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INSTRUCTIONS FOR THE USE OF PLANET MARKERS ON A HOROSCOPE BOARD

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## INSTRUCTIONS FOR THE USE OF PLANET MARKERS ON A HOROSCOPE BOARD

Oxyrhynchus

P.Wash.Univ.inv.181 and 221  
10.2 x 14.5 cm.Saec. II/III  
Plate IIIa

The papyrus here presented,<sup>1</sup> or rather the first two thirds of it, has already appeared in print: See "Three Magical Texts from the Washington University Collection," *BASP* XIII, 1976, 175-77. This re-edition is occasioned by the identification of a third section of the text, hitherto unrecognized, in a separate place in the collection: Of the text printed below, therefore, only lines 12-18 are new -- but, though I am unable to propose a connected sense in them, these represent a significant addition to so small a piece, and it seemed sensible to republish the rest of the text along with them.

Progress by thirds has characterized the development of work on this text. An initial transcript of the first section (inv. 181) was prepared by V. Schuman, who transmitted it to me in 1971, along with his own notes and suggestions gathered from R. Merkelbach and H.C. Youtie, after deciding to limit his edition of *Washington University Papyri* (P.Wash.Univ., 1978) to documentary texts. After identifying a second section of the text, I published the piece(s) in the article cited above. In 1988, K.Maresch, reviewing the collection, recognized the end of the word *ὄροσκόπος* at the beginning of a third fragment (inv. 221), so making possible the reattachment of that piece to its fellows, and the following expanded edition.

The text is preserved, then, on three separate fragments of papyrus, written on the recto only, in a dull black ink, while the verso, just discernibly darker and coarser, has been left blank. The width of the full column of writing -- some seven to eight centimeters -- remains in lines two to five. The left margin is preserved to a width of 1 to 1.8 cm. on the first fragment only; the upper margin, in part, to a maximum of 2.5 cm. The bottom margin is not represented; that at the right is variably preserved to a width of up to 1.6 cm. A border 0.3 cm. wide, drawn in pale brown ink, appears along the left margin 1.2 cm. from the edge of the column of writing; two such borders, somewhat narrower, appear across the top of the papyrus at intervals of one centimeter from the top line: The column of writing may have been set off on all sides by these decorative stripes. The writing in the column is of a literary character, but somewhat irregular, with no well-established base or top lines. There is occa-

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<sup>1</sup>I am indebted to Klaus Maresch and Jeffrey Rusten for reading the first draft of this paper--their suggestions made it longer, better and more fun--and to Reinhold Merkelbach, Wolfgang Hübner, and Robert Daniel, for reading and responding to the (semi) final version: Their suggestions, especially those of Daniel, who had studied photographs of the Washington University fragments in preparation of a collection of post-Preisendanz magical material to be published by him and F.Maltomini, have improved the text. They have also, especially Merkelbach's and Hübner's, helped make sense of its character and contents.

sional use of ligature and only a limited number of diacritical marks: diaeresis in line 10; colon in line 9. Letter forms suggest a date in the second or third century (see Schubart 20 for informal character and comparable forms; also, for most letter forms, 22a).

The text thus recorded describes the use of markers to indicate the positions of planets on a board prepared for casting horoscopes. This Washington University text, as description of board and markers, is not quite comparable with any known to me either from Preisendanz (*Papyri graecae magicae*, Stuttgart, 1973) or from Neugebauer and van Hoesen (*Greek Horoscopes*, Philadelphia, 1959). A recent English translation with notes by R. Kotansky (in H.D.Betz, *The Greek Magical Papyri in Translation*, Chicago, 1986, 312) cites no new parallels, and no other notice of the Washington University document has come to my attention. So far as is known to me then, the nearest parallel is still, as in 1976, not in papyri, but literary -- the description of the kit<sup>2</sup> used by the Egyptian Nectanebo to cast the horoscope of Olympias (Pseudo-Callisthenes, *Historia Alexandri Magni*, I.4.5).<sup>3</sup>

Ἄμα δὲ τῷ ταῦτα εἰπεῖν προενεγκάμενος πίνακα πολυτίμητον βασιλικόν, ὃν ἐρμηνεῦσαι λόγος οὐ δύναται, ἐξ ἐλέφαντος καὶ ἐβένου καὶ χρυσοῦ καὶ ἀργύρου, τριχάρακτον ζώναις, ἐπὶ μὲν τοῦ πρώτου κύκλου δεκανοὺς ἔχοντα τοὺς λς', ἐπὶ δὲ τοῦ δευτέρου ζώδια τὰ ιβ', ἐπὶ δὲ τοῦ μέσου ἥλιον καὶ σελήνην, ἔθηκεν ἐπὶ δίφρου· εἶτα γλωσσόκομον ἀνοίξας ἐλεφάντινον ὡσαύτως, μικρόν, ἐκκενώσας τοὺς ἑπτὰ ἀστέρας καὶ τὸν ὠροσκόπον ἐξ ὀκτῶ λιθοτέχνων ἡμετάλλων συνέθηκε τὸν τηλικοῦτον οὐρανὸν ἐν ὀλίγῳ κύκλῳ περιφωτίσας, προθεῖς τὸν ἥλιον κρυστάλλου λίθου, τὴν σελήνην ἀδάμαντος λίθου, τὸν Ἄρεα αἱματίτου λίθου, τὸν Ἑρμῆν σμαράγδου λίθου, τὸν Δία αἰθερίτου λίθου, τὴν Ἀφροδίτην σαπφείρου λίθου, τὸν Κρόνον ὀφίτου λίθου, τὸν ὠροσκόπον λυγδίνου λίθου.

The literary character of this parallel is perhaps to be taken as an indication of the nature of the work represented for us by the Washington University fragments. Merkelbach has drawn my attention to the fact that the presence of the φωνή in the first line places the text quite outside the tradition of technical literature. He thinks the text may have been a romance (citing by way of example *Papyri graecae magicae* XXXIV,<sup>4</sup> where a sorcerer has been appealed to

<sup>2</sup>It is presumably the same apparatus involved in the later passage, 1.12.1-9, hilarious or excruciating depending on one's point of view, where Nectanebo, at the birthing-bed of Olympias, watches the shape of the heavens till just the right moment for the birth of Alexander, meanwhile urging the queen, apparently for hours on end, not to push!

<sup>3</sup>I give here the Greek of W. Kroll's edition (Berlin, 1926) cf., in English, translated from the Armenian, A.M. Wolohojian, *The Romance of Alexander the Great* by Pseudo-Callisthenes, New York, 1969, 26.

<sup>4</sup>See E.R.Dodds, 'A Fragment of a Greek Novel,' *Studies in Honor of Gilbert Norwood* (Phoenix Suppl. I), Toronto, 1952, 133-38.

for love potions) or a description of temple ceremonies: In Papyri graecae magicae XIII, for example, a petitioner to an oracle is required to submit his birth-information, and then (lines 137 and 697: . . . κατέχων τὴν πινακίδα καὶ τὸ γραφεῖον) present himself with tablet and stylus so as to record (lines 91 and 646: . . . γράψειν ὅσα σοὶ λέγει) the advice conveyed to him. This text has the very great advantage of helping to account for the appearance of the word γραφεῖον in line 14 of the Washington University fragments (see text below, line 14 and note).

The use of the πίναξ for plotting horoscopes, as here and in the Washington University fragments, is confirmed by Plutarch, Romulus 12.3,<sup>5</sup> which gives the impression that horoscope-casting was named for the use of the board: Plutarch speaks of one Tarutius, an associate of the scholar Varro, as "ἀπτόμενος δὲ τῆς περὶ τὸν πίνακα μεθόδου." The Romulus text confirms the connection of this method with Egypt as suggested by the Pseudo-Callisthenes and by the Washington University fragments: According to Plutarch, Tarutius had been asked by Varro, in a curious inversion of customary usage, to calculate the day and hour of Romulus' birth from the known facts of his life. Plutarch cites Tarutius' response, which seems to have been given in terms of the Egyptian calendar months. The text of the Alexander romance quoted above gives some notion of how the πίναξ might have been arranged: The fixed stars of the zodiac could be recorded on a tablet -- possibly a round one, so that it could be turned to bring to the top the signs visible above the subject at a given time -- in their immutable series.<sup>6</sup> The unstable patterns of the planets had of course to be represented by movable pieces.

The Alexander romance and the Washington University fragments seem to make much of the materials used to represent the heavenly bodies. An ancient system of correspondences between planets, on the one hand, and metals or stones, on the other, is familiar (See W. and H.G. Gundel, "Planeten," RE 20.2, 2163-65),<sup>7</sup> and it seems likely that this is what lies behind the description of planet markers in both these texts. The correspondence seems to be more reliable with metals than with stones (see especially M. Berthelot, Les origines de

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<sup>5</sup>F. Boll, Antike Beobachtungen farbiger Sterne (Abh.d.K.Bay.Ak.d.W., Philos.-philol.u.hist.Klasse XXX.1), Munich, 1916, p. 82, cites John of Gaza's Ἑκφρασις τοῦ κοσμικοῦ πίνακος for actual stars and planets.

<sup>6</sup>See, e.g., F. Boll and C. Bezold, Sternglaube und Sterndeutung, Leipzig, 1931, Pl. XVII (I have not been able to consult the later edition by Gundel), where, as in the Alexander romance, sun and moon are represented on the board as well as among the planets; or Dorotheus Sidonius, Carmen astrologicum I.24 et alibi.

<sup>7</sup>For celestial-terrestrial correspondences, which extend also to signs of the zodiac, on the one hand, and plants and animals, on the other, see also Jack Lindsay, The Origins of Astrology, London, 1971, 364-367, H.G. Gundel, Weltbild und Astrologie in den griechischen Zauberpapyri, Munchen, 1968, 44-46, and A.Bouché-Leclercq, L'astrologie grecque, Paris, 1899, 315-319. For a spoof of such correspondences, see Petronius, Cena 35: rotundum enim repositorium duodecim habebat signa in orbe disposita, super quae proprium convenientemque imposuerat -- cibum!

*l'alchimie*, Paris, 1885, 50): Among ancient texts, the *Analecta Astrologica* (VI) attached to the text of Maximus is especially pertinent:<sup>8</sup>

Κρόνου μόλιβος, λιθάργυρος, λίθοι μυλῖται καὶ γαγάτης καὶ κλαυδιανὸς καὶ τὰ τοιαῦτα.

Διὸς κασσίτερος, βήρυλλος καὶ πᾶς λίθος λευκός, σανδαράχη, θεῖον καὶ τὰ τοιαῦτα.

Ἄρεως σίδηρος, μαγνήτης, ψηφίδες καὶ λίθακες, πυρροὶ καὶ τὰ τοιαῦτα.

Ἡλίου χρυσός, ἄνθραξ, ὑάκινθος, ἀδάμας, σάμπειρος καὶ τὰ τοιαῦτα.

Ἄφροδίτης χαλκός, μαργαρίτης, ὄνυχίτης, ἀμέθυσος, νάφθα, πίσσα, ἄσφαλτος, ὑγράσφαλτος, μέλι, σάκχαρι καὶ ἀμμωνιακὸν θυμίαμα.

Ἐρμοῦ σμάραγδος, ἴασπις, χρυσόλιθος, ἡσύχιον, ὑδράργυρος, ἤλεκτρον, λίβανος καὶ μαστίχη.

Σελήνης ἄργυρος, ὕελος, στίμμι, ξινη, χια, χάνδρα, γῆ λευκὴ καὶ τὰ ὅμοια.

Even with such an embarrassment of alternatives, this table fails to offer a good match with the planet-marker gemstones either in the Pseudo-Callisthenes text or in the Washington University fragments -- but where the latter moves into the world of metals, the correspondence is perfect. The Washington University fragments offer the only ancient text known to me that offers one-to-one planetary correspondences which shift from metals to stones. But the associations between sun and gold, moon and silver, were especially strong in antiquity:<sup>9</sup> The writer may have wished to incorporate the intuitive rightness of these equivalences at the head of his list of planets, without having to continue with other correspondences which might have been undesirable in some ways -- lead, tin, and iron might have seemed insufficiently precious for the writer's purposes, for example, and the representation of Mercury might have been problematic. One observes that the writer of the *Analecta* has left just that one metal slot unfilled.

As for the relationship between gemstone and planet, that must have been comparable to the relationship between gemstone and zodiacal sign in the modern world: inconsistent (see, e.g., F. Gettings, *Dictionary of Astrology*, London, 1985, 44-46, for the absence of reliable

<sup>8</sup>I give the text of Ludwich (Leipzig, 1877), 121; this table is embedded in a sequence of others giving the relationships of planets or zodiacal signs to persons, animals, and plants. Hübner has drawn my attention, for similar correspondences, to *Cat.Cod.Astr.* V 4 (1940), 122, and Lynn Thorndike, 'The Secrets of Hermes,' *Isis* 27 (1937) 53-62.

<sup>9</sup>Berthelot, 50, points out that the traditional symbols for the sun and moon were adopted for use as the chemical symbols of gold and silver, respectively.

correspondences). It is therefore not especially surprising that the Pseudo-Callisthenes text and the Washington University fragments offer only one planet-material match: Venus, represented in both places by lapis lazuli, the Greek *σάπφειρος* -- which, however, is associated by the writer of the *Analecta* with the sun. Similarly, there is only one planet-gemstone match between the Pseudo-Callisthenes and the *Analecta*: *σμάραγδος*, probably our emerald, for Mercury. *Ἄδάμας*, assigned by Pseudo-Callisthenes to the moon, is associated in the *Analecta* with the sun. Crystal, assigned by Pseudo-Callisthenes to the sun, is associated in the Washington University fragments with Jupiter.

The various stones associated in modern times with zodiac signs show a tendency to represent color clusters,<sup>10</sup> and it seems likely that this tendency would be even better established in the case of the planets, where, at least in some cases, the perceived characteristics of the celestial object would be relevant: The planet Mars, to take the readiest example, is represented in all the texts we have considered by reddish stones. Several well-known ancient texts call attention to the colors of the planets (see Plato, *Republic*, 616 E, and Pliny, *N.H.* II.XVI.79),<sup>11</sup> although these seem to concern themselves more with brightness than with hue. As for the signs of the zodiac, it is possible<sup>12</sup> that color tendencies among the stones associated with them are secondary to mutual connections with the planets:<sup>13</sup> Mars, for example, is associated with Aries and Scorpio -- and birthstones for both signs tend to show up red (see, e.g., Gettings, 44-46 and 244); the especially strong connection referred to already between sun and gold, moon and silver, may have resulted at least in part from color associations.

However established, the colors associated with the planets develop symbolic and religious significance, at least in some circumstances. Origen (*contra Celsum* 6.21) cites Celsus for Persian and Mithraic cosmology involving a series of seven heavenly gates (arranged in a ladder, for the ascent of the soul), all of metal, and each corresponding to a planet: the last two are those of the moon and the sun, silver and gold, respectively; Gundel, *Weltbild*, 42 cites Preisendanz, 198, for seven colors in seven heavens. Knowledge of this line of Eastern

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<sup>10</sup>Boll, *Antike Beobachtungen*, 19-26, is the most thorough discussion of planet color known to me; see also Bouché-leclercq 313, Boll, "Hebdomas", *RE* 7, 2563, and Lindsay, 240.

<sup>11</sup>Philo (*de vita Mosis* II.126) is perhaps the earliest extant writer to assign colors to the signs of the zodiac: for other citations, ancient and modern, see Wolfgang Hübner, *Zodiacus Christianus*, Königstein, 1983, p. 17 and n. 17. Boll, *Antike Beobachtungen*, 20, collects ancient references to planet color; Hübner, *Die Eigenschaften der Tierkreiszeichen in der Antike*, Wiesbaden, 1982, 275-280 (section 7.2) explores the color connections of the zodiac, including those involving planetary associations.

<sup>12</sup>For an entirely different view of the development of these associations, see S.J. Tester, *A History of Western Astrology*, Suffolk, 1987, p. 24.

<sup>13</sup>For planet-zodiac connections, see, e.g., Dorotheus Sidonius, I.1. J. Bidez and F. Cumont, *Les mages hellénisés*, Paris, 1938, I.194-95, cite Damigeron-Evax, *de lapidibus*, for seven stones pertaining to the seven signs, where the signs -- sc. of the zodiac, normally twelve in number -- are evidently to be understood as the related representatives of the seven planets. Hübner, *Eigenschaften* 278-284 (sections 7.23-7.31), collects the ancient testimony on planet-zodiac connections. Boll, *Antike Beobachtungen*, 153-55, describes the relationships of planets with fixed stars in this connection.

color symbolism appears in Greek at least as early as Herodotus, who gives us the seven concentric walls of the city of Ecbatana (Histories I.98):

τοῦ μὲν δὴ πρώτου κύκλου οἱ προμαχεῶνες εἰσι λευκοί, τοῦ δὲ δευτέρου μέλανες, τρίτου δὲ κύκλου φοινίκεοι, τετάρτου δὲ κυάνεοι, πέμπτου δὲ σανδαράκινοι. οὕτω πάντων τῶν κύκλων οἱ προμαχεῶνες ἠνθισμένοι εἰσὶ φαρμάκοισι· δύο δὲ οἱ τελευταῖοι εἰσιν ὁ μὲν καταργημένους, ὁ δὲ κατακεχυμένους ἔχων τοὺς προμαχεῶνας.

The order of the planets' naming in the Washington University text has been elucidated for me by Hübner. Citing the parallel of Ptolemy, *Apotelesmata* 1.4, he shows that the language of the papyrus text describes the planets in three sets of two, with one remaining--or in this case paired with the horoscope. The materials of the first pair--sun and moon--are given in the nominative, by an adjective; those of the second pair--Saturn and Mars--by noun phrases in the genitive case. The third pair--Venus and Mercury--are again given adjectives in the nominative; the remaining planet--Jupiter--again is described by a noun phrase in the genitive. The placement of ἦτω in lines 4 and (if correctly restored) 8 balances the first two pairs in chiasmus; the same word in line 10 (if correctly read) introduces the last planet, or last pair of markers. The first pairing is of course underscored by the fact that only sun and moon are represented in the text by symbols.<sup>14</sup>

It is perhaps of interest to compare the order in which the naming occurs in texts:<sup>15</sup> Of those mentioned above, only the *Analecta* seems to name the planets according to their understood positions. Here are the planets in position, along with the order they are named in by the texts already referred to, including Ptolemy.

	Analecta	Wash.Univ.	Apotelesmata	Alex.Life
Saturn	1	3	3	7
Jupiter	2	7	5	5
Mars	3	4	4	3
Sun	4	1	1	1
Venus	5	5	6	6

<sup>14</sup>Lindsay, 182, observes that it is characteristic of the papyrus texts to represent these two planets alone--sun and moon--by symbol, rather than by writing out their names. Lindsay also reports, 163, that Greek papyri of the Roman period tend to write out names, while Demotic papyri offer symbols for the planets and the signs of the zodiac.

<sup>15</sup>The most thorough account of planet order known to me is Boll, "Hebdomas," 2556-2570; see also Gundel, "Planeten," 2100-2101. Except for the postponement of Jupiter, the order in which the planets are named is that described by Neugebauer and van Hoesen (164) as regular in literary, as distinguished from documentary, texts. Boll ("Hebdomas" 2569) explains that the regular order developed from a natural tendency to set first the two great lights of the sky, and an arrangement of the others according to their speed of revolution.



Mercury	6	6	7	4
Moon	7	2	2	2

All these texts, except for the *Analecta*, begin with sun and moon; the Alexander text seems to maintain a constant interval as it proceeds, so that a pair consisting of the fourth and seventh planets (by order of position) is followed by another consisting of the third and sixth, and a third consisting of the second and fifth; the first, remotest planet, is left--or paired with the horoscope. The Washington University papyrus offers pairs of planets in narrowing intervals. The first pair are again fourth and seventh planets (by position); the second pair named are first and third; the last pair are planets positioned next to each other: fifth and sixth. In the *Apotelesmata*, the planets are paired in intervals of three (fourth and seventh planets), two (first and third), and three (second and fifth). The order of naming in the Alexander life moves steadily from nearer to farther planets, and ends by isolating the farthest. The order of naming in the *Apotelesmata* and in the Washington University fragments moves from nearer planets to remoter, then to nearer again, isolating at the end, in the *Apotelesmata*, the planet Mercury; in the Washington University fragments, Jupiter.

I am indebted to Hübner, again, for pointing out that the order in which the planets are named will have been affected by the characteristics associated with them on the part of the writer. The planet isolated in the Alexander life is the most unfriendly, as well as the remotest. Mercury and Jupiter, isolated by *Apotelesmata* and by the Washington University fragments respectively, are the temperate planets, each at midpoint in the series, either of the interior (with reference to the position of the sun) or of the exterior planets. And as for the pairing of the planets: Aside from the grand luminaries, paired regularly and intuitively, the connection of Saturn and Mars, in *Apotelesmata* and the Washington University fragments, is contrasting for position (at the edges of the exterior planets), and for physical characteristics (Saturn is considered cold and dry, Mars hot and wet), but parallel for effect (these planets are the least benign).<sup>16</sup> The pairing of Jupiter and Venus, as in *Apotelesmata*, or of Venus and Mercury, as in the Washington University fragments, gives a set relatively well matched for temperate qualities. The *Apotelesmata* set gains a contrast of position (exterior and interior planet) and of gender association. The Washington University set furnishes a contrast, as set, to the preceding pair: Venus and Mercury are as near to each other as possible in position, physical condition, and general effect. The pairings suggested in the Alexander life offer consistent contrasts of exterior and interior position, masculine and feminine--or ambiguous--character.

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<sup>16</sup>For planet characteristics, see Ptolemy, *Apotelesmata*, 1.4 (edd. F. Boll and A. Boer, in: Claudius Ptolemaeus, *Opera* III.1, Leipzig, 1940), and W. Hübner, 'Die Astrologie der Antike,' *Berichte zur Wissenschaftsgeschichte* 8 (1985), 7-24. Boll and Boer, 18, n.4, credit Cumont for pointing out the implications of a pairing of Saturn with Mars.

The inclusion of the "horoscope" among a list of planets, in the Pseudo-Callisthenes text and in that of the Washington University fragments, is probably misleading, at least to the uninitiated.<sup>17</sup> Almost certainly, the horoscope-marker will have indicated the point of intersection between the eastern horizon and the circle of the zodiac, rather than any specific celestial object.<sup>18</sup> This point, the Latin "ascendens", with its opposite in the west (δύσις, the Latin "occidens") and mid-heaven and its opposite (μεσουράνημα, ὑπόγειον; Latin "medium caelum", "imum caelum") -- these were the four cardinal points against which the position of all heavenly bodies were plotted in a given reading. Under the influence of "katarchic" astrological interpretation, the first of these points, where the signs of the sky were rising, was taken to be the most influential,<sup>19</sup> and, by a system of progressive metonymy, the term "horoscope" came to be applied additionally to: 1) whatever sign or planet was rising at the aforesaid point of the horizon, 2) the marker designating that sign or planet (probably only in the ancient world), 3) the whole configuration of the sky at a given time, 4) the whole configuration of the sky at a given person's birth, 5) the sign rising at the time of a given person's birth, 6) the sign in which the sun was rising on the day of a given person's birth (probably only in the modern world),<sup>20</sup> and 7) each day's forecast depending on information given by 6) (surely only in the modern world!).<sup>21</sup>

## Text

. [ . . . . ]ς φωνή σοι ἔρχεται ὀμ[ι-]  
 λούσα· κείσθω(ν) δὲ ἐπὶ τοῦ πίνα-  
 κος ἀστέρες οἱ κατὰ φύσιν χω-  
 ρίς (ἡλίου) καὶ (σελήνης)· ἦτω δὲ ὁ ἥλιος χρύ-  
 5 σεος, ἡ δὲ (σελήνη) ἀργύρεος, ὁ δὲ Κρό-  
 νος ἐκ λίθου ὀψ[ιανο]ῦ, [ὁ δ]ὲ Ἄρ[η]ς]  
 ἐκ μηλ[οβαφοῦς σαρ]δόνυχος  
 ἦτ[ω·] ἡ δὲ Ἀφροδίτης σαπιρί[ν]-  
 [νή πε]ρίχρυσος ῥαντιστή, ὁ δὲ Ἐρ-  
 10 [μῆς] καλλάϊνος, ὁ δὲ Ζεὺς ἦτω  
 [ἀερ]ίνου λίθου ὑπὸ [δὲ] κρυσ-

<sup>17</sup>Written-up "horoscopes" often give the same impression: See Neugebauer and van Hoesen, 47 and passim.

<sup>18</sup>Hübner has drawn my attention to the fact that later astrologers regarded even the nodes of the moon's orbit as planets: see the bibliography in his *Eigenschaften*, 294 (number 7.35).

<sup>19</sup>Katarchic astrology, as its name suggests, concerning itself with beginnings: See the text of Maximus cited above (*περὶ ἀρχῶν*, ed. Ludwich, Leipzig, 1877), and the thorough treatment by Bouché-Leclercq, 458-486; see also H. Gundel, "Zodiakos," RE 10A, 585-87.

<sup>20</sup>Bouché-Leclercq (384) refers to this usage as flotsam resulting from the "shipwreck" of ancient astrology!

<sup>21</sup>Bouché-Leclercq's (257-58, 383-90 and passim) is the most thorough treatment known to me of the development of this term; see also Boll and Bezold, *Stern Glaube*, 62.

[τάλ]λου· ὁ δὲ ὠροσκόπος ὁ κατὰ  
 [ κ]είσθω δὲ αὐτῶ  
 [ ]ν καὶ γραφεῖον κ'ε'[ί]σθω  
 15 [ ]. πυξίνη . [ . . ] . . [ . . . ] . [ ]  
 [ ἐ]ξῆς δὲ σκεπ[τέον ]  
 [ ] . ερω [ ]  
 [ ] . [ ]

## Translation

. . . a voice comes to you speaking. Let the stars be set upon the board (as they are) by nature except for the sun and the moon. And let the sun be golden, the moon silver, Saturn of obsidian, Mars of reddish onyx, Venus lapislazuli veined with gold, Mercury turquoise; let Jupiter be of (whitish?) stone, crystalline (?); and the horoscope, (as it is) by (nature?) . . . let it lie . . .

## Notes

1 - 3 Rather than take φωνή for the subject of κείσθω, I assume the omission of the plural ending (see Mayser, Grammatik, II.150), with ἀστέρες the subject. The imperative is very common in the singular, relatively rare in the plural, often impersonal in construction, and frequently placed before its subject, especially in technical writing.

1 - 2 The words φωνή and ὀμιλέω are not uncommonly found in association in later writers (see, e.g., Sextus Empiricus, adversus mathematicos 9.179.2: εἰ φωνῆ χρῆται, ὀμιλεῖ, and Aelius Aristides, Panathenaicus 98.27: καὶ παράδειγμα πάσης τῆς Ἑλληνικῆς ὀμιλίας φωνὴν εἰσηνέγκατο.

3 ἀστέρες οἱ κατὰ φύσιν: The sense of the qualifying phrase escapes me, rather, but as sun and moon are excepted, and as they are evidently the only planets represented by metal, rather than by gemstone, markers, it ought to be the material of the markers, rather than the position they are to be set in, that is meant to be natural -- whatever that means.

4 - 5 Sun and moon are represented by familiar symbols: See photograph. Plate IIIa.

6 ὀψ[ : I should prefer to read ὀφ[, with the Alexander text above, but the beginning of an uncompromising horizontal stroke, not at all comparable with the phi set above and below on the papyrus, seems to rule it out. 1.0 to 1.5 cm. of papyrus have been lost after the separation of the two fragments which originally joined at this place, and only at the end of the line are the bottoms of three or four letters visible, at the top of the second fragment.

7 μηλ[οβαφοῦς: if, as seems likely, a color-word is wanted here, some compound of μῆλον seems much the best bet. Liddell and Scott favor yellow as the hue signified in most such formations (Oxford Latin Dictionary is more cautious, giving for malinus "apple-col-

oured, perhaps yellowish"), but the regular color associations of this planet indicate that apple-red is what is intended in this text. The metaphorical use of μήλα for "cheeks" (especially well-established in Egyptian texts; see WB, where the metaphorical use is shown to occur far oftener than the literal) suggests that reddish coloration is not to be ruled out in connection with the word. In the case of the compound ῥοδόμηλον, also used in the metaphorical sense, Liddell and Scott accept a sense involving redness.

8 Ἄφροδίτη is at the shredded top of the second fragment, with only half-letters visible.

8 - 9 σαπιρ-- : sc. σαπφειρ--, with familiar variants of spelling. Not σάπιρος, as iota is quite clear after rho. The following letter is partly lost in a smudge, and I am not quite sure of the nu, but σαπιρίνη seems the best possible reading in view of the following adjectives. The same word, or variants of it, appears in papyrus lists of colors or dyes (see Oxy. XIV 1739.1, 7, and SB I 2251.1), as does καλλάινος (Oxy. XIV 1739. 3, 9; see below, n. 10). I am indebted to Robert Daniel for the suggestion that the end-of-the-line smudge be regarded as an erasure; this recovers proper syllabic division, which the scribe seems entitled to--though it does leave line 9 a bit long at the front end.

9 περίχρυσος: cf. Theophrastus, de lapidibus, 23: ἡ σάπφειρος· αὕτη δ' ἐστὶν ὡσπερ χρυσόπαστος; compare section 37 in the same work, where the "sapphire," obviously not the gem known to us by that name, is described as μέλαινα, οὐκ ἄρα πόρρω τοῦ κυάνου τοῦ ἄρρενος. The final sigma of περίχρυσος is enlarged and distorted by the inclusion of a curved vertical stroke opposite in direction to and overlapping with the downstroke of the letter. Perhaps the writer made a false start. The colon after ῥαντιστή is written on the papyrus.

10 The diaeresis in καλλάϊνος is written on the papyrus. This word, or variants of it, appears in lists of colors or dyes (see above, n. 8 - 9), and as a form of earthenware (P.J.Sijpesteijn, "Καλ(λ)α(ε)ϊνος in den Papyri," ZPE 30, 1978, 233-34, and P.Köln VI, 277.4).

11 ἀρίνου proposed by Daniel on the parallel of Raabe's translation of the Armenian Life of Alexander; the ink traces suit this reading better than that originally proposed by me (κυάνου; see ed. princ.). The last four letters in the line are represented by top and bottom traces only, on the second and third fragments, respectively.

11-12 ὑποκρυστάλλου proposed by Merkelbach for my (see ed. princ.) ὑπὸ [δὲ] κρυστάλλου. The suggestion so improves the text, for sense and parallelism, that I accept it against the testimony of my eyes (see photograph): The fibres show evidence of some forcing apart, and the apparent lacuna may be a mirage.

12 The rho of ὠροσκόπος is represented by top and bottom bits only, on the second and third fragments of this text.

13 Perhaps φύσιν is to be restored: This would produce a parallel to line 3 above; if so, there would be room for two or three letters in addition. ἦτω is barely possible for the space. Hübner, however, finds the restoration unconvincing. κ]εῖσθω: restored after line 2 above.

There is space of some .9 cm. to the right of ἀὐτῶ; it appears that the right margin is preserved to line 14, where, however, writing extends to the very edge of the papyrus.

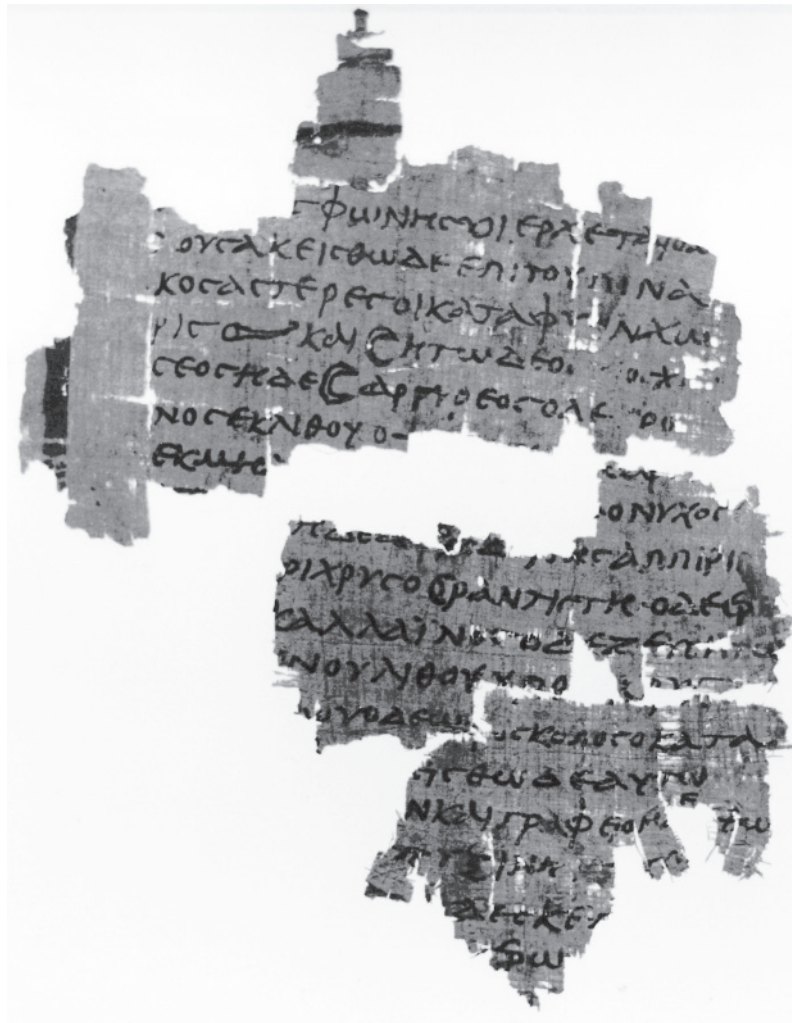
14 The γραφεῖον appearing here, probably a writing implement, may have been needed for writing down the results of the horoscope casting: see Papyri graecae magicae XIII, 137 and 697. Possibly κίσθω at the end, corrected to κείσθω; The slight traces before and behind the lacuna are compatible with this restoration.

15 Traces of a horizontal stroke before the initial pi: Merkelbach suggests πίνα]ξ, on the parallel of Papyri graecae magicae XIII, 137 and 697. Letter traces after the following lacuna might be of upsilon and pi.

16 ἐ]ξῆς δὲ σκεπ[τέον: proposed by Maresch: cf. Plutarch, de fato 570.B: ἐξῆς δὲ σκεπτέον . Only traces of the tops of the first three letters, which are therefore not quite certain, remain. For the use of the verb in divination, cf. also Appian, Bellum Civile 1.11.97, of an oracle given Sulla: ἔστι δ' ὅπου καὶ χρησμὸς αὐτῶ δοθεὶς ἐβεβαίου τάδε σκεπτομένῳ τὰ μέλλοντα.

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Anweisungen für den Gebrauch von Planetenmarken auf einer Horoskoptafel (P.Wash.Univ.inv. 181 und 221)