'Aragonensis' and the Toledan Material in Trinity MS O.8.34

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In his survey of star lists associated with the Toledan Tables in the Trinity College (Cambridge) MS O.8.34, Fritz S. Pedersen draws attention to an associated page (f. 1r) that includes two horoscopes.[1] He describes the manuscript as having been written in one or more southern (perhaps Italian) hands dating from the 12th or early 13th century. His conclusion is that one of the star tables examined descends from a model in which 14;55° was added to the longitudes of *Almagest* (overlooking some variation in the resulting values). Other comparable tables carry the Alexandrian date 1422, which is to say AD 1110-1111.

The horoscopes fit well with this dating, but they also reveal something more. They are good examples of the uninformed copying of old material. The two figures prove to have been calculated by entirely different methods. They were presumably of no possible value to the owner of the manuscript, whether for re-use or for historical reasons, since their original purposes were not recorded. In style, the figures were drawn along the lines of form (b) in Fig. 1 of my *Horoscopes and History*,[2] in which monograph the vocabulary and background to the following notes is explained.

While many of the inscribed cusps of the twelve houses are illegible – they are all written in roman numerals, of course – the fact that opposite cusps always differ by exactly six signs (180°) makes it possible to reconstruct both sets of cusps more or less entirely. Of course in the case of the planetary positions they embody, no such reconstruction is possible. The two diagrams are drawn side by side, neatly and in a way that shows them to be copies, rather than original work. The central areas of the figures, where the colophon is usually placed, are entirely empty apart from the one word 'Aragonensis' on the left-hand figure. The cusps of the first six houses of this figure are as follows, beginning from the ascendent and quoting all as ecliptic longitudes on a scale of 0-360°, rather than by zodiacal sign:

1: *Cahiers de l'Institut du Moyen-Âge Grec et Latin*, 64 (1994), pp. 59-62. I am grateful to him for sending me a reproduction of the page in question, from his microfilm, and for discussion of various readings. While largely illegible, the film is sufficient for my present purposes.

2: London, The Warburg Institute, 1986, p. 2.

(1) 290;11° (2) 341;15° (3) 21;03° (4, lower mid-heaven) 44° (5) 60;10° (6) 79°.

These data may be analysed in the ways indicated in my book, and when this is done they show beyond all doubt that the calculation of the cusps was done according to what I have called the *prime vertical method,* for a geographical latitude of 39;44° ± 0;15°. There are only two Iberian cities of note at the time in question that closely fit with this latitude, namely Valencia (with latitude often quoted as 39;36°) and Toledo (39;54° and 39;58° were both often quoted). Aragon at this period of history held no territory as far south as this, and it seems almost certain that *Toledan* tables – quite inappropriate to Aragon – were used for the figures. For comparison with the data from the manuscript, here are the ideal cusp longitudes for a Toledo latitude and using the prime vertical method:

(1) 290;04° (2) 342;27° (3) 22;18° (4, taken as norm) 44;0° (5) 60;23° (6) 78;59°.

It is clear that the fundamental datum from which the others were calculated was the round figure for mid-heaven (or that for lower mid-heaven), and that the ascendent was a derived figure, not an observed one.

The horoscope on the right-hand side of the page has these cusps:

(1) 339;16° (2) 15° (3) 49;20° (4) 79° (5) 105° (6) 130;36°.

The fact that the figures are here mostly rounded suggests a lack of expertise or an astrologer in a hurry. They fit well, even so, with the following ideals, again calculated for Toledo, but this time following a completely different algorithm, one that I have elsewhere called *the standard method:*

(1) 339;45° (2) 14;44° (3) 48;17° (4) 79° (5) 104;32° (6) 131;05°.

There is nothing strange about the use of the prime vertical method in the Iberian peninsula at this time. It was often described in Iberian sources, and was in fact usually ascribed to Hermes, no less.[1] It is unusual, however, to come across a single astrological source actually applying two different methods side by side without comment, and one suspects that these two schemes stem from adjacent but different sources. If the copies were not immediate we might expect some miscopying of the Roman numerals, but the quoted planetary longitudes seem also to show inaccuracies by reason of miscalculation. Those on the left are now half hidden by the tight binding of the manuscript. If we are to judge by the legible figures for Jupiter and Mars (41;14° and 51;11° respectively), July 1110 is a reasonable estimate for their date, fitting perfectly with the date in the heading to one of the star lists. Saturn also fits reasonably with this period (text 319;13°, four or five degrees too low), a fact that should be enough to clinch the approximate date and safely override the reading

1: *Horoscopes and History,* pp. 33-40.

for Venus (57;17°), which is evidently three signs in error, Taurus rather than the correct Leo.

The horoscope on the right side of the page has a much fuller set of legible planetary positions:

Saturn 268;37°, Jupiter 254;28°, Mars 293;15°, Sun 339;16°, Venus 296;26°, Mercury 314;19°.

There is only one short period between AD 1000 and 1300 to which these could reasonably apply, namely in February 1106. Assuming that the one datum that was accurately calculated was the position of the Sun, the date was 21 February 1106. Note that the Sun was in the ascendent. The character of the original horoscope – nativity, interrogation, anniversary, or whatever – is unknown. It is interesting to learn that there was a comet visible in southern England on 16 February 1106, and it is conceivable that this was the occasion of the horoscope. It is impossible to say whether the right-hand horoscope was connected with Aragon. At the time in question, Aragonese expansionism had barely begun. The county of Aragon, south of the Pyrenees, was still small – lying between latitudes of around 42° and 43°, it occupied only about 10,000 sq. km – but was being gradually welded into a powerful union with Navarre. No Aragonese astronomer of note has left his mark from this time, and it is possible that one or both of the horoscopes was done for the royal house by an astronomer from elsewhere. But from where? Perhaps even from Toledo itself?