

Brief Communications

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Abraham Zacut's Signature: A Mystery Solved

Abraham ben Samuel ben Abraham Zacut of Salamanca (1452–1515) is perhaps best known today for his historical work, *The Book of Genealogies* (ספר יוחסין), but he was also the leading astronomer in the Iberian peninsula at the end of the fifteenth century. His main astronomical work, *The Great Composition* (החבור הגדול), composed in Hebrew in 1478, consists of canons (a set of instructions) and astronomical tables. A Castilian version of the canons by Juan de Salaya was completed in 1481 with the aid of Zacut. Shortly after the expulsion of Jews from Spain, Zacut arrived in Portugal and was apparently given the title of “royal astronomer” during the reigns of João II (1482–1495) and Manuel I (1495–1521). After Judaism was declared illegal in Portugal in 1497, Zacut went on to North Africa, and subsequently to Jerusalem. His fame among European astronomers (outside the Iberian peninsula) depended on a set of astronomical tables published in Leiria, Portugal, in 1496, with canons in Latin in some copies and Castilian in others, entitled *Almanach perpetuum*. This was one of the earliest publications of a set of astronomical tables. Although Zacut is mentioned as the author, this does not seem to be true for the canons, which differ in many ways from the Hebrew canons of his *Great Composition*. According to the colophon, Joseph Vizinus translated

Zacut's text from Hebrew to Latin and then from Latin to Castilian, but this probably does not reflect Vizinus's precise role in the publication. In any event, it is not clear that Zacut was aware of this edition. All, or some of the tables, in the *Almanach perpetuum* were later reprinted in Venice in 1498, 1502, 1525, and 1528, and this is an indication of the status of Zacut's work in the astronomical community at the time. There were also translations (and adaptations) of the printed edition into Arabic.¹

Zacut's role in Portugal is not easy to reconstruct, and there are many legends of dubious historical value. One fixed point seems to be his signature, "Abraham Zacut, royal astronomer," on a Portuguese document, dated 9 June 1493.² But this document has long been puzzling, and there is no other signature by Zacut with which to compare it. In 1896 Kayserling published a "facsimile" of the signature which he had received from a Portuguese colleague, Joaquim Mendes dos Remedios.³ In this facsimile two Hebrew letters are crossed out, which seems strange in a signature (see Fig. 1). It turns out that Kayserling (or possibly his Portuguese colleague) was just correcting the Hebrew without indicating that the image had been altered. Indeed, in the facsimile published in 1909 by Lemos no letters are crossed out (see Fig. 2).⁴ But is it likely that Abraham Zacut, a major author of Hebrew texts, would write התוכן מהמלך instead of תוכן המלך (the king's astronomer)? In any event, the Hebrew expression is a literal translation of a title as it would appear in a Romance language: in modern Portuguese it would be *o astrónomo do rei* (corresponding to *l'astronome du roi* in modern French), where Hebrew מ- (or מן) corresponds to the preposition *de*.⁵ Perhaps the most problematic aspect of this signature is that it was not customary to add the honorific ר (rabbi) before one's name in a signature. Moreover, in addition to the given name in a signature, the father's name and the grandfather's name were usually included.⁶ Another difficulty concerns the letters at the end of the signature (to be discussed below).

Je dois aussi à l'obligeance de M. Mendes dos Remedios le facsimile de l'autographe suivant d'Abraham Zacuto, le célèbre auteur du *Yohasin* :

ר' אברהם זכור תוכן המלך י"א

« Abraham Zacut mathématicien du roi. Que Dieu le protège ! »

M. KAYSERLING.

Figure 1.
Kayserling's "facsimile"
of the signature (1896).

- 1 For an extended analysis of Zacut's contributions to astronomy together with a discussion of his biography, see José Chabás and Bernard R. Goldstein, *Astronomy in the Iberian Peninsula: Abraham Zacut and the Transition from Manuscript to Print* (Philadelphia: American Philosophical Society, 2000). For additional information on the Arabic versions, see: Julio Samsó, "Abraham Zacut and José Vizinho's *Almanach Perpetuum* in Arabic (16th–19th c.)," *Centaurus* 46 (2004): 82–97; Y. Tzvi Langermann, "A Compendium of Renaissance Science: *Ta'alumot hoqmah* by Moses Galeano," *Aleph* 7 (2007): 285–318, on p. 318, n. 75.
- 2 For a previous discussion of this signature accompanied by a low quality image, see Chabás and Goldstein, *Zacut*, pp. 11–13.
- 3 M[eyer] Kayserling, "Notes sur l'histoire des Juifs au Portugal," *Revue des études juives* 32 (1896): 282–284.
- 4 Maximiano Lemos, *Zacuto Lusitano: a sua vida e a sua obra* (Porto: Eduardo Tavares Martins, 1909), p. 20. The main subject of this book is Zacuto Lusitano (d. 1642), but it also contains some remarks about Abraham Zacut of Salamanca (d. 1515).
- 5 For the Latin form of Zacut's title, see the colophon at the end of the *Almanach perpetuum* (Leiria: Samuel d'Ortas, 1496), f. 172r: Madrid, Biblioteca Nacional de España, shelfmark I-1077. Cf. Chabás and Goldstein, *Zacut*, p. 10.
- 6 For examples of Hebrew signatures in medieval documents from Spain, see José Luis Lacave, *Medieval Ketubot from Sefarad* (Jerusalem: Magnes Press, 2002). Generally, Hebrew signatures are far more cursive (and hence more difficult to decipher) than the signature here.

Figure 2. Lemos's facsimile of the signature (1909).

It seems to me that the simplest solution is to assume that someone acting as Zacut's agent signed the document for him. In that case, the honorific and the lack of patronymics are plausible, and the awkwardness in the grammar need not be attributed to Zacut himself. The letters at the end of the signature were interpreted by Kayserling as יע"א, but in 1897 Kaufmann explained that this was impossible.⁷ Generally, it has been understood that these letters represent the name of the Portuguese king at the time, João II, but there are difficulties with this claim. In Judeo-Portuguese one would expect either ג'ואאו, ג'ואאו, or ג'ואן.⁸ And in Hebrew texts which preserve a legend about an encounter between Zacut and King João, the king's name is given as יואן.⁹ In all cases there is a *waw* after the first letter, but none is to be seen on this Portuguese document of 1493. However, if one accepts the hypothesis that an agent is responsible for Zacut's signature, then a blessing (for a living person) would be appropriate after the name. This means taking יא as an abbreviation: in a private communication Tzvi Langermann suggested that it could be an abbreviation for יאיר אורו (may his light shine brightly), which corresponds to the common נרו יאיר (may his candle shine brightly), despite the negative connotation of the expression, יאיר אורו, in Ezekiel 32:7. Although Langermann found only one example of this expression as a blessing after a name (Jerusalem, JNUL, MS Heb. 8° 480, late seventeenth-century Kurdistan), he added: "but that does not mean that this is the only time it was ever used; it only means (as I know all too well) that this was the only time a cataloguer took the trouble to cite it." Some have taken the stroke at the end of the signature to be

a final *nun*, but it does not resemble the final *nun* in התוכן and may just be a flourish which, together with the stroke before התוכן מהמלך, forms a kind of parenthesis. The flourish at the beginning of the signature and the underlining are also unusual.

It is difficult to be certain, but the likelihood is that this signature is due to an agent, acting on behalf of Abraham Zacut, who wrote: ר' אברהם זכות התוכן מהמלך יא

- 7 David Kaufmann, "La prétendue signature d'Abraham Zacuto," *Revue des études juives* 34 (1897): 120–121. Kaufmann pointed out that יעא stands for עליון אמן, which is appropriate for a city, not a person. Although Kaufmann does not remark on it, there is no ע in this text (despite Kayserling's transcription). Kaufmann took the letters at the end of the signature to be, in all probability, יואן, for יואן, which is the form for the king's name that appears in a legend about Zacut and King João of Portugal (see n. 9 below).
- 8 On Judeo-Portuguese, see Devon L. Strolovitch, "Old Portuguese in Hebrew Script: Convention, Contact, and Convivência" (Ph.D. dissertation, Cornell University, 2005; online at <http://www.jmrg.org/strolovitch/disspage/>). The most extensive text in Judeo-Portuguese is a translation of a work on astrology by Juan Gil of Burgos, where the name of the author in Hebrew characters is ג'ואן ג'יל די בורגוס (ibid., p. 79; Oxford, Bodleian Library, MS Laud. Or. 282); cf. Guy Beaujouan, *L'astronomie dans la péninsule ibérique à la fin du moyen âge* (Coimbra: Junta de Investigações do Ultramar, 1969), p. 11.
- 9 This legend is preserved in three versions, and in two of them the name of King João II appears as יואן: Menasseh ben Israel (d. 1657), *Sefer Nishmat hayyim* (Amsterdam, 1651; repr. Lemberg: Schrenzel, 1858), book 3, chap. 21 (not paginated); and Joseph Sambari (1672), in Adolf Neubauer, *Mediaeval Jewish Chronicles and Chronological Notes*, 2 vols. (Oxford: Clarendon Press, 1887–1895; repr. Amsterdam: Philo Press, 1970), vol. 1, p. 139. In an earlier version Zacut encounters a king who is just identified as "one of the Iberian kings" (מלך אחד ממלכי ספרד): see Abraham ibn Migas (sixteenth century), *Sefer Kevod 'elohim* (Constantinople, 1585; repr. with an introduction by Haim Hillel Ben-Sasson, Jerusalem: Jewish National & University Library Press, 1976), f. 49a.

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Appendix

The Portuguese text of the document was transcribed by Viterbo,¹⁰ but here I present a somewhat revised version, based on the readings of Cristina Costa Gomes, a paleographer in Lisbon at the Centro Científico e Cultural de Macau. For assistance with the English translation I am grateful to Luís Saraiva of the University of Lisbon and José Chabás of the University Pompeu Fabra (Barcelona). According to this document, Zacut received 10 golden coins (*espadys*) for some unspecified service (see Figs. 3 and 4).

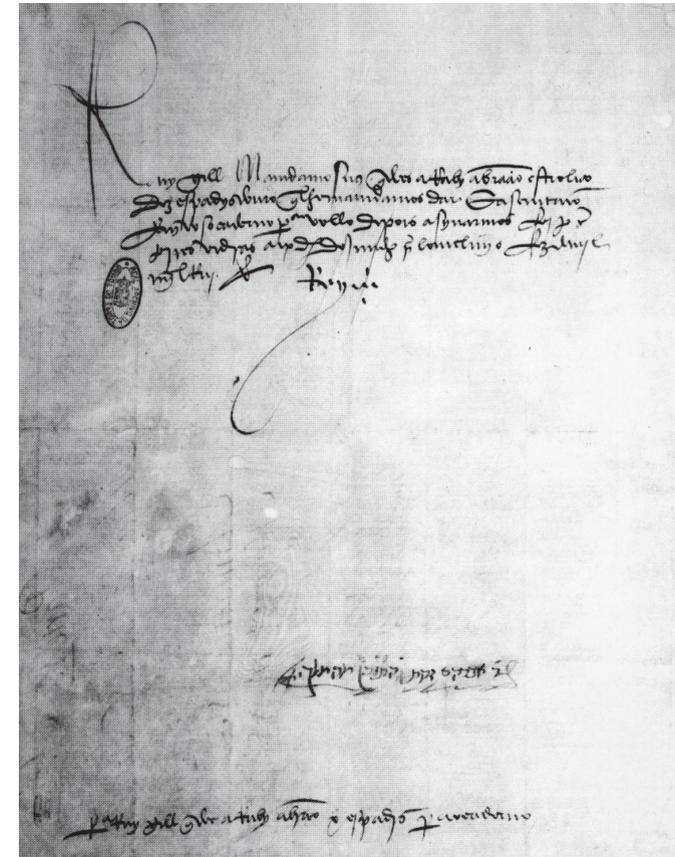


Figure 3. Lisbon, Arquivo Nacional da Torre do Tombo, *Corpo Chronologico*, parte 1^a, maço 2, doc. 18.

10 Sousa Viterbo, *Trabalhos náuticos dos portugueses; séculos XVI e XVI*, 2 vols. (Lisbon: Academia Real das Sciencias, 1898–1900), vol. 1, p. 326 (repr. Lisbon: Imprensa Nacional–Casa da Moeda, 1988, p. 362).

Figure 4. Detail of the Hebrew signature in Figure 3.

Text (Lisbon, Arquivo Nacional da Torre do Tombo, *Corpo Chronologico*, parte 1^a, maço 2, doc. 18):

Ruy Gill Mandamos-uos *que* dees a Raby Abraão estrolico Dez espadys d'ouro *que* lhe mamdamos dar E asemtarom Em voso caderno *pera* vo-llo depois asynarmos feyto *em* Torres Vedras a ix dias de Junho Pero Lomelim o fez de mjl iiii^c lRiij.

Rey • • •
 •
 •

[Signature in Hebrew.]

Pera Ruy Gill *que* dee a Raby Abraão x espadjns *pera* o caderno.

Translation:

Ruy Gill, we order you to give to Raby Abraham astronomer, ten golden *espadys*, which we order [you] to give to him and to write it down in your notebook, for you later to sign. Written in Torres Vedras, on the 9th day of June—Pero Lomellimo wrote it—in 1493.

King • • •
 •

[Signature in Hebrew.]

After the signature in Hebrew, on the last line:

For Ruy Gill who is [ordered] to give to Raby Abraham x *espadis*, for the notebook.

Some words in the Portuguese text are abbreviated in the sense that certain letters are omitted; in this transcription these letters have been added in italics. The five dots after “Rey” in the form of a cross correspond to the royal signature. The year 1493 is given in Roman numerals, where the symbol for “90” (lR) is unusual; however, I am informed by Cristina Costa Gomes that, at the time when this document was written, R was used in Portugal for “40” in Roman numerals. Hence “lR” means “90” and the date is 1493. Moreover, this document occurs in a series of archival documents where all the surrounding items are dated 1493, and so the date is quite secure.¹¹

11 João Pedro Ribeiro, *Dissertações chronologicas e criticas sobre a historia e jurisprudencia ecclesiastica e civil de Portugal*, vol. V (Lisbon: Academia das Sciencias de Lisboa, 1836), pp. 304–307. The brief description of item 18 on p. 306 refers to the signature in Hebrew characters, although it is identified as “in Arabic.”