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# An Astrological Disc from the Sixteenth Century<sup>1</sup>

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## Tayra Lanuza-Navarro

**Abstract.** This paper is an examination of a disc which was placed in the inner cover of a manuscript written at the end of the sixteenth century and included in the collection of the Dibner Library for the History of Science and Technology in the Smithsonian Institution, in Washington DC.

The Dibner Library collection in the Smithsonian Institute includes a parchment book which has no title but was catalogued as *Miscellanea alchymica et astrologica*.<sup>2</sup> The cover is made of wood and a circular hole has been carved in it to place a wooden disc with a piece of paper pasted on to it containing astrological information. The content of the disc is quite simple. It is divided in twelve sectors by lines along the radius of the circle. Each sector is ascribed to one of the signs of the zodiac. A series of inner circles show the division of each sign into three parts of ten degrees, the decans, a division into sections of five degrees and, finally, degrees.

The next circle after the signs contains the list of cities and places subject to each sign, under the words 'Loca subiecta'. The disc's function is indicated in the words which encompass the list of cities: ASCENDENTIA CIVITATUM VERISSIMA ('the true ascendants of the

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2 *Miscellanea alchymica et astrologica* [manuscript], [2nd half of 16th century], Smithsonian Institution Libraries Special Collections, Dibner Library for the History of Science and Technology, Ref. q MSS 000867 B

cities'. Thus, the disc would have been designed as a guide to the zodiacal rulership of countries and cities.

The list does not coincide, though, with Claudius Ptolemy's.<sup>3</sup> For example, only France (Gallia in the Ptolemaic text) occurs under Aries in both Ptolemy and the disc. Comparing it with the chorography attributed to Albumasar during the Renaissance, it does not coincide completely.<sup>4</sup> The list for Gemini coincides only in Egypt and Armenia (and not exactly: it is Greater Armenia for the author of the manuscript, Armenia Minor for Albumasar). The same applies to the chorographies found in with Manilius and Dorotheus of Sidon's chorography and Manilius' chorographies.<sup>5</sup> Their lists for Cancer only share Ethiopia with the author's, and this only considering that this last referred to Ethiopia generically as Africa. It is possible that the author of the disc used other sources, such as John of Seville, Johannes Schöner or some Italian astrologer. The original astrological texts in the manuscript, probably from the beginnings of the sixteenth century or the end of the fifteenth century are in Latin, but the text added some years later to the manuscript was in Italian, and most of the cities listed on the disc are Italian.

The disc's nature is not as simple as it seems. There are only a few studies of this type of disc, and none about this particular one. It could be viewed as a traditional representation of zodiacal geography. If so, parallels can be drawn between the various representations of the zodiac found in Medieval and Renaissance texts, which are circular in shape and similar to the one attributed to G. Battista Agnese, of 1550, which is interpreted as a calendar.<sup>6</sup>

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3 Ptolémée, (1993), *Manuel d'astrologie. La Tétrabible*. Paris, Les Belles Letres. Trad. E. Teissier. About Ptolemy's chorography, see Bouché Leclerc, A., *L'astrologie grecque*, Paris, 1899 (re-edited Paris 1979), pp. 328-347.

4 See Yamamoto, K.; Burnett, C., (2000), *Abumassar on Historical Astrology. The Book of Religions and Dynasties*. Leiden: Brill, pp. 511-521

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6 Zodiac Calendar by Agnese, 1550, British Library, Add. MS 18154. Image at Peter Whitfield, *Astrology: a history*, New York: Harry N. Abrams 2001, cover illustration and p. 148.

There are very few similar discs still in existence. There is the disc at the Istituto e Museo di Storia della Scienza in Florence, which was divided into signs and the names of winds, and which had a mobile rule to set the position of the Sun.<sup>7</sup> There is also an astrological disc at the Museo Nacional de Ciencia y Tecnología in Madrid; this disc has no rules but includes astrological information.<sup>8</sup>

The best known of the astrological discs is the one that was recently identified as made by the famous cosmographer, instrument maker and geographer Gerard Mercator. Steven Vanden Broecke studied and described the Mercator discs in 2001.<sup>9</sup> This is the only example that resembles the Dibner disc; it, too, is made of paper and pasted in a wooden disc. The astrological information contained in the Mercator disc is more complete: it includes a summary of the qualities of the signs, including Cardano's distribution of terms, as well as what planet is in its exaltation or detriment in each sign. This information also includes rulerships, Egyptian terms, the lunar mansions, and other information.<sup>10</sup>

The amount of information is one of the differences between the two discs. But the most important difference is that the Mercator disc, as well as the Florence disc, has rules attached to a rotating disc in the middle, where the aspects are drawn. The Mercator disc, according to Vanden Broecke, was made in keeping with the astrological ideas and suggestions of John Dee, who was at Louvain just before Mercator published it, and

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7 Catalogue of the Istituto e Museo di Storia della Scienza, Florence. <http://brunelleschi.imss.fi.it/genscheda.asp?appl=SIM&xsl=catalogo&indice=54&chiave=401046>, accessed 26 November 2005.

8 For a description of this disc, and its recent history, see Villaverde, M., 'Astrología y religión: Georgius Hartman en el Museo Nacional de Ciencia y Tecnología', in *Actes de les VIII Trobades d'Història de la Ciència i de la Tècnica*, Ed. Societat Catalana d'Història de la Ciència i de la Tècnica. Barcelona, 2006 (forthcoming).

9 Vanden Broecke, S., 'Dee, Mercator, and Louvain Instrument Making: an undescribed astrological disc by Gerard Mercator (1551)', *Annals of Science*, 58, 2001, pp.219-240 [here after Vanden Broecke, "Mercator"]. Related to this disc, see also Turner, G., Van Cleempoel, K., 'A Tudor Astrolabe by Thomas Gemini and its relationship to an Astrological Disc by Gerard Mecator of 1551', *The Antiquaries Journal*, 81, 2001, pp. 400-409.

10 Vanden Broecke, 'Mercator', p. 222-224.

they had conversations about philosophy and astrology.<sup>11</sup> Mercator explained in the instructions that were pasted to the back of the disc that the purpose of the disc was ‘to set up very suitably a figure of the sky for that time and place, and openly contemplate all things in one gaze’.<sup>12</sup> The Dibner disc could not have had the same purpose because it has no movable rules, and there is no reference to the planets. Even if it resembles an older or earlier, simplified version of the beginnings of an astrolabe, it is not possible to assume that it was, unless the Dibner disc had rules to set the positions of the planets. This argument could rely on the cardinal points marked on the corners of the cover where the disc is inserted, imagining that they were drawn not as ornaments but to be used to orient the disc somehow, but it seems unlikely.

However, there are two things that the two discs have in common. First, they can be used as didactic instruments. Vanden Broecke explains that Mercator indicated in the instructions that the disc was addressed to the ‘beginner in astrology’. Established astrologers would not need an instrument this simple.<sup>13</sup> Simpler as it is, the Dibner disc seems to be also a didactic instrument, even if it was not made for many students, but only for the author or compiler of the manuscript. It can be used to ‘contemplate all things – related to chorography – in one gaze’, paraphrasing Mercator. Second, the discs share a reference to the influences of the stars as rays emanating from them. In the central circle we read: PROIECTIONES RADIORUM AC ASPECTUM. The author was showing the aspects among the signs and the projections of rays. The question of understanding influences as a result of physical causes, particularly rays, was one of the main concerns of many Medieval and Renaissance astrologers and natural philosophers. The influence of rays was part of Dee’s program for providing astrology with a firm physical and epistemological basis.<sup>14</sup> In the context of the attempts to reform

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11 Vanden Broecke, ‘Mercator’, pp. 225-229.

12 Vanden Broecke, ‘Mercator’, p. 227.

13 Vanden Broecke, ‘Mercator’, pp. 229.

14 Vanden Broecke, ‘Mercator’, p. 226. Also see Clulee, N., *John Dee's Natural Philosophy: Between Science and Religion*, London, 1989, London: Routledge and Kegan Paul and French, P. J., *John Dee: the world of an Elizabethan magus*, 1972. London: Routledge and Kegan Paul, pp. 89-97.

astrology during the fifteenth and sixteenth centuries, the concept of the influence of planetary rays being similar to light rays was very important. The idea had its origins in Al Kindi's works, including *De radiis*.

The rest of the manuscript in which the Dibner disc is inserted, at least the astrological part, consists of some very simple chapters explaining the basic concepts of astrological knowledge, such as the qualities of the planets and signs. Therefore, the Dibner disc, as a part of the work, is only another short exposition of one aspect of astrology: zodiacal chorography.



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