high	RB 1 low high

**Seals : Tags****RB 1** (30 tags)

AO 20319 edge 1	LB 896 edge 1?, edge 2
AO 20320 edge 1, edge 2	LB 898 edge 1, edge 2
AO 20428 side 1	LB 899 edge 1, edge 2
AO 21424 side 1, edge 1	LB 900 side 1, edge 2
AO 21425 side 2, edge 2	LB 901 side 1
AO 21426 side 1, edge 1	LB 902 side 2
AO 21427 side 1, edge 1	LB 903 edge 1, edge 2
AO 29964 edge 1, edge 2	LB 904 side 2
AO 29965 side 1, edge 1	LB 905 edge 1, edge 2
AO 29966 side 1	LB 907 edge 1, edge 2
Croz. 200 edge 1, edge 2	LB 909 side 2, edge 2
GIS 24 side 1, edge 1	LB 910 edge 1, edge 2
H. 890 side 1, edge 2	YBC 9900 edge 1-2, side 1-2
LB 893 side 1	YBC 9901 edge 1, edge 2
LB 895 side 1 edge 1?	YBC 17070 edge 1, edge 2

RB 2 (18 tags)

AO 7701 side 2	LB 903 side 2
AO 20318 side 1	LB 905 side 2
AO 20319 side 2	LB 906 side 2
AO 20320 side 2	LB 907 side 1
AO 29964 side 1	LB 910 side 2
Croz. 200 side 1	LB 911 side 1, edge 1
H. 891 side 2	YBC 9901 side 1
LB 896 side 1, side 2	YBC 17070 side 2
LB 898 side 2	
LB 899 side 1	

**RB 3** (28 tags)

AO 7701 side 1?	LB 901 edge 1, edge 2
AO 20317 side 2, edge 2	LB 902 side 1
AO 20318 side 2	LB 903 side 1
AO 20319 side 1	LB 904 side 1
AO 20320 side 1	LB 905 side 1
AO 21425 side 1	LB 906 side 1
AO 29964 side 2	LB 907 side 2
AO 29966 side 2	LB 908 side 1, edge 1
Croz. 200 side 2	LB 910 side 1
H. 891 side 2, edge 1	LB 912 side 2, edge 1
LB 893 side 2, edge 1, edge 2	LB 913 side 2, edge 1
LB 895 side 2, edge 2	YBC 9901 side 2
LB 897 side 1, edge 2	YBC 17070 side 1
LB 898 side 1	
LB 899 side 2	

RB 4 (19 tags)

AO 20317 edge 1	LB 900 edge 1, side 1
AO 20428 side 2, edge 2	LB 901 side 2
AO 21424 side 2, edge 2	LB 902 edge 1, edge 2
AO 21426 side 2, edge 2	LB 904 edge 1
AO 21427 side 2, edge 2	LB 908 side 2, edge 2
AO 29965 side 2, edge 2	LB 909 side 1, edge 1
AO 29966 edge 1, edge 2	LB 911 side 2, edge 2
GIS 24 side 2, edge 2	LB 912 side 1, edge 2
H. 890 side 2, edge 1	LB 913 side E 1, edge 2
LB 897 side 2, edge 1	



RB 5 (21 tags)	
AO 7701 top	LB 901 top
AO 20317 top	LB 903 top
AO 20318 top	LB 905 top
AO 20319 top	LB 906 top
AO 20320 top	LB 907 top
AO 29964 top	LB 908 top
Croz. 200 top	LB 910 top
H. 891 top	LB 911 top
LB 896 top	YBC 9901 top
LB 898 top	YBC 17070 top
LB 899 top	

RB 6 (19 tags)	
AO 20428 top	LB 895 top
AO 21424 top	LB 897 top
AO 21425 top	LB 900 top
AO 21426 top	LB 902 top
AO 21427 top	LB 904 top
AO 29965 top	LB 909 top
AO 29966 top	LB 912 top
GIS 24 top	LB 913 top
H. 890 top	YBC 9900 top
LB 893 top	

RB 7 (2 tags)	*s 9 (1 tag)
AO 29963 top, side 1, side 2	AO 20318 edge 1
LB 894 top, side 1, side 2	

*s 10 (1 tag)	*s 11 (1 tag)
AO 20318 edge 2	AO 20428 edge 1



Bibliography

- AMIET, P. 1972, *Glyptique susienne des origines à l'époque des Perses achéménides*, Mémoires de la Délégation Archéologique en Iran 43 (Paris: Paul Geuthner).
- ANONYMOUS 1934, "Recent Discoveries at Persepolis," *JRAS* 1934, 226-232.
- ANONYMOUS 1988, *Ancient Near Eastern Texts from the Erlenmeyer Collection*, catalogue of an auction sale 13 December 1988, at Christie, Manson & Woods, London.
- ANONYMOUS 1990, *Fine Antiquities, including the Mrs. Albert D. Lasker Collection*, catalogue of an auction sale 12 December 1990, Christie, Manson & Woods, London.
- ÅSTRÖM, P. & ERIKSSON, S.A., 1980, *Fingerprints and Archaeology*, Studies in Mediterranean Archaeology 6 (Göteborg: Paul Åströms Förlag).
- BOARDMAN, J. 2000, *Persia and the West* (London and New York: Thames and Hudson).
- BÖHL, F.M.Th. 1924-5, "Fünf Urkunden aus der Zeit des Königs Itti-Marduk-balātu," *AfO* 2, 49-64.
- DE LIAGRE BÖHL, F.M.Th. 1933a, "Mededeelingen uit de Leidse Verzameling van Spijkerschrift-Inscripties. I: Oorkonden uit de periode der rijken van Sumer en Akkad (3000-2000 v.Chr.)," in *Mededelingen der Koninklijke Akademie van Wetenschappen*, afdeling Letterkunde 76.9, 285-319.
- DE LIAGRE BÖHL, F.M.Th. 1933b, "Vier Antiken aus den Assyriologischen Sammlungen in Leiden und Groningen," in: *Aus fünf Jahrtausende morgenländischer Kultur. Festschrift Max Freiherrn von Oppenheim zum 70. Geb. gewidmet von Freunden und Mitarbeitern*, *AfO* Beih. 1, Berlin: 9-12.
- DE LIAGRE BÖHL, F.M.Th. 1934, "Mededeelingen uit de Leidse Verzameling van Spijkerschrift-Inscripties. II: Oorkonden uit de periode van 2000-1200 v.Chr.," in *Mededelingen der Koninklijke Akademie van Wetenschappen*, afdeling Letterkunde 78, 23-82.



- DE LIAGRE BÖHL, F.M.Th. 1936, "Mededeelingen uit de Leidse Verzameling van Spijkerschrift-Inscripties. III: Assyrische en nieuw-babylonische oorkonden (1100-91 v.Chr.)," in *Mededelingen der Koninklijke Akademie van Wetenschappen*, afdeling Letterkunde 82, 65-145.
- BRETSCHNEIDER, H., PIEPER, P., STEFAN, R., DELING, O. & JENS, G. 2001, "Erste Untersuchungen daktyloskopischer Spuren auf Siegelabrollungen von Tell Beydar," in: K. van Lerberghe & G. Voet (eds.), *Tell Beydar: Environmental and Technical Studies*, Subartu 6 (Turnhout: Brepols), 39-154.
- CALMEYER, P. 1988, "Zur Genese altiranischer Motive X. Die elamisch-persische Tracht," *AMI n.s.* 21, 27-51.
- CAMERON, G.G. 1948, *Persepolis Treasury Tablets*, OIP 65 (Chicago: University of Chicago Press).
- CHIERA, E. 1938, *They Wrote on Clay* (Chicago: University of Chicago Press).
- CLERMONT-GANNEAU, C.S. 1900-1905, *Répertoire d'épigraphie sémitique* (Paris: Imprimerie Nationale).
- COLLON, D. 1988, *First Impressions* (London and Chicago: British Museum Publications and University of Chicago Press).
- COLLON, D. 1996, "A Hoard of Sealings from Ur," in: M.-F. Boussac & A. Invernizzi (eds.), *Archives et Sceaux du Monde Hellénistique*, BCH suppl. 29, 65-84.
- DELAPORTE, L. 1910, *Catalogue des cylindres orientaux et des cachets assyro-babyloniens, perses et syro-cappadociens de la Bibliothèque Nationale* (Paris: Ernst Leroux).
- DELAPORTE, L. 1923, *Catalogue des cylindres orientaux, cachets et pierres gravées de style oriental*, II: *Acquisitions* (Paris: Hachette).
- FALES, F.M. 1986, *Aramaic Epigraphs on Clay Tablets of the Neo-Assyrian Period*, Studi Semitici n.s. 2 (Rome: Università degli Studi 'La Sapienza').
- FALES, F.M. & POSTGATE, J.N. 1992, *Imperial Administrative Records*, Part I, State Archives of Assyria 7 (Helsinki: Helsinki University Press).



- FITZMYER, J.A. & KAUFMAN, S.A. 1992, *An Aramaic Bibliography*, I (Baltimore and London: Johns Hopkins University Press).
- GARRISON, M.B. 1991, "Seals and the Elite at Persepolis: Some Observations on Early Achaemenid Persian Art," *Ars Orientalis* 21, 1-29.
- GARRISON, M.B. & ROOT, M.C. 2001, *Seals on the Persepolis Fortification Tablets*, I: *Images of Heroic Encounter*, OIP 117 (Chicago: Oriental Institute).
- GOETZE, A. 1944, "Three Achaemenian Tags," *Berytus* 8, 97-101.
- HENKELMAN, W.F.M. 2003, "Persians, Medes and Elamites: Acculturation in the Neo-Elamite Period," in: G. Lanfranchi *et al.* (eds.), *Continuity of Empire: Assyria, Media, Persia*, History of the Ancient Near East / Monograph series 5 (Padova: S.a.r.g.o.n.), 181-231.
- HERBORDT, S. 1992, *Neuassyrische Glyptik des 8.-7. Jh. v. Chr.*, State Archives of Assyria Studies 1 (Helsinki: Neo-Assyrian Text Corpus Project).
- INVERNIZZI, A. & PAPOTI, C.M., 1991, "Sealings and Fingerprints at Seleucia-on-the-Tigris," in: K. Schippmann *et al.* (eds.), *Golf - Archäologie: Mesopotamien, Iran, Kuwait, Bahrain, Vereinigte Arabischen Emirate und Oman*, Internationale Archäologie, 6 (Buch am Erlbach; Marie L. Leidorf), 33-43.
- KAMPMAN, A.A. 1973, "Die Leidener Tontafelsammlung Franz de Liagre Böhl," in: M.A. Beek, A. A. Kampman *et al.* (eds.), *Symbolae Biblicae et Mesopotamicae Francisco Mario Theodoro de Liagre Böhl dicatae*, Studia Francisci Scholten memoriae dicata 4 (Leiden), 214-7.
- KAPTAN, D. 2002, *The Daskyleion Bullae: Seal Images from the Western Achaemenid Empire*, Achaemenid History 12 (Leiden: Nederlands Instituut voor het Nabije Oosten).
- KOCH, H. 1992, *Es kündigt Dareios der König... Vom Leben im persischen Großreich* (Mainz a.R.: Philipp von Zabern).
- LEGRAIN, L. 1925, *The Culture of the Babylonians from their Seals in the Collections of the Museum*, PBS 14 (Philadelphia: University Museum).



- LEITH, M.J.W. 1997, *Wadi Daliyeh 1: The Wadi Daliyeh Seal Impressions*, Discoveries in the Judaean Desert 24 (Oxford: Clarendon Press).
- LEMAIRE, A. 2001, *Nouvelles Tablettes Araméennes*, École Pratique des Hautes Études, Hautes Études Orientales 34, Moyen et Proche-Orient, 1 (Geneva: Droz).
- OTTO, A. 1995, "Ein neu entdecktes Glied in der Kette altorientalischer Administration – Zur Deutung gesiegelter Langetten," *Damaszener Mitteilungen* 8, 85-93.
- PETRIE, W.M.F., Mackay, E. & Wainwright, G. 1910, *Meydum and Memphis* (III) (London: Office of the School of Archaeology, University College London).
- PORTEN, B. & YARDENI, A. 1999, *Textbook of Aramaic Documents from Ancient Egypt*, 4: *Ostraca and Assorted Inscriptions* (Jerusalem: Hebrew University).
- POSTGATE, J.N. 1974, *Taxation and Conscriptio in the Assyrian Empire*, Studia Pohl Series Maior 3 (Rome: Pontifical Biblical Institute).
- POSTGATE, J.N. 1976, *Fifty Neo-Assyrian Legal Documents* (Warminster: Aris and Philips).
- POSTGATE, J.N. 1992, *Early Mesopotamia* (London and New York: Routledge).
- POSTGATE, J.N. 2000, "Neo-Assyrian Private Archive Texts from the Seventh Century B.C.," in: I. Spar and E. von Dassow, *Private Archive Texts of the First Millennium B.C.*, Cuneiform Texts in the Metropolitan Museum of Art 3 (New York and Brussels: Metropolitan Museum of Art and Brepols), 3-13.
- RADNER, K. 1997, *Die neuassyrischen Privatechtsurkunden als Quelle für Mensch und Umwelt*, State Archives of Assyria Studies 6 (Helsinki: Neo-Assyrian Text Corpus Project).
- ROAF, M. 1974, "The Subject Peoples on the Base of the Statue of Darius," *Cahiers de la DAFI* 4, 73-160.
- ROOT, M.C. 1996, "The Persepolis Fortification Tablets: Archival Issues and the Problem of Stamps versus Cylinder Seals," in: M.-F. Boussac and A. Invernizzi (eds.), *Archives et Sceaux du Monde Hellénistique*, BCH suppl. 29, 3-27.



- SCHEIL, V. 1901, "Mélanges, I: Empreintes achéménides," *Revue Biblique* 10, 567-570.
- SCHMIDT, E.F. 1953, *Persepolis I: Structures, Reliefs, Inscriptions*, OIP 68 (Chicago: University of Chicago Press).
- SCHMIDT, E.F. 1957, *Persepolis II: Contents of the Treasury and Other Discoveries*, OIP 69 (Chicago: University of Chicago Press).
- SEVINÇ, N. *et al.*, 2001, "A new painted graeco-persian sarcophagus from Çan," *Studia Troica* 11: 383-420.
- STEIN, D. 1997, "Siegelverwendung in Wirtschaft und Verwaltung," in: E. Klengel-Brandt (ed.), *Mit Sieben Siegel versehen. Das Siegel in Wirtschaft und Kunst des Alten Orients* (Mainz: Philipp von Zabern), 104-124.
- STOLPER, M.W. 1980, review of Postgate 1976, *BASOR* 239, 78-80.
- STOLPER, M.W. 1989, "The Governor of Babylon and Across-the-River in 486 B.C.," *JNES* 48, 283-305.
- STRONACH, D. 1978, *Pasargadae* (Oxford: Oxford University Press).
- TADJVIDI, A. 1970, "Persepolis," *Iran* 8, 186-7.
- TADJVIDI, A. 1976 [2535 Šāhanšāhi], *Danistaniha-ye nuvin dar barah-e hunar va bastanshinasi-ye asr-e Hakhamanishi bar bunyad-e kavusha-ye panj salab-e Takht-e Jamsid* [New Knowledge about Achaemenid Art and Archaeology based on Five Years Researches at Persepolis] (Tehran: Ministry of Culture and Arts).
- TADMOR, H. 1982, "The Aramaization of Assyria," in: H.-J. Nissen & J. Renger (eds.), *Mesopotamien und seine Nachbarn* (CRRAI 25), BBVO 1 (Berlin), 449-470.
- VALLAT, F. 1997, "L'Utilisation des sceaux-cylindres dans l'archivage des lettres de Persépolis," in: R. Gyselen (ed.), *Sceaux d'Orient*, Res Orientales 10 (Paris: Groupe Pour l'Étude de la Civilisation du Moyen-Orient), 171-74.
- VELDHUIS, N. 2003, "Cuneiform Tablets at the Groningen Institute for Semitics," *ZA* 93, 53-69.