Early depictions of the first Lisbon rhinoceros in the 16th century

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Abstract

The first post-Roman rhinoceros to be seen alive in Europe reached the harbour of Lisbon, Portugal on 20 May 1515. After a fight with an elephant staged on 3 June 1515, King Dom Manuel I 'the Fortunate' decided to gift the rhino to Pope Leo X in Rome. The animal drowned when the vessel was shipwrecked in a storm off La Spezia in northern Italy at the end of January 1516. Information and a sketch reached the German city of Nuremberg, where Albrecht Dürer proceeded to make a drawing with text dated 1515, followed by a woodcut of the Lisbon Rhinoceros. Dürer's works show a characteristic twisted horn in the shoulder region, found in all later copies, which became the standard representation of the rhinoceros from 1545, in books and artworks. During the first part of the 16th century, until about 1560, there were at least 16 works which showed a rhinoceros without this Dürer-hornlet. These would have been sketches of the living animal during its short life in Europe, or possibly been derived from such portrayals. Five of such works have remained largely unknown, and are here described, discussed and illustrated. First, there is a set of similar engravings found in three separate Cartinhas (booklets) produced in Portugal between 1534-1544 by the printer Germão Galharde, where the animal is uniquely named "Rhinocerom", noted here in zoological context for the first time. Second, two similar figures of a rhinoceros on the cover of a pamphlet published by the Italian author Giovanni Giacomo Penni and seen in the background of a large painting by Francesco Granacci of 1515-1516, might both be based on a coloured unsigned sketch found in a volume of manuscripts held in the Library of the Vatican (Vat. lat. 2847). Third, the Historia Senensium by Sigismondo Tizio contains a sketch of a rhinoceros in shackles in an entry for 1515. Fourth, a rhinoceros is found among marginal drawings and manuscript annotations added to a volume of Pliny's Natural History. Finally, a book on Quadrupeds published by Michael Herr in 1546 has an independent illustration of a rhinoceros without a hornlet on the shoulders and was copied in books by Hubert de L'Espine of 1558 and Barthélemy Aneau of 1549. All examples are illustrated for future comparison.

Résumé

Le premier rhinocéros (post Antiquité) à avoir été vu vivant en Europe a atteint le port de Lisbonne (Portugal) le 20 mai 1515. Après un combat mis en scène avec un éléphant le 3 juin suivant, le roi Manuel 1^{er}, dit «Le Fortuné», décide d'en faire cadeau au Pape Léon X à Rome. L'animal se noie fin janvier 1516, lorsque le bateau qui le transporte fait naufrage suite à une tempête au large de La Spezia, au nord de l'Italie. Un croquis et quelques informations sont alors envoyés à Nuremberg (Allemagne), à destination d'Albrecht Dürer qui s'attache à réaliser un dessin assorti d'un texte daté de 1515, puis une gravure sur bois d'après le «Rhinocéros de Lisbonne». Les travaux de Dürer dépeignent une corne torsadée caractéristique située au niveau des épaules, détail qui ornera toutes les copies ultérieures et qui deviendra la représentation standard du rhinocéros à partir de 1545, dans les livres et les œuvres d'art. Sur la première partie du XVIe

siècle et jusqu'en 1560 environ, on retrouve au moins 16 productions de rhinocéros dépourvus de cette petite corne vue par Dürer. Il s'agit d'esquisses effectuées pendant la courte vie de l'animal en Europe, ou éventuellement de dérivés de ces portraits. Cinq de ces œuvres sont restées essentiellement inconnues et sont ici décrites, discutées et illustrées. La première est une série de gravures similaires, trouvées dans trois Cartinhas (brochures) différentes et produites au Portugal entre 1534 et 1544 par l'imprimeur Germão Galharde. Fait remarquable, l'animal y est appelé «Rhinocerom», nom utilisé pour la première fois dans un contexte zoologique. Ensuite, nous traitons de deux silhouettes semblables de rhinocéros, la première figurant sur la couverture d'une brochure publiée par l'auteur italien Giovanni Giacomo Penni et la deuxième à l'arrière-plan d'un imposant tableau datant de 1515-1516, réalisée par Francesco Granacci. Les deux éléments pourraient tenir leur origine d'une esquisse en couleur et non signée, provenant d'un volume de manuscrits conservé à la bibliothèque du Vatican (Vat. lat. 2847). Puis, nous abordons le croquis d'un rhinocéros enchaîné, dans une entrée de 1515 du livre Historia Senensium par Sigismondo Tizio. Nous trouvons également un dessin de rhinocéros ainsi que des annotations manuscrites en marge d'un tome de l'Histoire naturelle de Pline l'Ancien. Enfin, nous nous arrêtons sur un ouvrage traitant des quadrupèdes publié par Michael Herr en 1546, qui contient une illustration indépendante de rhinocéros dépourvu de la petite corne au niveau des épaules, et qui a été reproduite dans les livres d'Hubert de L'Espine en 1558 et de Barthélemy Aneau en 1549. Tous ces exemples sont illustrés à des fins de comparaisons.

Introduction

The first Lisbon Rhinoceros or Ganda lived in Europe from 20 May 1515 to January 1516 (Rookmaaker 2024: 35-37). The second rhinoceros known as the Madrid Rhinoceros or Abada lived in Portugal and Spain from 1577 to 1591 (Jordan Gschwend in prep). A woodcut designed by Albrecht Dürer in 1515 has brought fame to the First Lisbon Rhinoceros. Transported from Gujarat in India, the animal lived in Portugal until December 1515, when it was gifted to Pope Leo X in Rome, but drowned in transit by ship off the coast of La Spezia in northern Italy at the end of January 1516. While Dürer depicted the essential characters in the armour-plated skin and the single nasal horn, he added a small twisted hornlet on the shoulders which most rhinos do not possess. Because the woodcut was widely distributed and constantly copied for over two centuries, this representation became the default image of the rhinoceros to scientists, academics and the interested public.

The history of the life of this particular rhinoceros has been studied in detail and the story has become integrated in multiple academic and popular works. The main points together with discussions of the images of the First Lisbon Rhinoceros are carefully documented in works by Clarke (1973; 1986), Da Costa (1937), Cole (1953), Lach (1970), Rookmaaker (1973; 1998;

2024), Walter (1989; 1990), Almeida (1992), Bedini (1997), Serani (1999) and Faust (2003) among many others. For practical reasons, our references to previous illustrations of the artworks mentioned in this paper will be limited to one or two main examples, acknowledging that the work by Tim Clarke (1913–1993) culminating in his book of 1986 remains a reliable source of information.

When the rhinoceros arrived in Lisbon in 1515, some residents witnessing this creature for the first time started to write letters to their friends in other parts of Europe, and they sketched the animal's likeness. Such information of a hitherto unknown animal reached the German city of Nuremberg, where the great artist Albrecht Dürer (1471–1538) made a drawing, followed by a famous woodcut of the rhinoceros, both incorporating text about the animal's life. The unique copy of the drawing is now in the British Museum, London (Clarke 1986, pl. 1; Rookmaaker 2024, fig. 4.2). There were several consecutive states of the woodcut, discussed by Faust (2003) and illustrated in Clarke (1986, pl.2) and Rookmaaker (2024, fig. 4.3).

Dürer's representation of the rhinoceros is immediately recognizable from the small twisted hornlet on the shoulders and is referred to as the Dürer-hornlet. It is unlikely, but not impossible, that the *Ganda* had this feature in life. Almost all copies or derivations of Dürer's woodcut show this characteristic hornlet. It is well documented that many illustrations of the rhinoceros until at least the end of the 18th century, if not much later, follow this example. This dominance

was not immediate, because as far as has been verified, the first time the Dürer Rhinoceros appeared in print was in the *Cosmographia* of Sebastian Münster (1488–1552) published in 1545 and again in 1548 in Germany (Münster 1545: dcclvii, 1548: dcclvii), followed by Goujon (1549) in Belgium. Lach (1970: 166) gave this honour to an edition of Münster's work of 1550, while Cole (1953) found the figure in Gessner (1551: 953). Given the historical popularity of the Dürer image, the absence of copies for some thirty years is remarkable.

In the text attached to the drawing, Dürer gave the animal its Indian name 'Ganda'. To complete the record, probably the first time this name was used in Western printed literature was by Garcia De Orta (1501–1568) in his *Coloquios* (De Orta 1563: 86 verso), and again by Cristóbal Acosta (1525–1594) in a similar work on medicinal herbs (Acosta 1578: 443).

i. The Lisbon Rhinoceros figured without Dürer-hornlet

There were several artworks of rhinoceros in the first half of the 16th century which were not based on Dürer. These likely depict the First Lisbon Rhinoceros, but of course other sources—like sketches or descriptions sent by travelers from Asia or even Africa—cannot be immediately excluded. The known examples up to the 1560s are reviewed here.

We have identified a total of 16 potential depictions of *Ganda*, the First Lisbon Rhinoceros of 1515. Eight of these are discussed and illustrated in this paper.

- 1. Hans Burgkmair (1473–1531): woodcut dated 1515, —illustrated Clarke (1986, fig. 7).
- 2. Anonymous: Library of the Vatican (Vat. lat. 2847), ca. 1515—discussed §iii, Fig. 4.
- Giovanni Giacomo Penni: leaflet on rhinoceros and trade, with an engraved frontispiece, July 1515—discussed §iii, Fig. 5.
- 4. Francesco Granacci (1479–1543): painting "Joseph and his Brethren in Egypt" showing rhinoceros in background, 1516; discussed §iii, Fig. 6.
- 5. Giovanni da Udine (1487–1564) under the direction of Raffaello Sanzio da Urbino (1483–1520): Creation scene in the Loggie

- of the Vatican including an indistinct rhino head, 1515–1517; illustrated Clarke (1986, fig. 10).
- 6. Francisco de Arruda (d.1547): sculpture on the outside of the tower of Belém near Lisbon, 1517; illustrated Clarke (1986, fig. 1); Almeida (1992, figs. 11–14).
- 7. António de Holanda (1480–1557): Livro de Horas de Dom Manuel I (1469–1521), depiction of "The flight from Egypt" has small rhinoceros in the margin of Illum. 14, folio 98 verso, 1517; illustrated Almeida (1992, figs. 4, 5); Bedini (1997, fig. 56).
- 8. Sigismondo Tizio (1458–1528): *Historia Senensium*, 1516–1528; discussed §iv, Fig. 7.
- 9. Pliny the Elder (23–79): edition of *Historia Naturalis*, edited by Andrea Portilia in 1481, with marginalia added after 1515; discussed §v, Fig. 8.
- 10. António de Holanda: unfinished leaf intended for a prologue showing the arms of Infante Dom Fernando (1402-1443) of Portugal, dated 1530–1534; illustrated Almeida (1992, fig. 6).
- 11. Germão Galharde: ornaments of rhinoceros in three separate *Cartinhas*, produced in Lisbon 1534–1552; discussed §ii, Figs. 1–3.
- 12. Michael Herr (1490–1550): illustration of rhinoceros in *Gründtlicher Underricht* on quadrupeds, 1546; discussed §vi, Fig. 9.
- 13. Barthélemy Aneau (1505–1561): illustration of rhinoceros in animal book, 1549; discussed §vi, Fig. 10.
- 14. Hubert de L'Espine: rhinoceros illustrating an imaginary journey, 1558; discussed §vi, Fig. 11.
- 15. Pirro Ligorio (1512–1583): Rhinoceros shown in mosaic in the vestibule of the Casino of Pope Pius IV (1499–1565), dated 1560s (Bedini 1997: 190). No image found.
- 16. Minden church: Rhinoceros carved on a choir stall in Minden in northern Germany, probably derived from Burgkmair's woodcut, 16th century; illustrated Clarke (1974, fig. 2; 1987: 25).

ii. The Rhinocerom of Germão Galhardo

A "Rhinocerom" is illustrated in three small booklets generally known as *Cartinhas*, published in the middle of the 16th century in Lisbon by Germão Galhardo. All three are extremely rare, evidently known only from single examples. Two are preserved in the Biblioteca Pública in Évora, Portugal (BPE)



Figure 1. "Rhinocerom" illustrated on the back cover of a rare booklet *Cartinha pera ensinar* a leer, published by Germão Galharde in Lisbon in 1534. The animal is shackled on the neck and front feet. (Biblioteca Pública in Évora, Portugal, no. Res. 265–B).

and a third in the Biblioteca Geral (General Library) of the University of Coimbra (BGUC). All three examples are illustrated and placed in bibliographic context by Jüsten (2020).

- 1. "Cartinha pera ensinar a leer" (Fig. 1). Lisboa, Germão Galharde, 28 May 1534. 8vo. 64 pp. BPE Res. 265–B. Attributed to Diogo Ortiz de Vilhegas, Bishop of Viseu (1480–1544). On the final page (folio 32 verso) there are several ornaments, including prominently a figure of a "Rhinocerom" (95 x 80 mm). Further information on this *Cartinha* in Proença and Anselmo (1923: 33); Anselmo (1926: 171, no. 600); Jüsten (2020, vol. 1: 115, vol. 2: 490).
- ["Cartinha pera ensinar a leer"] (Fig. 2). Lisboa, Germão Galharde. 8vo. 64 pp. BPE Res. 300–A. No author found. Jüsten proposes a date range of 1537–1552. Rossi (2015) reproduces all pages in facsimile, transcribes



Figure 2. "Rhinocerom" with a small fault in the left side of the banner with the animal's name, absent in the other two examples. Like Fig. 1, published by Germão Galharde on the back cover of a rare *Cartinha*, undated, probably 1537–1552. (Biblioteca Pública in Évora, Portugal, no. Res. 300-A).

the text and provides background information. Again, on the final page (folio B XVI verso) there is a prominent figure of a "Rhinocerom". Further information in Proença and Anselmo (1923: 34); Anselmo (1926: 171, no. 601); Jüsten (2020, vol. 1: 168–169, vol. 2: 506).

3. "Incipit officium angeli custodis, regni civitatis vel, loci secundum usum, cisterciensis ordinis" (Fig. 3). [Lisboa], [Germão Galharde], [1544]. 16 pp., 8vo. BGUC R-4-5. No author found. Probably dated 1544. The figure of the "Rhinocerom" is found on folio 8 verso. Further information in Proença and Anselmo (1923: 165); Anselmo (1926: 190, no. 671); Jüsten (2020, vol. 1: 208, vol. 2: 506, 521).

These three *Cartinhas* were published by Germão Galharde, also known as Germain Gaillard or Germanum Galhardum, a French printer who had settled in Lisbon. Various works from his press appeared from 1519 to the time of his death in 1565 (Jüsten 2020). The first example (BPE RES 265–B)

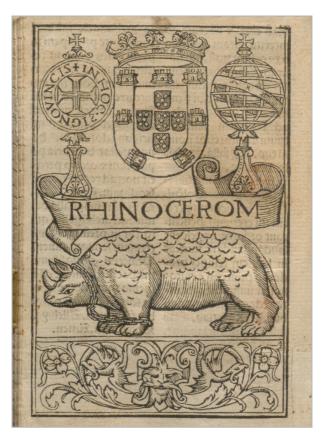


Figure 3. "Rhinocerom" illustrated in a *Cartinha*, like Fig. 2, but without the fault in the banner. From the back cover of *Incipit officium angeli custodis*, attributed to the press of Germão Galharde in 1544. (Biblioteca Geral de Universidade de Coimbra, no. R-4-5). Courtesy: General Library of the University of Coimbra © BGUC.

includes the date 28 May 1534, while the second example (BPE RES 300–A) seems to be later, and the third (BGUC R–4–5) dates to 1544.

The images of the rhinoceros in the three booklets are very similar. The animal is depicted in full lateral view, facing left, showing a large nasal horn, and shackles running from the neck to the front feet. There are differences in the banner holding the title, the placement on the page, also in the length and shape of the horn, the position of the ears, and the indication of the skin folds. There is no evidence of who was responsible for the engraving or why it was inserted. None of these three *Cartinhas* contain any text relating to the rhinoceros or even animals in general. The name "Rhinocerom" given to the animal is novel and unique, not found elsewhere in the printed literature.

iii. Drawing of rhinoceros in a Vatican manuscript

Inserted in a volume of various texts in the Biblioteca Apostolica Vaticana (Vat. lat. 2847), there is a drawing of a rhinoceros (Fig. 4). The volume, which is available in digital format, also includes ten drawings of trees (mainly *Quercus*?). As far as can be ascertained, there is no textual reference to the rhinoceros in this volume, hence it is unclear why the drawing was inserted here. Hermann Walter (1994, fig. 5) was the first to notice its significance. It is without title and unsigned, but it clearly shows an animal in captivity with shackles around the front feet, in lateral view facing right with one good horn on the nose.

There is an unmistakable similarity of this drawing with the engraved frontispiece of a booklet by Penni dated 1515 (Fig. 5) and the animal painted by Granacci in 1516 (Fig. 6). The shape of the head, the long



Figure 4. Rhinoceros with shackles around the front feet. From an undated manuscript (16th century) in the Biblioteca Apostolica Vaticana (Vat. lat. 2847_0390, folio 190r).

neck, the piece of skin below the ears extending downwards, and the length of the shackles are all particular to these images.

Giovanni Giacomo Penni wrote a poem published in a pamphlet of 1515, which is only known from a single copy (Institución Columbina, Sevilla, Spain), bought in Rome by Fernando Colombo (1488-1539). It was examined and explained by De Matos (1960) and in more detail by Serani (2006), who includes a full transcript of the Italian text together with a translation into Spanish. Penni's poem is largely about the spice trade from India and only partly about the rhinoceros which was transported from India to Lisbon. The leaflet of four pages was printed by Étienne Guillery, who worked in Rome 1506-1524: "Impresso in Roma: in casa de mastro Stephano Guilireti a di tredici de luio, 1515", or on 13 July 1515. This date, remarkably, is just 54 days after the arrival of the rhinoceros on the River Tagus in Lisbon, but the poem has no reference to the battle with an elephant on 3 June 1515. Penni, probably a Florentine physician visiting Rome, must have seen a letter with the historical details, together with the original drawing crudely copied on the front of the leaflet.



Figure 5. Rhinoceros from the frontispiece of *Forma & natura & costumi de lo Rinocerothe* by Giovanni Giacomo Penni dated 1515. (Institución Columbina, Sevilla, sign. 6–3–29 (29)).



Figure 6. Detail of painting by Francesco Granacci, "Joseph and his Brethren in Egypt" (Giuseppe presenta il padre e i fratelli al Faraone). Oil on canvas, 1516. (Uffizi Gallery, Florence, inv. 2152–1890).



Figure 7. Ganda, rhinoceros, shackled to neck and hind feet. Illustration in the 1515 entry of the manuscript *Historia Senensium* of Sigismondo Tizio. (Biblioteca Apostolica Vaticana, Codex Chigi G.II.38_fa_0014r).

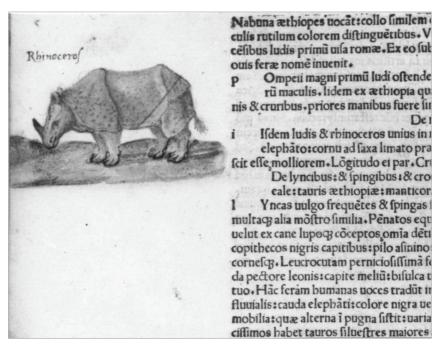


Figure 8. Rhinoceros painted in the margin of a page of a 1481 edition of the *Historia Naturalis* by Pliny, which was added in the period 1515 to 1526. (Biblioteca Palatina di Parma, Inc.Pal. 1158).

Francesco Granacci (1469–1543) painted "Joseph and his Brethren in Egypt" as part of a series in 1516 (Uffizi Gallery, Florence). Given the subject, the inclusion of a rhinoceros with its keeper in the background might be a reference to the extreme rarity of this exotic animal (Rookmaaker 2024: 37, fig. 4.5).

The drawing in the Vatican is of such quality that it seems unlikely that it was a copy taken from Penni or from Granacci. While it might be based on an unknown precursor sent from Lisbon, it is equally possible that it was in fact this precursor. The letter which must have explained the significance of the animal is still unknown.

iv. A depiction obtained by Sigismondo Tizio in Siena

Sigismondo Tizio or Ticci (1458–1528) was a scholar who lived and worked in Siena, Italy, from 1482. He wrote a comprehensive history of the town, the *Historia Senensium* (History of the Sienese), which remained unpublished until recently (Garfagnini 1992). The manuscript contains an entry for the year 1515 with an account of the rhinoceros (Biblioteca Apostolica

Vaticana, Codex Chigi G.II.38, folio 14r). Tizio must have been particularly fascinated with this animal when news about its journey and death were discussed.

Tizio's notes are illustrated with a drawing showing the animal in lateral view facing left, with a single nasal horn of good size, and shackles extending from his neck to the hind (not front) feet (Fig. 7). The animal is named in four languages "Rhinoceros [in Greek]. Naricornis. Reem [in Hebrew]. Ganda. Sunt qui dicant habere duo cornua ut psalmo XXVIIII" ('there are those that say it has two horns from Psalm 29'). First discussed by Walter (1989: 273, fig. 10) and more extensively by Monson (2004), Tizio's Latin text starts with a detailed and accurate account of the history of the Lisbon Rhinoceros from arrival in Portugal to its death in the shipwreck in 1516, including some of the important dates. Tizio must have composed this section between 1516 and 1528. Although there is no indication about the provenance or the artist of the drawing, it could have been obtained in the same period. Walter (1989) and Monson (2004) correctly suggest that this was an early image of the Lisbon Rhinoceros, which differs from the other known examples. There is no dorsal horn as found in Dürer's woodcut, but there appears to be a slight prominence in the hairy pattern in the shoulder region.



Figure 9. The "Hellfantsmeister" or Rhinoceros illustrated in the *Gründtlicher Underricht* by Michael Herr of 1546 (folio size, p. lxi). Note the long nasal horn and the absence of a hornlet on the shoulder. (Staatsbibliothek zu Berlin, 4" Lk 3585<a>).

v. The Parma copy of Historia Naturalis by Pliny

The text of the *Historia Naturalis* (Natural History) by Pliny the Elder or Gaius Plinius Secundus (23–79) was often reprinted and annotated. A copy of an edition printed at Parma in 1481 by Andrea Portilia, once in the library of Carlo II, Duke of Parma (1799–1883), has a large number of added marginal illustrations, including a rhinoceros. Hermann Walter (1989, fig. 1; 1990) examined this unique example in the Biblioteca Palatina di Parma. He suggests that the annotations and drawings were added by unknown persons working in Rome and date from the period 1490 to 1526.

There is one drawing of a "Rhinoceros" (folio 67 verso) showing a lateral view of the animal with one sizeable nasal horn, while noting the

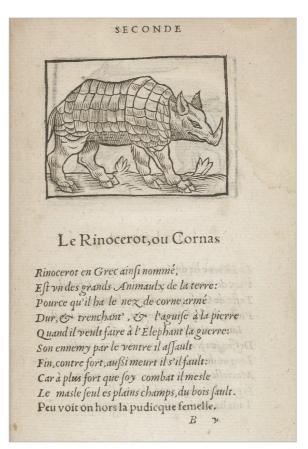


Figure 10. "Le Rinocerot, ou Cornas" published in the 1549 edition of the *Décades* by Barthélemy Aneau. This resembles the figure of the rhinoceros published by Herr in 1546. (Bibliothèque nationale de France, RES–YE–3468 (1)).

absence of a dorsal horn (Fig. 8). Walter (1989: 270, 1990: 212) suggests that the image must have been added after 1515, styled after the drawing sent by Valentim Fernandes of Moravia from Lisbon, which circulated in Italy at the time (Da Costa 1937). The animal does not show any chains around the neck or the feet.

vi. The book by Michael Herr and two contemporary copies

The rhinoceros was still rarely illustrated in printed books of the 16th century. Starting with Münster (1545), the animal was usually modelled after the woodcut by Dürer, with the characteristic Dürer-hornlet on the shoulders. A rhinoceros without this second hornlet is found in the *Gründtlicher Underricht* on quadrupeds by Michael Herr (1490–1550), known as a translator

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de qu'vn Elephant, & a le nez armé d'vne grand dent, qui se releue contremont, & est cestedite beste si priuée que les petis ensans la mainent par tout ou ils veulent comme vn petit Chien, & s'appelle ladite beste Rinocerote



Ie vy vne autre belle beste la plus plaisante à la veue de l'homme qu'on scauroit voir & est si douce & amiable qu'elle se pre-

Figure 11. The "Rinocerot" included in the account of an imaginary journey by Hubert de L'Espine, published in 1558. Size 50 x 30 mm. (Bibliothèque nationale de France, RESP-O2-2292).

with extensive classical knowledge living is Strasbourg, France (Nissen 1978, vol.2: 62, pl. XI; Walter 1996, fig. 5). Published in 1546 in German (Herr 1546: lxi recto), the image shows an animal from the side, facing left, with a long horn, scales all over the body, feet with two hooves (unless the third hoof is obscured) and a solid tail (Fig. 9). There is no known precursor, nor any indication which might provide a clue about the origin of the drawing. Herr called the animal "Hellfantsmeister" (Master of Elephants), also known as "Rhinoceros."

The rhinoceros of Herr was copied as "Le Rinocerot, ou [or] Cornas" by Barthélemy Aneau (1505–1561) in a smaller reversed version (Aneau 1549, without page number). This book went through several editions for about a century, all with the same figure (Fig. 10). Again, there is no information about the origin of the animal.

Another copy, but very crude and disfigured, is found in a rare volume written by Hubert de L'Espine, said to be from Avignon on the title page. Published in 1558, this recounts an imaginary journey, which was illustrated by 21 vignettes. The "Rinocerot" faces to the right, has a large horn on the nose but lacks the one on the shoulder (Hubert 1558: 88 verso). The author places the animal in the gardens of the Castle of Morgon in the land of Cadosse, none of which are retrievable (Fig. 11).

The absence of a Dürer-hornlet in this period is remarkable. Although an unknown drawing of the First Lisbon Rhinoceros is not the most likely source, other potential precursors remain elusive.

Acknowledgements

We dedicate this short paper to Hermann Walter (b. 1934), who retired from the University of Mannheim, where he specialized in Roman Grammar and Mythographie. He came across rhinoceros' depictions in the course of his original research in Italian libraries, museums and buildings. These were the subject of a small number of incisive papers, which deserve to be better known. Walter and KR corresponded for several years in the 1990s and 2000s, exchanging ideas and information on rhinoceros iconography. Through his intensive and informed research, the iconography of the rhinoceros has made some great leaps helping to build a better understanding of the historical events.

In our search of early Ganda images, we were greatly assisted by the specialists and librarians in Portugal: Helga Maria Jüsten, bibliographic researcher in Lisbon; Zélia Parreira, Director, Biblioteca Pública de Évora; and Maria de Fátima Bogalho, General Library of the University of Coimbra. We thank Annemarie Jordan Gschwend for reading an early draft and providing information on her forthcoming paper. Many of the older books, drawings and manuscripts can now be consulted online, thanks to the invaluable efforts of the world's museums and libraries to digitize their holdings. We are grateful to these institutions who have allowed us to reproduce the artwork in their care.

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