

Observations Based on Transillumination Photography of Diego de Landa's *Relación de las cosas de Yucatán*

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*The manuscript entitled *Relación de las cosas de Yucatán* is an oft-cited but under-investigated resource for Maya studies. This research report is the first in a series of several studies emerging from a research project carried out by the author at the Real Academia de la Historia in Madrid in 2019. Based on the use of transillumination photography, several details of the manuscript have surfaced for further analyses. This includes the appearance of 36 partial watermarks, various puncture holes on the folios, iron-gall ink corrosion, damaged sections of the manuscript, and defects in the paper used. The watermarks represent primarily variants of the so-called peregrino ('pilgrim') motif. As the peregrino watermark is typically a 16th century trait, a codicological study will help date the paper used in the manuscript and add to the overall discussion of the origins of the various sections of the multi-authored manuscript that sometime in the past became bound into a single volume under the name "Relacion de las cosas de Yucatan sacada de lo que escribió el padre fray Diego de Landa de la orden de St Francisco".*

Key words: Diego de Landa, epigraphy, paleography, transillumination photography, watermarks



Background

This research report is the first in a series of several studies emerging from an ongoing research project that documents and analyzes the manuscript titled *Relación de las cosas de Yucatán* (manuscript B-68, 9-27-2, 5153) located at the *Real Academia de la Historia* (Royal Academy of History) in Madrid, Spain. In June 2019 the author inspected the manuscript, of which he took high-resolution photographs with the help of María Josefa Iglesias Ponce de León



(Universidad Complutense de Madrid) and Óscar Torre González (*Real Academia de la Historia*). Part of these high-resolution photographs were the outcome of the use of nonintrusive transillumination techniques seeking to expose watermarks and other hidden features of this manuscript. The ultimate purpose of this research project is to better understand the dating as well as the physical details, preservation state, and overall context of the manuscript, including the dating of different handwriting styles, an analysis of the ink used, puncture holes, text in the margins, maps, and various details of Maya hieroglyphs on its pages.

The incentive for this project started during a visit at the *Real Academia de la Historia* on December 13, 2018 by the author and María Josefa Iglesias Ponce de León, and was initially discussed at the Academy with D. Miguel Ángel Ladero Quesada (*Académico Bibliotecario*) and later with the Head Librarian Doña Asunción Miralles de Imperial y Pasqual de Pobil over email, after submitting an official research proposal to the Academy. Upon examining the manuscript, the author noticed details (such as strikethrough text, different ink color, puncture holes, and various watermarks) that ought to be examined and documented. This research was necessary since these features are not apparent in the digital images (09-05153_c75_0001>0148) of the *Real Academia de la Historia*. Permission to study the manuscript was granted in the spring of 2019 and the first stage of the project (securing high-resolution photographs) was carried out on June 26-27 the same year. The basic codicological examination of the manuscript revealed the following features and this report focuses on the first three:

1) The manuscript has watermarks that were documented photographically using transillumination techniques. Furthermore, some of the watermarks extend into the binding of the manuscript, which warrant future research using additional techniques. The goal is to help date the paper of the manuscript and to compare the findings to the codicological study carried out by Matthew Restall and John Chuchiak (2002).

2) The manuscript has puncture holes on folio 45, as well as in the middle of many hieroglyphs written on the document. Using high-resolution transillumination photography, these puncture holes on the hieroglyphs (most likely made by a compass) were documented and analyzed to study their writing process. The puncture holes on folio 45, on the other hand, were made for another reason, which needs to be understood by examining the folio and the history of the manuscript itself.

3) Results include previously undocumented details on folio 45. These include pencil strokes, original lettering of hieroglyphs that were subsequently smudged, and eleven small holes on the rim or edge of the paper.

4) The manuscript contains distinct ink colors (with different glare) on different pages, and

even on the same page. By using digital photography with a macro lens and color chart (to calibrate the colors of the manuscript), these differences were documented for further analysis.

5) Several hieroglyphs written on the pages of the manuscript have lost some of their ink. These missing parts can be recovered digitally and by detailed documentation.

6) Various details on the pages of the manuscript have been faintly circled using a pencil. These details will be examined in order to know how, when, and why this occurred.

7) Folios 67–68 have cartographic information close to the binding of the manuscript that did not show in previous digital images. These include names of geographic locations in the Gulf of Mexico.

Description, Different Editions, and Previous Studies of the Manuscript

The *Relación* consists of 66 numbered folios, along with a title page folio and two folios of maps at the end of the opus. Besides these, the bound volume has five folios before the title page (whereof two contain bibliographic data) and five empty folios at the end of the manuscript, totaling 79 folios. Here, the term ‘folio’ is understood as a general term for a sheet or page in the manuscript – rather than a technical term of folio as a folded sheet of paper to produce two leaves; consequently, the term folio here ignores whether the leaf in question is physically joined with another leaf or not. The measurements of the pages are ca. 14.5x21.0 cm (the paper has been cut somewhat unevenly) and the manuscript has been bound in leather covers with marbled endpapers, both pointing to 18th century or early 19th century bookbinding. The marbling appears to be a so-called (Dutch) combed pattern, with a tradition extending from the 17th to 19th centuries. However, the traditional color scheme (red, green, blue, and yellow) seems to suggest an 18th century origin.

Since its (re)discovery by Charles Étienne Brasseur de Bourbourg in 1861 at the *Real Academia de la Historia* in Madrid, numerous versions, editions, and translations of the *Relación de las cosas de Yucatán* have been published. Most of these treat the manuscript as an abridgement of a now lost original work by Landa. This widespread belief was questioned by Matthew Restall and John Chuchiak in 2002, who pointed out (2002:663) that the existing

manuscript of the *Relación* that is the source for all editions and readings of it is an arbitrary collection by three or four compilers, probably made at different times but all after Landa’s death, of excerpts from what may have been either a larger multivolume work of Landa’s (possibly already “typeset” for publication) or a collection of writings by Landa that did not comprise anything we might grant the integrity of a book (the very definition of a *recopilación*).

Restall and Chuchiak (2002:664) also emphasize that “just as we can no longer be so certain that what we read in the *Relación* was all Landa had to say on a topic [...] so also can we no longer be certain that every word is Landa’s.” Regarding the different hands in the manuscript, Restall and Chuchiak (2002:661) observe that the *Relación* is the work of two principal compilers “with the assistance of an uncertain number of additional copyists and illustrators”. Furthermore, they (2002:655) note that “although [Brasseur de Bourbourg] recognized the different hands on the manuscript, he assumed that these were simply those of different copyists working from a more or less identical original, single, coherent work written by Landa”. On the other hand, Brasseur de

Bourbourg (1864: III, footnote 2) himself remarks that

[t]he Madrid manuscript on which we copied this document is not Landa's original, but a copy made about thirty years after his death, if we judge it by the writing. Judging by the title and certain sentences, it would be incomplete, and the copyist has unintentionally deleted the chapter titles that divided it, but left it with provincialisms and a spelling, barely intelligible, even for a Spaniard.

Le manuscrit de Madrid sur lequel nous avons copié ce document, n'est pas l'original de Landa, mais une copie faite trente ans environ après sa mort, si l'on en juge par l'écriture. A en juger par le titre et certaines phrases, il serait incomplet, et le copiste en a supprimé sans intention les titres de chapitres qui le divisaient, mais en y laissant des provincialismes et une orthographe, à peine intelligibles, même pour un Espagnol.

Consequently, it seems that Brasseur de Bourbourg is not so much to blame for the confusion as are the subsequent (20th century) editors, translators, and commentators of the *Relación*, as he does not explicitly state that a single volume titled “Relación de las cosas de Yucatán” was ever written by Landa (unless “*l'original de Landa*” can be interpreted as such).

In fact, we have to wait until William Gates' 1937 edition “Yucatan before and after the Conquest by Friar Diego de Landa with Other Related Documents, Maps and Illustrations” to learn that “[t]he original manuscript of Landa's Relation has long disappeared” and that “it must have been materially longer” and that “[t]he copy we have is a shortened transcript, although bearing what is quite surely the original date of the year it was written, 1566 [...]” (Gates 1937:xiv). The previous editions either do not discuss the discovery and background of the physical manuscript itself, or merely assume that there was an original manuscript written by Landa. These are Juan de Dios de Rada y Delgado's (1881) “Manuscrito de Diego de Landa tomado directamente del único ejemplar que se conoce y se conserva en la Academia de Historia” (the first complete edition of the *Relación*, except for the absence of the maps); an incomplete and unillustrated version of the manuscript appearing in the *Relaciones de Yucatán* (see Landa 1900); and Jean Genet's (1928-29) unfinished “Diego de Landa: Relation des choses du Yucatan”.

The growing interest in Mesoamerican archaeology during the interwar period saw the publication of four editions of the *Relación* within four years: the aforementioned edition by Gates (1937), José Rosado Escalante and Fávila Ontiveros' (1938) edition with full text but incomplete illustrations, Hector Pérez Martínez' (1938) first complete edition with illustrations and Alfred M. Tozzer's (1941) colossal English edition with 1154 footnotes. The Pérez Martínez 1938 version is meritorious but it uses the same set of drawings for the day signs throughout the calendar section of the manuscript, making it an unreliable source for epigraphic analysis. This oversight was subsequently replicated in the 1959 Garibay and the 1975 Pagden editions (Stuart 1988:31). Furthermore, in Pérez Martínez (1938) and Garibay (1959) the Landa “alphabet” has been reorganized – e.g., the sign in the margin representing <p> is erroneously placed between the two <u>'s. As Garibay's version is in its 12th edition, the volume and its shortcomings have become quite widespread.

Tozzer's (1941) edition, although notable in detailed commentary, lacks most of the calendrical illustrations. The translation is based on Charles Bowditch's translation of the French translation of the original Spanish text and corrected by Eleanor Adams and Tozzer himself, using the Rada y

Delgado edition and checked against the actual manuscript (Tozzer 1941:ix). In the introduction, Tozzer (1941:vii) states that “[t]he present copy of Landa is only a part of the original manuscript which is lost” – mirroring Gates’ 1937 assertion discussed above. Similarly, Garibay (1959:x) writes that “[e]ste es el tiempo en que Landa redacta su Relación” (i.e., 1560s) while Stuart (1988:23) notes that “the manuscript [...] is apparently an abstract derived from a longer original, the fate of which is unknown” and that “[u]ntil the original work of Bishop Diego de Landa comes to light – and all searches for it have so far been in vain – the manuscript in Madrid is *the* primary copy of our most important single source on Yucatecan Maya culture of the Early Colonial Period.” The idea of a “longer original manuscript” has persisted until very recently. However, as Restall and Chuchiak (2002:664) put it “even if the Relación is viewed not as a whole but as a source on specific and isolated topics, scholars cannot take for granted the authorship and dating of particular passages—let alone the reliability of published editions [...]” And as George Stuart (1988:27) emphasizes, “[n]one of the existing editions of Landa’s *Relación* fulfills *all* the needs of the scholar seeking the total context of the original manuscript.” Taking all this into account, a new improved edition of the Relación is long overdue. Restall et al. (in preparation) are working on a new translation and hopefully a new critical edition with high-resolution photographs, transliteration, transcription, and in-depth commentary will also appear in the near future. To quote the late George Stuart (1988:23), “[...] without the data set down by Landa, our progress in Maya (and Mesoamerican) studies would have been severely hampered. For this reason alone, the issue of accurate reproduction is critical to anyone using the text and illustrations of the anonymous abstract of the Landa work.”

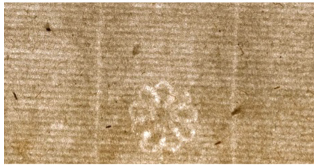


Observations Based on Transillumination Photography

Watermarks

Little or no attention has been given to the watermarks in the *Relación* since its (re)discovery in the 1860s. While none of the early editions and commentaries discuss the issue, Pagden (1975:18) states explicitly that “there were no discernable watermarks.” Restall and Chuchiak (2002:661), however, mention that “[t]he only [type of paper] that carries a recognizably dated watermark is the paper used by the compiler we have called Hand 2 in Table I and is dated to the later colonial period, when the transcription and construction of this third part of the Relación was thus carried out.” Restall and Chuchiak’s (2002:661:Table I) “Hand 2” covers folios 50-59 and is dated to late 17th or 18th century. Interestingly (see below), the watermarks of most of the manuscript (including this section) seem to point to an earlier date in the late 16th century. This gap of one century between the proposed date of the paper and the style of handwriting is discussed further below.

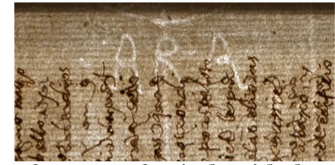
The manuscript has 36 partial watermarks (Fig. 1, Table 1) on its folios, predominantly of the so-called *peregrino* (or *pilgrim*; Valls y Subirá 1965) and “hand with a flower” watermarks. All watermarks are partial, appearing close to (and partially concealed by) the manuscript’s binding, visible anywhere from as low as 4.4% to as much as 57.8% of the watermark’s height, with an average of



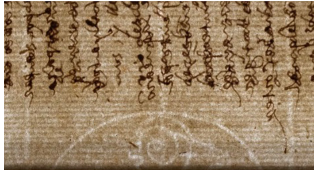
f-2r: flower with nine petals



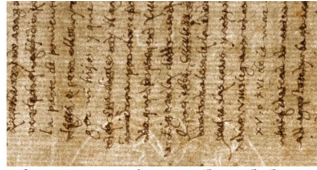
f-1r: uppermost part of a peregrino (B1?) (part of the circle and top part of the hat)



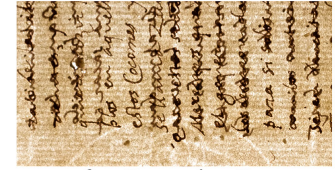
f2v: part of a circle with the pilgrim's feet; letter sequence ARA



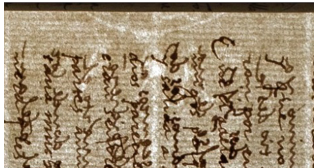
f3r: Peregrino B2 (head and hat)



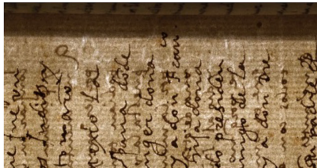
f5r: Peregrino A (head, hat, and part of the staff)



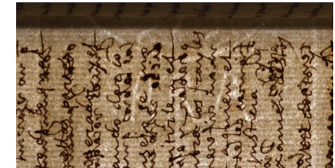
f7r: Peregrino B2 (head and hat)



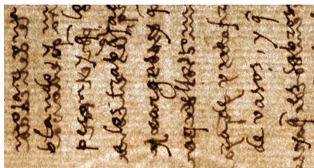
f10r: part of a circle with the pilgrim's feet; letter sequence ARA



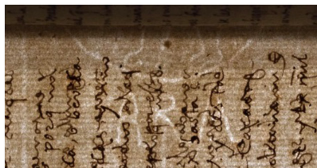
f12v: letter sequence ARA



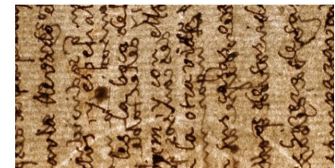
f14v: part of a circle with the pilgrim's feet; letter sequence ARA



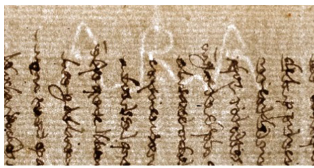
f16r: peregrino (part of a circle)



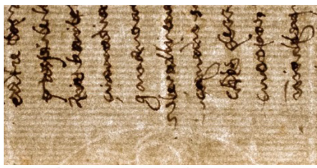
f18v: part of a circle with the pilgrim's feet; letter sequence ARA



f27r: peregrino (part of a circle)



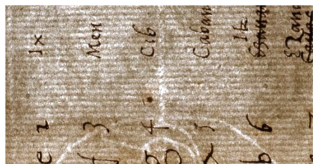
f30r: letter sequence ARA



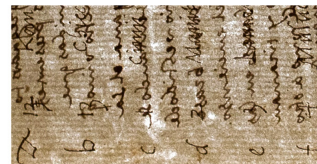
f32r: peregrino (B1?) (part of the head and hat)



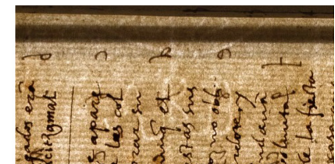
f35v: part of a circle; letter sequence ARB



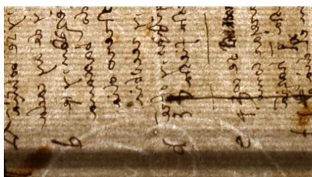
f36r: peregrino (B2?) (part of the head and hat)



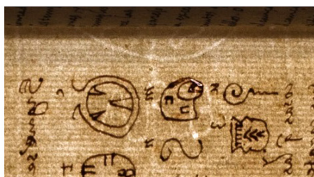
f39r: uppermost part of a peregrino (part of the circle)



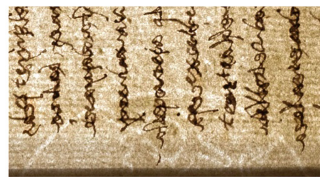
f41v: part of a circle with the pilgrim's feet; letter sequence ARB



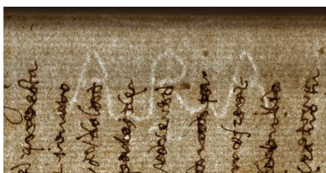
f42r: part of the head and hat of a peregrino (B2?)



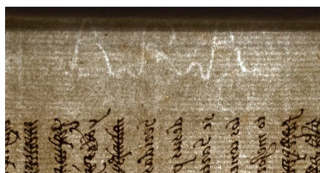
f45v: part of a circle with the pilgrim's feet; letter sequence ARB



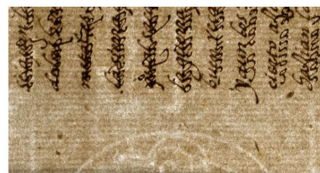
f46r: part of the head and hat of a peregrino (B1?)



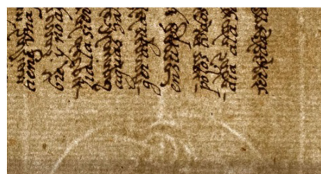
f49v: bottom part of a circle; letter sequence ARA



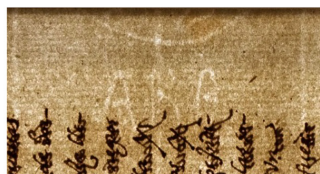
f51v: letter sequence ARA



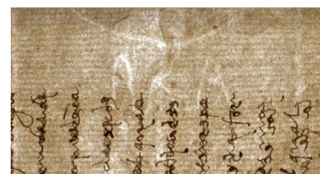
f52r: part of the head and hat of a peregrino (B3?)



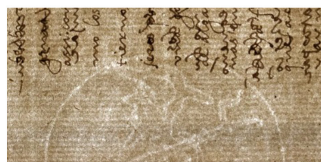
f53r: part of the head, hat, and staff of a peregrino (B3?)



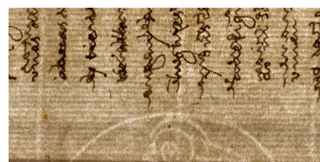
f58v: part of a circle with the pilgrim's feet; letter sequence ARB?



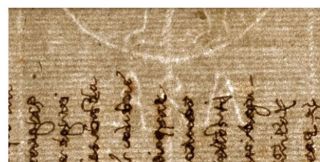
f59v: part of a circle; letter sequence ARA



f60r: Peregrino A (torso, head, hat, beard, and part of the staff)



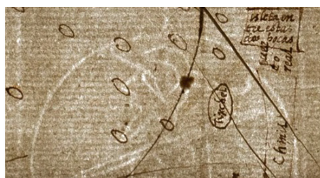
f62r: head and hat of Peregrino B2



f65v: part of a circle with the pilgrim's feet; letter sequence ARA



f67v: bottom part of a circle; letter sequence ARA



f68r: Peregrino A (torso, head, hat, beard, and the staff)



f69r: part of a circle with the pilgrim's cloak and feet; letter sequence ARA



f70v: Peregrino B2 (head, hat, beard, and part of the staff)



f71r: part of a hand (part of a hand-and-flower watermark)



f72r: flower with nine petals (part of a hand-and-flower watermark)

Folio:	Description:	Dimensions:	Position:	Chain lines:
-2r	Flower with nine petals	Flower Ø: 1.2cm	ca. 11.9cm	9
-1r	Uppermost part of the Peregrino B1(?) (part of the circle and top part of the hat)	Circle Ø: ca. 4.7cm	ca. 10.3cm	7
2v	Part of a circle with the pilgrim's feet; letter sequence ARA	ARA: width 2.4cm height 1.0cm; circle Ø: ca. 4.0cm	ca. 9.6cm	7
3r	Peregrino B2 (head and hat)	Circle Ø: ca. 4.5cm	ca. 9.5cm	7*
5r	Peregrino A (head, hat, and part of the staff)	Circle Ø: 4.5cm	ca. 9.6cm	7
7r	Peregrino B2 (head and hat)	Circle Ø: ca. 4.6cm	ca. 9.5cm	7
10r	Part of a circle with the pilgrim's feet; letter sequence ARA	Circle Ø: ca. 3.9cm	ca. 9.6cm	7
12v	Letter sequence ARA	ARA: width 3.4cm height 1.2cm	ca. 9.9cm	7
14v	Part of a circle with the pilgrim's feet; letter sequence ARA	Circle Ø: ca. 4.2cm; ARA: width 2.6cm, height 1.0cm	ca. 9.5cm	7
16r	Peregrino (part of a circle)	Circle Ø: ca. 4.9cm	ca. 9.5cm	7
18v	Part of a circle with the pilgrim's feet; letter sequence ARA	Circle Ø: ca. 4.2cm; ARA: width 2.3cm, height 1.0cm	ca. 9.8cm	7
27r	Peregrino (part of a circle)	Circle Ø: ca. 4.6cm	ca. 9.8cm	7
30r	Peregrino B2? (part of the head and hat)	Circle Ø: ca. 4.9cm	ca. 10.5cm	7
32r	Peregrino B1? (part of the head and hat)	Circle Ø: ca. 4.7cm	ca. 9.4cm	7
35v	Part of a circle; letter sequence ARB	Circle Ø: ca. 3.8cm; ARB: width 2.2cm, height 1.0cm	ca. 10.5cm	7
36r	Peregrino B2? (part of the head and hat)	Circle Ø: ca. 4.9cm	ca. 10.5cm	7
39r	Uppermost part of the peregrino (part of the circle)	Circle Ø: ca. 4.2cm	ca. 9.5cm	7*
41v	Part of a circle with the pilgrim's feet; letter sequence ARB	Circle Ø: ca. 4.4cm; ARB: width 2.2cm, height 1.1cm	ca. 10.5cm	8*
42r	Part of the head and hat of Peregrino B2(?)	Circle Ø: ca. 4.8cm	ca. 10.5cm	7
45v	Part of a circle with the pilgrim's feet; letter sequence ARB	Circle Ø: ca. 4.4cm; ARB: width 2.2cm, height 1.1cm	ca. 10.4cm	8*
46r	Part of the head and hat of Peregrino B1(?)	Circle Ø: ca. 4.7cm	ca. 10.4cm	8*
49v	Bottom part of a circle; letter sequence ARA	Circle Ø: ca. 4.6cm; ARA: width 3.5cm, height 1.2cm	ca. 10.5cm	8
51v	Letter sequence ARA	ARA: width 3.6cm, height 1.2cm	ca. 9.5cm	7
52r	Part of the head and hat of Peregrino B3(?)	Circle Ø: ca. 4.6cm	ca. 9.4cm	7*
53r	Part of the head, hat, and staff of Peregrino B3(?)	Circle Ø: ca. 4.8cm	ca. 10.2cm	7
58v	Part of a circle with the pilgrim's feet; letter sequence ARB?	Circle Ø: ca. 4.1cm; ARB: width 2.2cm, height 1.1cm	ca. 10.5cm	7
59v	Part of a circle; letter sequence ARA	Circle Ø: ca. 4.4cm; ARA: width 2.1cm, height 1.0cm	ca. 9.5cm	7
60r	Peregrino A (torso, head, hat, beard, and part of the staff)	Circle Ø: 4.7cm	ca. 9.3cm	7*
62r	Head and hat of Peregrino B2	Circle Ø: ca. 4.5cm	ca. 9.3cm	7*
65v	Part of a circle with the pilgrim's feet; letter sequence ARA	Circle Ø: ca. 4.1cm; ARA: width, 2.4cm height 1.0cm	ca. 9.5cm	7*
67v	Bottom part of a circle; letter sequence ARA	ARA: width 3.5cm, height 1.2cm	ca. 9.9cm	7
68r	Peregrino A (torso, head, hat, beard, and the staff)	Circle Ø: 4.5cm	ca. 9.9cm	8*
69r	Part of a circle with the pilgrim's cloak and feet; letter sequence ARA	Circle Ø: ca. 4.3cm; ARA: width 2.5cm, height 1.0cm	ca. 10.1cm	7
70v	Peregrino B2 (head, hat, beard, and part of the staff)	Circle Ø: ca. 4.5cm	ca. 10.1cm	7
71r	Part of a hand (part of a hand-and-flower watermark)	Part of a hand: width 1.7cm, partial (visible) height 2.0cm	ca. 12.1cm	9
72r	Flower with nine petals (part of a hand-and-flower watermark)	Flower Ø: 1.2cm	ca. 12.1cm	9

20.3% (a fifth of the watermark). Yet, by combining the various examples of the partial *peregrinos*, we can reconstruct even the small segments of the watermarks with relative certainty. The “hand with a flower” watermark is present only on the first of the three folios preceding the actual manuscript (two folios before its unnumbered title page [folio 0]) and on the last two unnumbered folios (if numbered, these would be folios 71 and 72) of the volume. The rest of the watermarks exhibit parts of the *peregrino* motif, as well as two sequences of three letters below the *peregrino*. The style of the motif is slightly different throughout the manuscript, and two distinctive pilgrim watermarks can be discerned on its pages, with the other one exhibiting minor variance. These watermarks are tentatively labeled here as *Peregrino A* and *Peregrino B1, B2, and B3*. The letter sequences below the pilgrim motifs are ARA and ARB. Typically, the *peregrino* watermark is a 16th century trait (Briquet 1923:415-416; Valls y Subirá 1965; Bernstein – *The Memory of Paper* 2019; *Corpus Chartarum Italicarum* n.d.) and the *peregrino* with ARA more specifically from the 1560’s to the 1580’s (Briquet 1923:415-416; Basanta Campos 1996: 490; Juan José Batalla Rosado, personal communication 2019).

Figure 1. Watermarks in *Relación de las cosas de Yucatán* (previous two pages).

Table 1. Watermark description, dimensions, position, and the number of chain lines per folio.

Position: the center of the watermark from the top of the page.

* Chain lines: folios 3, 62, 65, and 68 have a chain line close (0–2mm) to the top edge of the paper while folios 39, 41, 45, 46, 52, and 60 have it 0–5mm from the bottom of the paper.

A search for the *peregrino* watermark in relevant sources, including Briquet (1923), Valls y Subirá (1965), Basanta Campos (1996), as well as online watermark portals and databases (especially Bernstein – *The Memory of Paper* 2019 which has access to over 250,000 watermarks), yielded over 200 watermarks that are stylistically related to the *peregrino* we have in the *Relación*, and the earliest and latest pilgrims in the Bernstein database are dated 1399 (single mention) and 1639 (single mention). The earliest one (and most likely the latest example as well) is undoubtedly a misinterpretation, as the watermark belongs stylistically to the late 16th century assemblage. The rest of the pilgrims are dated between 1532 and 1610, and most of them between 1540 and 1590. The few early 17th century pilgrims are noticeably different from the 16th century ones. And, most importantly, the watermarks resembling the *peregrino* watermarks in the *Relación* all date between 1548 and 1589, with the closest matches being attributed (place of use and date) to the following locations: Alicante (1548, 1576-1578, 1589), Ayora (n.d.), Bocairent (1570), Orihuela (1559-1595?), Marseille (1561), Provence (1568, 1569), Milano (1570), and Genova (1583-1586).

The average diameter of the circles around the pilgrim watermarks in the *Relación* (29 examples) is around 4.5 cm. The approximate measurements of the partial circles around the *peregrino* watermarks were calculated using the $r = (y^2 + x^2) / 2x$ formula where r is the radius, y is length of the line between the two extreme points on the curve and x is the perpendicular distance from the midpoint to the curve (i.e., the middle ordinate). Compared to the stylistically corresponding *peregrinos* in the archival sources, the closest matches are attributed to Alicante 1548 (diameter 4.5 cm), Xàtiva 1565-1576 (diameter 4.4 cm), Bocairent n.d. (diameter 4.4 cm), Alicante 1548 (diameter 4.3 cm), Orihuela 1559-1595 (diameter 4.2 cm), and Tarragona 1589 (diameter 4.1 cm). In comparison, the average diameter of the circle around the Italian (Genoa, Milano, Pisa, and Messina) pilgrim watermarks is 32.7% (dating to 1554-1580) while the corresponding watermarks from Provence and Occitania (Béziers, Draguignan, Hyères, and Marseille) from 1554-1582 average 31.8%. The stylistic affinity and abundance of examples from (the Kingdom of) Valencia is not surprising, since (according to Valls y Subirá 1965) the origin of the pilgrim watermark is in neighboring Catalonia (contrary to Briquet's [1923:415] claim of Italian, Lombardian, or Genoese origin). The watermark appears in Barcelona and in the General Archive of the Crown of Aragon (Real Archivo de la Corona de Aragón), under "Generalitat de Catalunya" in the year 1500 (Valls y Subirá 1965:638), which is several decades before the pilgrim is found wandering outside of Catalonia.

Besides the different variants of the *peregrino* itself, the letter sequence ARA beneath the pilgrim (appearing 12 times in the *Relación*), shows three times in the aforementioned sources. The earliest example is from Alicante (1548) and the latest from Genova (1583/1586). The middle one (1567 [see Basanta Campos 1996:490]) from Galicia is quite close to the mean date (1574) of all the dated and provenienced *peregrinos* in the consulted sources (see Fig. 2). More research is needed to break the code and to pinpoint the source of this papermaker (or paper mill) indicator, and its companion ARB that appears four times in the *Relación* (after the middle section of the manuscript, between folios 35 and 58). The "hand with a flower" watermark appears on the empty folios at the beginning and end of the manuscript. The paper with this watermark has nine chain lines, so the paper mold (screen) that was used for making the paper is different from the rest of the manuscript (which has seven chain lines). The "hand with a flower" is a common watermark (over 5,000 examples in the Bernstein database) that was popular especially from the 1480's to the

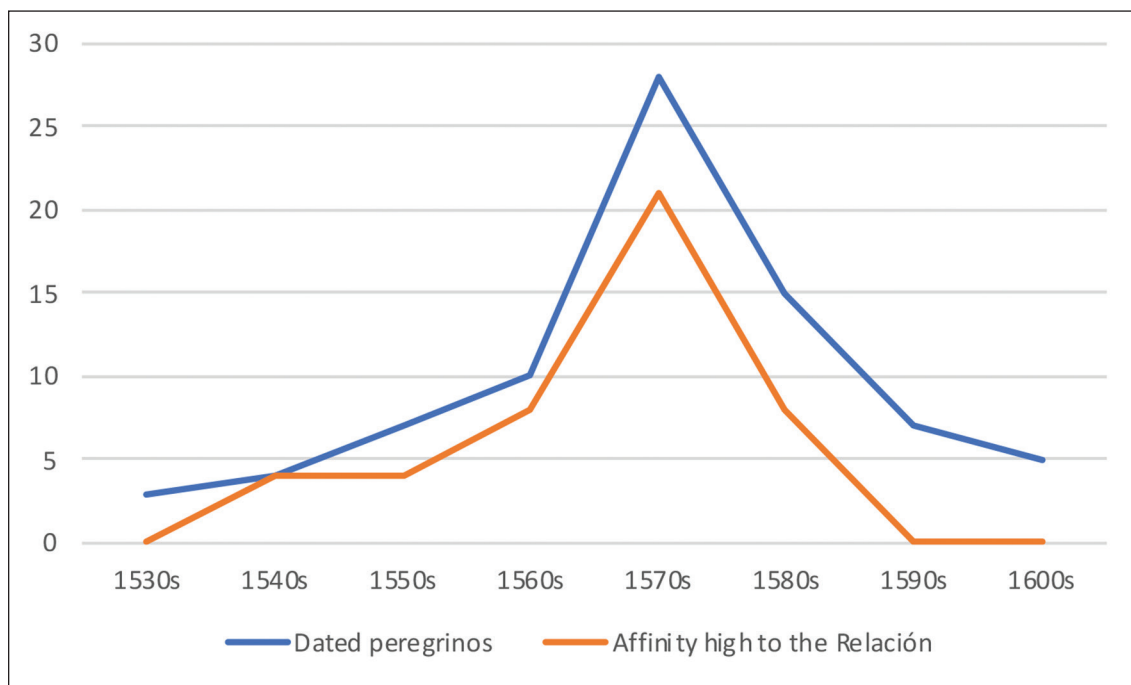


Figure 2. The frequency of the *peregrino* watermarks that are stylistically related to the corresponding watermarks in the *Relación*.

1530's. However, the closest parallels to the “hand with a flower” watermarks in the *Relación* are later, dating to between 1561 and 1591, and when the “place of use” is indicated, they are attributed to Madrid and Toledo.

Regarding the time difference between these watermarks (i.e., the manufacturing date of the paper used in the *Relación*) and the time of composing the extant manuscript at the *Real Academia de la Historia* in Madrid, there appears to be a conundrum in the research literature. Obviously, the manufacturing date of the paper precedes that of the text but for how many years or decades? As Restall and Chuchiak (2002:654-655, 661) date the various handwritings (and one watermark) that appear on the manuscript to the 17th and 18th centuries, there seems to be a considerable distance or discrepancy between the dates. Restall and Chuchiak (2002:654) note that the *earliest* handwriting in the manuscript dates to the late 17th century. If the watermarks are from the late 16th century, there is a lengthy gap between the manufacturing date of the paper and the creation of the *Relación*. Yet, according to John Chuchiak (personal communication 2019), most of the paper used in this era was probably no older than a decade or so. Consequently, it is apparent that at least the earliest sections of the manuscript were written during the last quarter of the 16th century – rather than in the 17th century (or later). On the other hand, Matthew Restall (personal communication 2020) has pointed out that the royal or governmental officials probably had loads of paper, and stacks might easily have ended up being stock-piled. The manuscript itself provides the date MDLXVI or 1566 (folio 1 recto) which probably refers to the first section of one of the original manuscripts by various authors that were later bound together under the name “*Relacion de las cosas de Yucatan*”

sacada de lo que escribió el padre fray Diego de Landa de la orden de St Francisco". According to John Chuchiak (personal communication 2019), between 1568 and 1573 Landa served as Guardian of the Castilian Convent of San Antonio de la Cabrera – where he in all likelihood wrote a major part of the manuscript later appearing in the *Relación*. Based on the watermarks, this is also the time period when the paper used in the *Relación* was manufactured. This earliest section of the partial copy of one of the original texts (i.e., the earliest section of the “*Relación*”) would then have been written not too long after the original text.

The solution to the discrepancy between the dates is quite straightforward: (1) the observation in Restall and Chuchiak (2002:654-655, 661) of the earliest handwriting in the manuscript dating to the late 17th century was a mistake, and should have instead read *late 16th century* (John Chuchiak, personal communication 2020); and (2) folios 50-58 with later (latter part of the 17th century) handwriting (*Italica Bastardilla*) and contents (not by Landa) were added later to the *empty pages* of the (bound) manuscript, as it was a common practice to leave a number of blank pages for further notes to be compiled later (John Chuchiak, personal communication 2020). As the paper used in the whole manuscript dates to the same time period (1575 ± 10 years) throughout, this is the most logical explanation.

The watermarks in the manuscript are listed on p.59-60 of this report (Fig. 1; note that the recto/verso [r/v] designation refers to the side of the folio where the watermark appears the way it was designed. Folios numbered here as -2 and -1 correspond to the two folios before the title page [folio o] of the manuscript. There are six folios in the manuscript before the folio marked as “1”. In the manuscript, the numbering starts with #1 and continues until folio 66, after which there are two folios with maps and five empty folios at the end of the manuscript. Consequently, the manuscript has altogether 66 numbered folios with six unnumbered folios [including seven empty pages] at the beginning of the [bound] manuscript and seven folios [with nine empty pages] at the end of the manuscript, totaling 156 [visible] pages).

Other Features

Besides watermarks, transillumination photography has revealed details of deterioration in the manuscript that would otherwise be difficult to detect (see Fig. 3). The following concentrates on the damaged areas of the manuscript, including iron-gall ink corrosion and paper defects. Furthermore, the manuscript has various minor stains and expected wear due to its old age.

Folio 28r (see Fig. 4) has numerous sections of ink corrosion within the *tzolk'in* calendrical signs, mostly on the recto side: **KAN** (horizontal inner stroke and rightmost part of the circle), **CHICCHAN** (lower section and right side of the circle), **MULUC** (left side of the circle), **BEN** (right side of the circle), **IX** (upper right side of the circle, leftmost [feline] spot, and the horizontal line), **CIB** (part of the inner half circle), and **CABAN** (uppermost part of the circle and part of the thicker inner design), as well as **IX** (part of the horizontal line) on the verso side of the folio.

Folio 35 (see Fig. 5) has a damaged area in the central lower section of the page, as well as ink damage on the following signs on f35v (“f” here and below refers to “folio”): **CAUAC** (bottom part of the circle), **AHAU** (upper part of the circle and central section), and **IMIX** <y mix> (upper part). Furthermore, the following signs have compass holes punctured through the paper: **LAMAT**, **MULUK**, **OK**, **CHUWEN**, **EB**, and **IX**. Besides, **IX** and **KABAN** seem to have an unintended

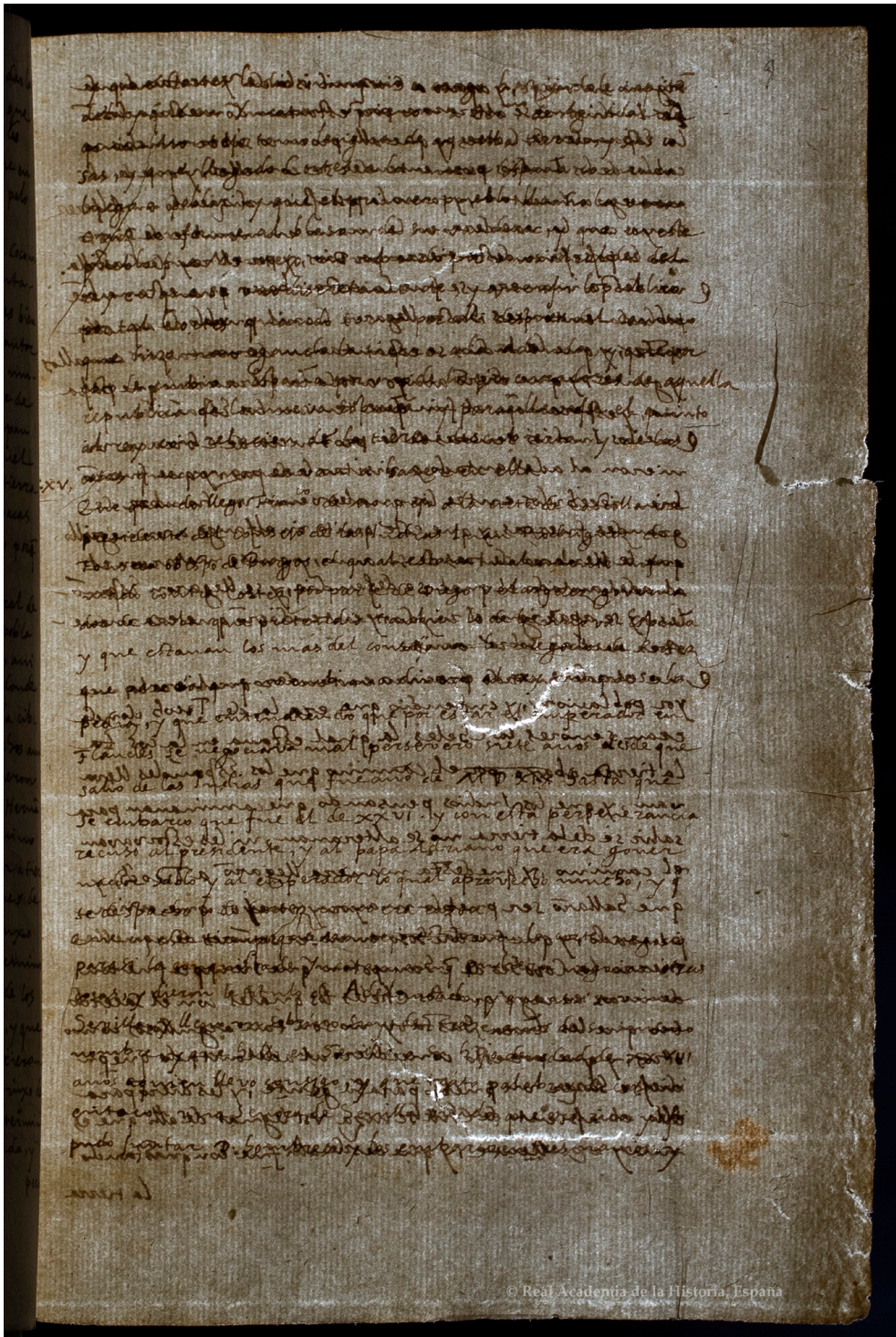


Figure 3. Folio 9 recto.



Figure 4. Folio 28 recto.

possible compass hole where the paper was initially punctured at the wrong spot.

On folio 36, the following signs have compass holes punctured through the paper: **EB, BEN, IX, KIB, KABAN, ETZNAB, KAWAK, IMIX** (f36 recto), and **MANIK, MULUC, OC, CHUEN, EB, BEN, IX, MEN, CIB, CABAN, and CAUAC** (f36v). Furthermore, **CIB** has an additional puncture hole. Folio 37 has fewer puncture holes through the paper and some *tzolk'in* signs lack observable compass markings altogether. On **MEN, KIB, and ETZNAB** have a hole in the center whereas on f37r only **MEN** has one. Folio 38 has a brown stain on the upper part of the folio and a damaged part on the lower section (Fig. 6). The damaged part does not show any vertical stripes (made by a wire mesh during the paper-making process), so it seems this part was first damaged and then repaired later. The folio has faint possible compass needle point impressions on the recto side on **EB, IMIX, AKBAL, and KAN** and stronger impressions or puncture holes on **MEN and CAUAC**, while on the verso side all signs have minor probable compass needle point impressions, except for **MEN, CIB, CABAN, and ETZNAB** that have more detectible holes and **CHICCHAN** that is not rendered as a round sign.

Folio 39 also has a brown stain on its upper part while its center has some wear. On f39v **CHICCHAN** has been written in a wrong place and subsequently crossed over. It is probable that the large amount of (iron gall) ink has caused a small section of the paper to be worn off. Most of the *tzolk'in* signs on f39 have relatively strong compass puncture holes. Especially in the folio's middle section (f39r: **KAN, MANIK, LAMAT, and MULUC**; f39v: **IK, AKBAL, KAN, MANIK, and OC**). Folio 40 (Fig. 7) also shows a stain on the upper part of the page while its center has a damaged part right where the month sign **TZOZ** is located, having removed part of the sign. Furthermore,

		dia	MES				
f	1	Maiz				XXXXM	0 d
g	2	Lamat				00	01 0
D	3	Mukuc				XXXX	11 0
b	4	oc				de	12 0
c	5	Chuen				noB	13 0
d	6	Ib				xI	14 0
e	7	Ben				noM	15 0
f	8	Ix				no	16 0
g	9	Men				noM	17 0
D	10	Cib				noM	18 0
b	11	Caban				noM	19 0
c	12	Ekanab				noM	20 0
d	13	At				noM	21 0
e	14	Uk				noM	22 0
f	15	Ek				noM	23 0
g	16	Ik				noM	24 0
D	17	Axol				noM	25 0
b	18	Kan				noM	26 0
c	19	Chic				noM	27 0

The table above is a transcription of the calendar data on folio 35 verso. It includes the day letter (left column), the day number (second column), the day name (third column), the corresponding Mayan glyph (fourth column), and the associated numerical or symbolic data (fifth and sixth columns). The text is written in a cursive hand on aged paper. A red circular stamp from the Real Academia de la Historia is visible in the center of the page.

Figure 5. Folio 35 verso.

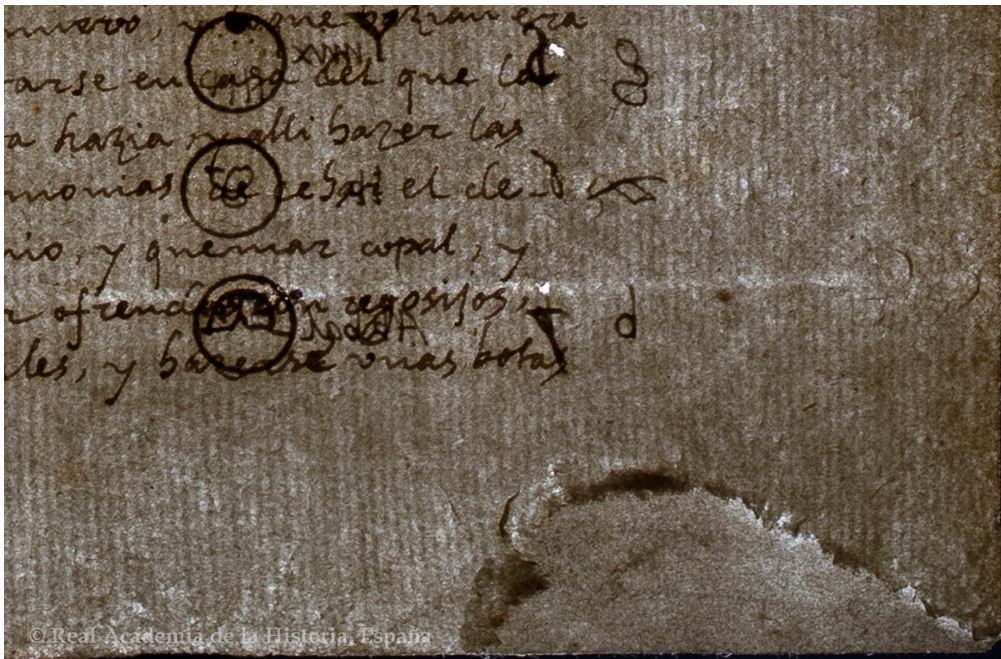


Figure 6. Folio 38 recto.



Figure 7. Folio 40 verso.

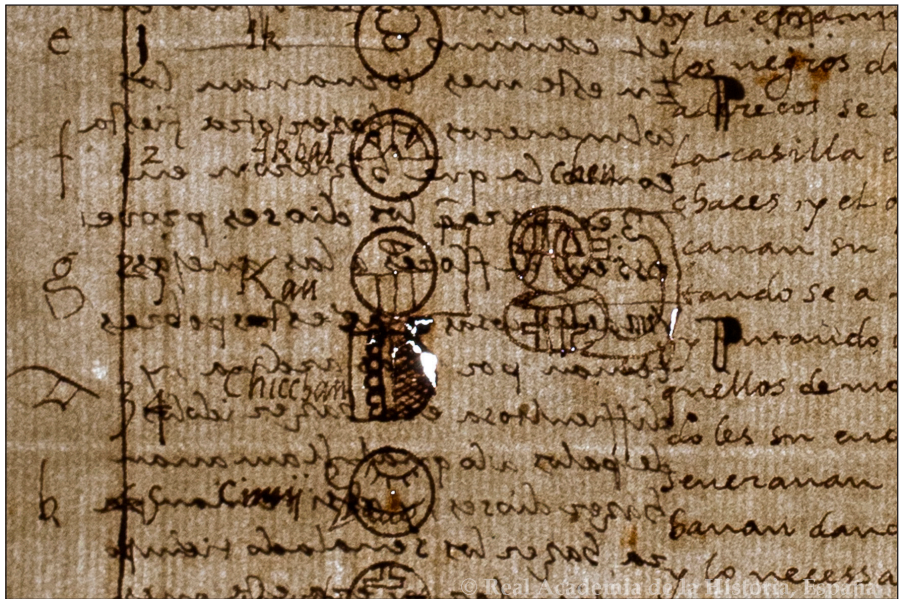


Figure 8. Folio 43 verso.



Figure 9. Folio 44 recto.

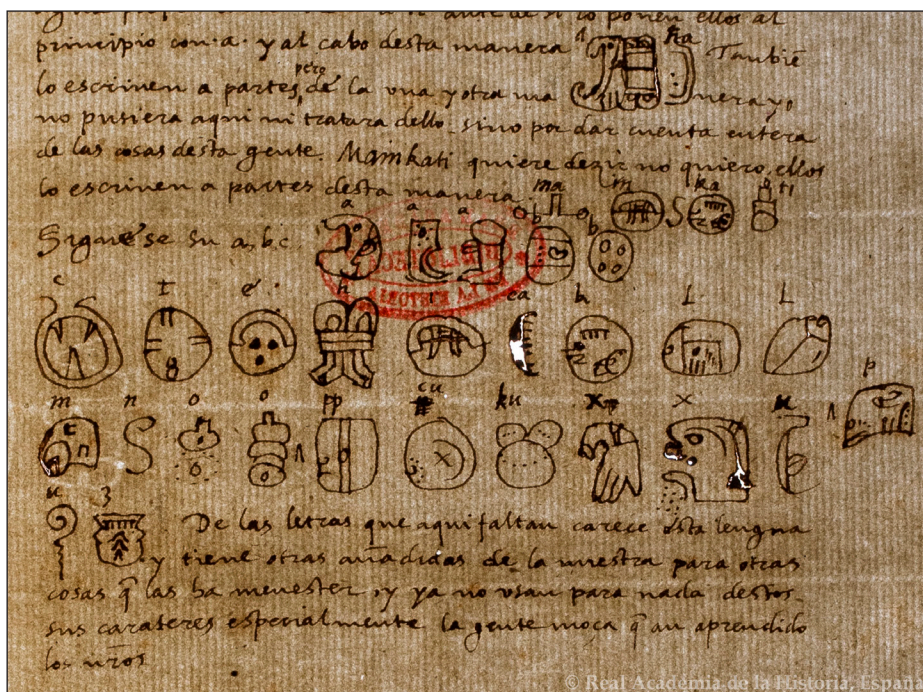


Figure 10. Folio 45 recto.

the ink on **ZIP** (f40r) has worn off part of the two circles of the sign. Compass puncture holes are clearly visible on **AHAU** through **KAN** (f40r) and **AKBAL** through **IK** (f40v).

The brown stain continues on the upper part of folio 41. Compass marks are rather indistinct and only **ETZNAB**, **AHAU**, and **IMIX**, as well as the month sign **TZEC**, on f41r and **CHUEN**, **EB**, **IX**, and **ETZNAB** on f41v have clear puncture holes. Furthermore, ink has damaged the blackened area of **IMIX** and the month sign **TZEC** has a slight erosion on the right side of the inner circle on f41r. Otherwise the folio is in good condition. The brown stain continues on the upper part of folio 42 which also has three other smaller stains. The *tzolk'in* signs have faint compass imprints, with **LAMAT** and **OC** on f42v being the most noticeable. Furthermore, a small part (4 mm) of the bottom edge of the paper has been torn off.

The brown stain continues faintly on the upper part of folio 43, along with three other smaller stains. The ink on **BEN** on f43r and on the month sign **CHEN** shows some erosion while **CHICCHAN** on f43v has suffered from considerable damage caused by the ink (Fig. 8). Compass impressions are rather faint throughout. Likewise, the brown stain continues indistinctly on the upper part of folio 44, along with three small (4 mm) round defects on the paper. In addition, a small part (4 mm) of the bottom edge of the paper has been torn off. The cross on top of the *k'atun* wheel has suffered from considerable ink erosion and the initial capital letter Q on the first line below the *k'atun* wheel also suffers from moderate erosion (see Fig. 9). There are two small compass needle point impressions in the middle of the wheel, one 2 mm above and the other one 2 mm to the right of the center of the outer circle.

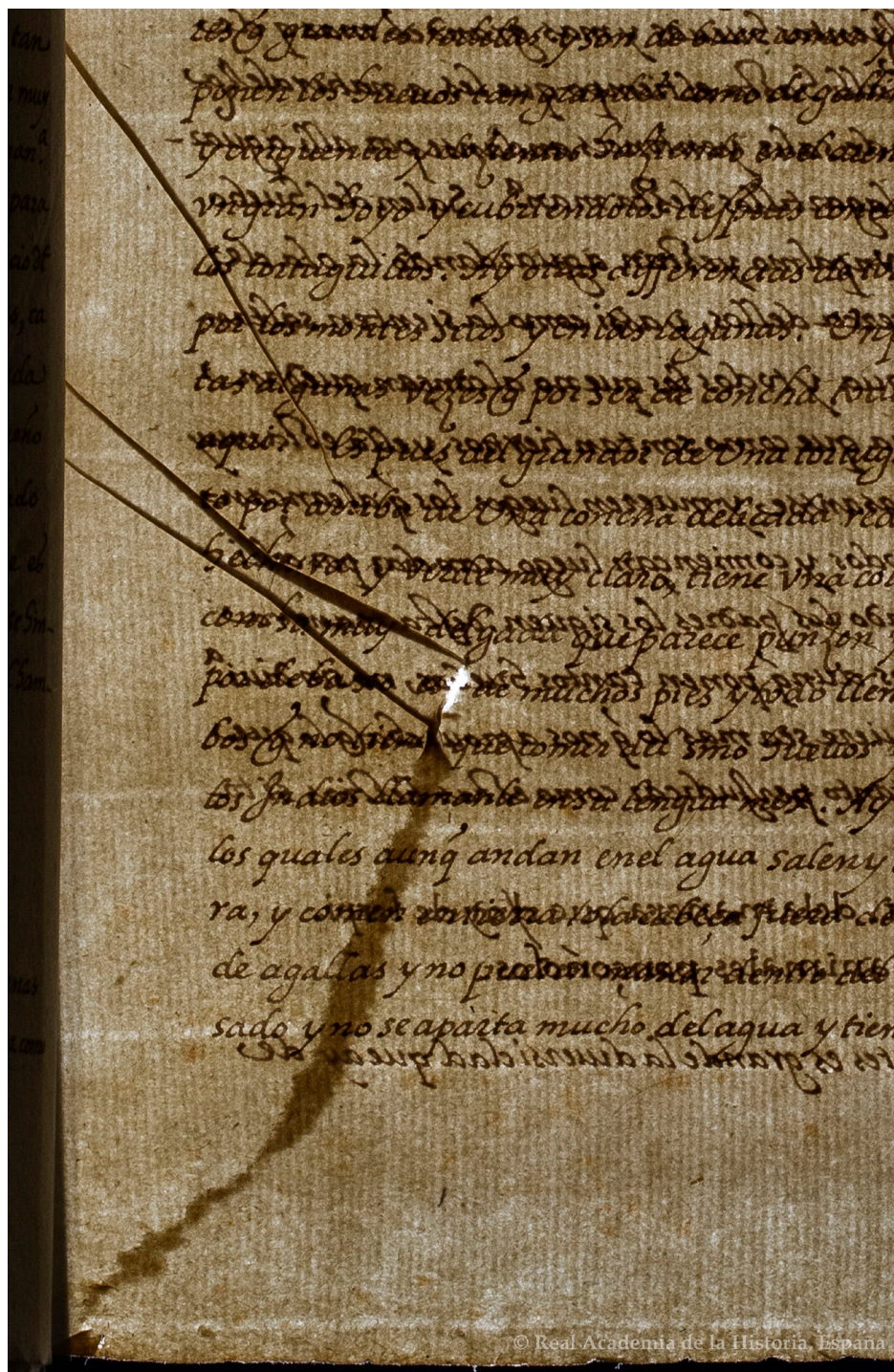


Figure 11. Folio 55 recto.

The brown stain continues faintly on the upper part of folio 45. Unlike all the other folios of the manuscript, f45 has altogether 17 small puncture holes or impressions close to the edge of the paper, whereof 11 are clearly through the paper. It looks as if the folio was sometime held in place with a pointy object – possibly for securing a copy of f45r that presents the so-called “Landa Alphabet”. Parts of the hieroglyphs (see Fig. 10) written on this page suffer from modest-to-considerable erosion. The right side of the syllabogram **che** (in **a-che-ha**), the inner part of Landa’s second <l> and the lower left side of syllabogram **me** (Landa’s <m>) all show marginal or moderate wear, while the syllabogram **ka** (Landa’s <ca>) has a major part of the ink eroded away and Landa’s <x> has significant erosion on three parts of the sign.

Besides these, transillumination photography and closer physical examination of the folio has exposed details of the smudged letterings in the “alphabet”: below Landa’s <cu> and what ought to be <y> (based on the syllabogram **ye**) between <ku> and <x>. The latter one has clearly lighter ink on the bottom part of the second sign and darker ink in what looks like a letter <y> with an extra stroke. The sign below <cu> seems to be a repetition of the previous transliteration – i.e., <pp> that was, in all likelihood, first written by mistake and then crossed over with four horizontal lines. The confusion further continues: what now reads as <ku> seems to have been originally written as <cu>, as it has a miniscule extra stroke, corresponding to the lower part of a <c>. Consequently, after the omitted “rabbit <p>” (later written in the margin), the copyist seems to have made at least four mistakes that were subsequently corrected. Furthermore, the alphabetical order breaks down at this juncture (after ‘q’ or <cu>/<ku>), adding to the overall puzzle – and making also Landa’s <x> a target of reanalysis. Ironically, since the rabbit was a trickster in Pre-Columbian Maya art, writing, and myths, this could very well be the final trick of the Trickster Rabbit.

Folio 47 has some paper damage on the left side of the map, while folio 48 has a hole through the paper and a somewhat damaged bottom edge. Furthermore, folio 49 has a damaged (and perhaps subsequently repaired) lower corner, while folios 50 and 53 display minor stains. Folio 55 has an easily observable defect on the paper (see Fig. 11). Folio 65 also displays a paper defect, although only a minor one. Folio 66 has an extra strip of paper close to the binding, as does folio 68.

Concluding Remarks

The manuscript known as the *Relación de las cosas de Yucatán* presents numerous opportunities to examine a literary work that is clearly a combination of various creations by several authors. Since its (re)discovery and initial publication in the 1860s, the *Relación* has witnessed numerous editions, versions, and translations – but while being great contributions to the field of Maya, Mesoamerican, and Latin American Studies in their own right, none of these editions are adequate for a scientific scrutiny of the manuscript. Consequently, a detailed analysis of its physical details, including the paper, watermarks, and ink, as well as different handwriting styles and various details of Maya hieroglyphs are of utmost importance. The pioneering study by Restall and Chuchiak (2002) has so far been the sole analysis of the *Relación* that takes into consideration the style and physical characteristics of the manuscript, as well as its historical context. The results of the transillumination photography of the *Relación* have exposed hitherto unidentified watermarks that has helped dating the paper of the manuscript to the latter part of the 16th century. Another question is, how long after the manufacturing date of the paper were the different sections of the manuscript

composed? From the paper, watermarks, and ink used in the manuscript to the style and contents of the text, the opus is outwardly puzzling. The fact is that the paper throughout the manuscript is from the latter part of the 16th century, as seems to be the majority of the text. However, the handwriting on folios 50-58 date to the latter part of the 17th century, which is considerably later than the paper used in that section. As a result, it seems that the later compilers/copyists continued writing to the empty pages of the manuscript that were left for further notes intentionally by the earlier compilers (John Chuchiak, personal communication 2020). Later, the manuscript was bound in a non-chronological order and, therefore, the later handwriting in the Relación appears sandwiched between the older ones. By exposing the physical details of the manuscript and contrasting these with its stylistic features and contents, we will eventually achieve a better understanding of this important work for the study of Maya culture.

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