



Notes on the Astrological Predictions for A. D. 1430/1431 in MS. Harley 3731

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scientific works in vogue at the time, and many copies of such texts were to be found in the Vatican Library. For example, among the books found in Pope Sixtus IV's study after his death in 1484 were works by Walter Burley, Paolo Veneto, Duns Scotus, François de Meyronnes, and others who represented the philosophical tradition in which Giovanni Contarini had studied nearly a

century earlier.⁸¹ The story of his studies in England and his interest in works of *logica* demonstrates one way in which Oxford ideas travelled to Northern Italy where they were elaborated during the fifteenth century in a school of thought which was of great importance in the emergence of modern experimental science.

ANTHONY LUTTRELL

⁸¹ E. Müntz and P. Fabre, *La bibliothèque du Vatican au XVe siècle*, Paris 1887, 266-8; Sixtus IV's books included a *liber quartus Francisci de Mayronis: ex papyro in viridi*. None of Contarini's works can definitely be identified among those known to have been in the

Vatican, but his Burley MS (Vat. Lat. 2146) did pass to the Vatican. An unknown tract from Vat. Lat. 2146 is published in H. Shapiro and F. Scott, 'Walter Burley's Text, *De Diffinitione*', *Mediaeval Studies*, xxvii, 1965.

NOTES ON THE ASTROLOGICAL PREDICTIONS FOR A.D. 1430/1431 IN MS. HARLEY 3731

In a recent volume of this *Journal*¹ Professor Thorndike discussed excerpts from the above mentioned treatise. Even a cursory reading reveals serious astronomical difficulties: neither the lunar nodes nor sun and moon at opposition are exactly 180° apart, Jupiter when retrograde is progressing in 13 days from 1°58' to 7°32', the sun is entering Cancer 'at 7.05 p.m. with 5° Leo ascending' hence only about 35° after sunrise, etc. Since textual errors often reveal underlying methods it seemed to me worth-while to check the text, of which I obtained a photostat by courtesy of the British Museum. Unfortunately it turned out that one is only dealing with some misreadings, which I record below in order to prevent further misinterpretations. A few additional astronomical and astrological comments may contribute to a better evaluation of the text.

Corrections

p. 344 column 2:

line 4: 27°2'10"] read *et* instead of 2, hence 27°10'

line 5: *Canta*(?)] i.e. *cauda*²

line 6: 17°22'] read 15°22'. 28°2'37"] read *et*, not 2, and 35, not 37; hence 28°35'

line 7: *pars patris*] read *pars pacis*

line 11: *pars evasionum* in 19°0'] read *pars evasionis* in 29°0'

line 29: 24°5'] read 24°50'

line 32: 12°4'] read 12°40'

line 43: 11°5'] read 11°50'

line 45: *medium*] scribal error for *Venus*. 13°5'] read 13°23'

line 47: *laudis*] read *lendis* (i.e. *lentis*)

line 50: 17°18'] read 15°18'

p. 345 column 1:

line 25: 7.05 p.m.] read 19:05 p.m.

line 32: Gemini] scribal error for Taurus

line 44: 11°7'] read 11°1'

line 48: 10°4'] read 18°4'

p. 345 column 2:

after line 11 omitted: 12th house, Jupiter 10°19' Taurus

line 13: 4.02 p.m.] read 16:02 p.m.

line 14: 11°] read 5°

after line 16 omitted: 1st house, Venus 14°16' Scorpio

line 20: 10°20'] read 12°20'

line 27: 2°51'] read 2°7'

line 39: 0°4'] read 0°40'

line 40: 7°32'] read 1°32'

The only computing errors of the text consist in placing the *pars pacis* (cf. p. 344 line 36) into 17°44' Aquarius instead of Pisces and, assuming the *pars tritici* (p. 344 line 1) is the same as the *pars frumenti* (p. 344 line 29), locating it at 5°10' instead of 11°10' Gemini.

The little treatise under consideration is very systematically arranged and shows full competence in the determination of the necessary astronomical data. In fact it provides us with so many solar, lunar, and planetary positions that it almost reaches the level of a contemporary almanac of which we have only few samples at our disposal.

There are three groups of data upon which the astrological discussion is based: (a) the four 'principal points' when the sun is exactly at the equinoxes or solstices, (b) the sequence of all syzygies from the vernal

¹ Vol. XXVI, 1963, p. 343.

² *Canta* alternates with *canda* and *cauda*; similarly *caput* and *capud*, *lentis* and *lendis*, etc.

equinox of A.D. 1430 to the vernal equinox of 1431, (c) the eclipses during this year.

Our treatise begins with the last point, describing correctly the solar eclipse of 1431 Febr. 12 whose path of totality went from Morocco over Corsica and Tuscany to Poland.³ In Milan it was partial but still quite near totality. The prediction postpones its effect to 8 years later because the time of mid-eclipse was 8 seasonal hours after sunrise. This is the only instance where our text uses seasonal hours, obviously because sunrise and sunset are the limits of a solar eclipse and its influences are consequently made proportional to the progress of the eclipse along its path. No lunar eclipse is mentioned, correctly so, since the year 1430 does not contain a lunar eclipse visible in Europe.⁴

All other moments are reckoned in equinoctial hours after noon, following classical astronomical tradition. This makes it very easy to determine time differences. For example, the length of the seasons can be deduced immediately from the following data for the equinoxes and solstices:

March	11	7;10 ^h	Differences
June	12	19;5	93;29,47,30 days
Sept.	14	7;52	93;31,57,30
Dec.	12	10;54	89;7,35.

The closeness of the first two intervals shows that the solar apogee must practically coincide with the summer solstice. Indeed, using the classical Hipparchian method one finds as longitude of the apogee Cancer 0;28,10⁵ in good agreement with what one

should expect from the Alphonsine tables.⁶ Similarly one can extract the intervals between 24 consecutive syzygies, the motion of the nodes (correctly 14°42' from March 9 to Dec. 12) and of the planets. It is interesting to see that only for the outer planets are latitudes given (north or south, but no numbers) as is well motivated by the greater complexity of the theory for the inner planets.

The terminology is in many respects peculiar. The positions of the celestial bodies at the syzygies which directly precede the entry of the sun into one of the principal quarters are called '*in preventionē*' whereas the positions which correspond to the introitus solis are called '*in revolutionē*'. The '*pars evasionis*' is not a 'lot' but means the setting point (δύσις).

Otherwise the partes (lots) are almost all agricultural (wheat, nuts, beans, millet, etc.) except for *pax* and *guerra*. Their location depends on the system of elongations; one finds, e.g., the 'lot of honey' by adding the elongation of the moon from the sun to the setting point of the ecliptic, or the 'lot of millet' by adding the elongation of Saturn from Mars to the ascendant. Such qualifications are found, e.g., in al-Bīrūnī's *Astrology*.⁷ The limits of the 'houses' (i.e. τόποι) seem to be determined by the seasonal hours. Decisive for many predictions are the triplicities, a fact which again suggests Islamic influence. Indeed 'Hali'⁸ is mentioned twice.

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³ Schröter, *Kanon*, Map 101 a.

⁴ According to our text the full moon of September 2 occurs at 3:25 p.m. (Milan noon) while the node is 12°1' distant from the moon. Indeed the eclipse reached only 0.1 digits (Oppolzer, *Canon No. 4081*).

⁵ As eccentricity one finds from these numbers about 2;16 (R = 60), i.e. a value between Islamic values and the *Almagest*. Our data are not accurate enough, however, to determine the eccentricity exactly.

⁶ E.g. Cancer 0;30,8 in the *Newminster Tables for 1428* (Thorndike, *Annals of Science*, 7, 1951, pp. 275/279). Cf. also the data for 1443 in L. H. Gray, *Byzantinische Zeitschrift*, 11, 1902, pp. 471f.

⁷ Ed. Wright, p. 290 and pp. 292f.

⁸ Cf. for him, e.g. Nallino, *Scritti*, v, p. 340.

AN EMBLEMATIC PORTRAIT BY DOSSO

UNIQUE among the works of Dosso—for I believe him to be its author—and unusual among Renaissance portraits is a painting in the Johnson Collection, Philadelphia, labelled *Portrait of a Gentleman* (Pl. 71). The man himself is simply dressed in the

dark and austere habit that the Spanish rage brought to Italy in the sixteenth century. He stands in a restricted space behind a stepped parapet and before a curtain that is also dark. With a wistful expression, rolling his eyes a bit, a twitch of longing flitting across his face, he looks sadly quite out of the picture to the left. His right hand rests on the parapet and is linked in his belt; near it is a piece of fruit, which, since the painting was lightly cleaned