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Origins of the Tājika System of Astrological Aspects and Dignities

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See table of contents

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Article abstract

The astrological doctrines of aspects and planetary dignities found in the authoritative texts of the Tājika (Sanskritized Perso-Arabic) school are examined with respect to their origins and historical development, with particular emphasis on Balabhadra's encyclopaedic Hāyanaratna (1649) and its quotations from the perhaps earliest work of the school, Samarasiṃha's Tājikaśāstra (thirteenth century). It is argued that a major source of these doctrines is Sahl ibn Bishr's Arabic-language introduction to astrology (ninth century), possibly in abbreviated or paraphrased form. Several of the constituent ideas have been imperfectly understood by their Indian epitomists, resulting in reinterpretations and innovations.

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Origins of the Tājika System of Astrological Aspects and Dignities

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INTRODUCTION

The purpose of this paper is to examine the Indian reception of two related sets of astrological concepts transmitted through Arabic-language sources and codified in Sanskrit from the thirteenth to the seventeenth century: the astrological aspects and the dignities and debilities (or strengths and weaknesses) of the planets.[1] Although pre-Islamic Indian versions of both doctrinal complexes exist, derived directly from the horoscopic astrology of the Hellenistic world, these were based on a limited subset of the ideas involved and subsequently developed in new directions. The versions received through Arabic source texts, though Sanskritized about a millennium later, more closely resemble those of the Hellenistic parent tradition. These later adaptations are found in the texts of the separate Tājika ("Persian") school of astrology, and the present discussion will focus on the encyclopaedic digest of that school compiled by Balabhadra in 1649 under the title *Hāyanaratna* on the basis of some forty earlier Tājika works.[2] While technical terms will be briefly defined as they appear below, readers not familiar with the conceptual apparatus of astrology may find general introductions to the subject helpful in providing a broader context.[3]

1 I use the word "planet" in the earlier sense, still prevalent in astrological contexts, of any heavenly body apparently moving against the background of the fixed stars – thus including the sun and moon.

2 A critical edition and annotated English translation of the *Hāyanaratna* is forthcoming (Hāyanaratna). References to the text below refer to the numbered sections of that edition. For the date of the *Hāyanaratna*, see also Gansten 2017.

3 Accessible introductions are found in Barton 1994 and Brennan 2017, while Beck 2006 is encumbered by its compulsion to ridicule its subject matter at every turn; the same is true of the now largely outdated Bouché-Leclercq 1899. For an erudite and in-depth account of many issues, see Heilen 2015.

Aspects and dignities form the twin foundations of the so-called sixteen configurations (*ṣoḍaśayoga*) which are perhaps the most distinctive and ubiquitous feature of Tājika astrology. As demonstrated elsewhere,[4] these configurations were derived from the popular introductory work of Sahl ibn Bishr (former half of the ninth century) known under several Arabic titles including *Kitāb al-aḥkām ʿalā n-niṣba al-falakīya*.[5] Both this work, to which I shall refer simply as the *Introduction*, and a second work by Sahl, the *Kitāb fi l-masāʾil wa-l-aḥkām* on interrogations, were first epitomized in Sanskrit by Samarasiṃha, probably in the latter half of the thirteenth century.[6] As we shall see below, Sahl's *Introduction* appears to be a major source not only for the sixteen *yogas* but for Tājika teachings on aspects and dignities generally, relayed by Samarasiṃha in two separate works: the *Tājikaśāstra* (consisting of three semi-independent treatises) and the *Karmaprakāśa*. The former of these is, to my present knowledge, no longer extant, but is quoted extensively in Balabhadra's *Hāyanaratna* and more sparingly in some other texts.[7]

1. NAMES AND TYPES OF ASPECTS

Known in sanskrit as *dṛṣṭi*, or by any verbal noun denoting seeing, an astrological aspect is an angle of longitudinal separation prevailing between two signs of the zodiac or between the planets occupying them, which are conceived of as beholding, and thereby affecting, each other. Unlike the aspects of classical Indian astrology, the historical development of which remains to be fully investigated, the aspects employed in Tājika – discussed in detail in the second chapter of the *Hāyanaratna* – are identical with those of the Hellenistic, Perso-Arabic, and medieval European astrological traditions. They are based on the division of the circle of twelve zodiacal signs by whole numbers, forming different geometrical figures as shown in Table 1.

The conjunction or "bodily conjunction" is often distinguished in astrological tradition from the "aspectual conjunction" or aspect proper. Any given planet will distribute its influence through the zodiac by means of seven such aspects

4 See Gansten and Wikander 2011. Certain assumptions made in that article about planetary dignities in the Tājika tradition (based partly on Pingree 1997) must, however, be revised in the light of the discussion below.

5 See Sezgin 1979: 125 ff.

6 See Gansten 2014. Pingree put the probable *floruit* of Samarasiṃha at 1274; see Pingree 1981: 97, 1997: 81 (where the date is said to be merely provisional, but based on a manuscript copied in 1293), and Pingree 2004: 214 (where it was last repeated, without qualification and with reference to the planned volume A6 of the CESS, never published; see Pingree 1970–1994).

7 Samarasiṃha and his works are discussed in some detail in Gansten 2018.

Divisor	Separation (signs)	Separation (degrees)	English name	Arabic name	Sanskritized name
1	12/0	360°/0°	conjunction	*muqārina*	*mukāriṇā*
2	6	180°	opposition	*muqābila*	*mukāvilā*
3	4	120°	trine	*tathlīth*	*taślī*
4	3	90°	square	*tarbī*^{c}	*taravī*
6	2	60°	sextile	*tasdīs*	*tasdī*

Table 1: The aspects.

or "glances:" one opposition and two each of the sextile, square and trine. With regard to angular separation, it should be noted that astrological authors typically count signs inclusively, so that the square is called a fourth-sign aspect; the trine, a fifth-sign aspect; etc.

The Sanskritized forms of the Arabic aspect names are all feminine, presumably to agree with *dṛṣṭi*. David Pingree's conjecture that "the aspects with new definitions are given Sanskrit names and those that remained the same are given Arabic names," though ingenious, rests on a textual corruption.[8] The relevant passage in the *Hāyanaratna* reads:

> It is *mukāriṇā* in one sign, *mukāvilā* on the seventh, and the aspect on the tenth and fourth is *taravī*: [these] three are said to bring danger. The aspect on the third and eleventh, called *tasdī*, is most excellent; the aspect on the ninth and fifth, called *taślī*, is greatly auspicious.[9]

In some of the later text witnesses of the *Hāyanaratna*, including the printed edition apparently chiefly consulted by Pingree,[10] the names *taślī* and *tasdī* have been corrupted into *valī* and *tadā*, respectively, leading him to mistake the Sanskrit adjectives describing them ("most excellent," "greatly auspicious") for proper names.

8 Pingree 1997: 87.

9 *Hāyanaratna* 2.1: *mukāriṇā syād ekarkṣe saptame syān mukāvilā | taravī dikcaturthe tu tisraḥ proktā bhayapradāḥ || tṛtīyaikādaśe dṛṣṭis tasdī proktā mahottamā | navapañcamayor dṛṣṭis taślī proktā mahāśubhā ||* These two stanzas appear to be a quotation, although, unusually, no source is mentioned by Balabhadra. The first stanza and a half are quoted, again without attribution, in *Daivajñasaṃtoṣaṇī* ad *Karmaprakāśa* 2.10–11 (see below for these works).

10 The edition, listed under References below, was published in the first quarter of 1905 (*māgha saṃvat 1961, śake 1826*), although Pingree (1970–1994: A4: 236b, 1981: 99, 1997: 86) consistently gives the year of publication as 1904.

The understanding of some Tājika authors, including Samarasiṃha, that the conjunction is included among the evil or inimical aspects (known as *kṣud-* or *kṣuta-dṛṣṭi*, of unknown derivation)[11] appears to stem from a misunderstanding of Sahl's terse phrasing:

> And the strongest of these aspects is the conjunction and the opposition – and [the opposition] is the more intense by place, and the more extreme, and this aspect indicates enemies and fighters, and contrariety and contention.[12]

While the Arabic employs the singular, describing only the opposition as inimical,[13] the Latin translator, too, apparently misunderstood Sahl's intention and translated the clause using the plural, thus including the conjunction.[14]

2. STRENGTH OF ASPECTS

SAHL'S REFERENCE TO THE VARYING STRENGTH OR IMPACT of the aspects – the conjunction and opposition being the strongest – has a bearing on a further Tājika misunderstanding. Balabhadra quotes a statement by Samarasiṃha to the effect that the conjunction and opposition have maximum strength, the trine has ¾ of that, and the square has ¼. Of two planets in sextile aspect, the one in the preceding zodiacal sign (measured by the shortest distance) has a ⅔ impact, while the planet in the following sign has a mere ⅙. The notion of such numerical evaluations of aspect strength (*dṛṣṭibala*), though using different ratios, is found in pre-Islamic Indian astrology, and probably acted as a distorting lens through which Graeco-Arabic teachings on aspects were viewed. Samarasiṃha's figures appear to be derived ultimately from Sahl's *Introduction*; the relevant passages from both authors read as follows (emphases added):

11 While the words *kṣut* and *kṣuta* do exist in Sanskrit, derived from the onomatopoeic root *kṣu* "to sneeze," these are almost certainly unrelated to the Tājika technical term, which may be of non-Indian origin. Samarasiṃha, quoted in *Hāyanaratna* 2.1, appears to expect the word to be unfamiliar to his readers: [...] *tisro 'ridṛśaḥ kṣutākhyāḥ syuḥ* "[These] three inimical aspects are called *kṣuta*."

12 Translation based on Dykes 2018, modified (Dykes has "assembly" for "conjunction").

13 Benjamin Dykes, personal communication.

14 Salio 1493: 123r: *Igitur his aspectibus fortior est coniunctio atque oppositio. Et hi sunt fortioris operis atque inimicitatis: et hi aspectus significant inimicos palam nocentes: et significant contrarietates et participationes.*

Sahl[15]

And as for the aspect of the sextile (*and it is one sixth of the circle*), it is if a planet looks at a planet from the third sign in front of it (and it is called the aspect of the first sextile), and it looks at it from behind it, from the eleventh sign (and it is called the aspect of the second sextile).

Samarasiṃha

In an aspect on the third and eleventh [signs, the planet] that aspects with the aspect [on its] third has an aspect less [than full] by a third; *the other* [*planet*] *has an aspect of one sixth*.[16]

Here, Sahl's "one sixth of the circle" (that is, 60°) seems to have been misinterpreted as one sixth of a full unit of aspect strength or impact, the geometric idiom partly used to describe the aspect being alien to classical Indian astrology. The derivation of Samarasiṃha's "less by a third" is not as transparent. It seems likely that he, or whoever first translated these instructions, may have been working from a paraphrase or an abbreviated version rather than from Sahl's original text.[17]

Sahl

And as for the aspect of the square (*and it is one fourth of the circle*), it is if a planet looks at a planet from the fourth sign in front of it (and it is called the aspect of the first square), and it looks at it from the tenth sign, from behind it (and it is called the aspect of the second square).

Samarasiṃha

The aspect on the tenth and fourth here *is a quarter-aspect* [...][18]

15 Translation based on Dykes 2018, slightly modified.

16 Quoted in *Hāyanaratna* 2.1: *tārtīyaikādaśayor dṛṣṭau yo vīkṣate tṛtīyadṛśā | taddṛṣṭis tryaṃśonānyasya tu ṣaḍbhāgadṛṣṭiś ca |*

17 A corresponding passage from Samarasiṃha's *Karmaprakāśa* (2.11–12) differs from the no longer extant *Tājikaśāstra* by stating, according to all text witnesses examined, that the sextile is "an aspect of one-third and one-sixth [strength]" (*tryaṃśaṣaḍaṃśadṛṣṭiḥ*). If this reading is correct, Samarasiṃha may have revised his understanding of the Arabic source text in the interim between authoring these works, though still without understanding the intention of the original. (The relationship between and relative dating of the *Tājikaśāstra* and the *Karmaprakāśa* is treated in Gansten 2018.) Nīlakaṇṭha's *Saṃjñātantra* (2.9–10) contains a pastiche of the *Tājikaśāstra* passage, confirming the wording used here: *tryaṃśonā kathitā tṛtīyabhavane ṣaḍbhāgadṛṣṭir bhave ||*

18 Quoted in *Hāyanaratna* 2.1: *daśamacaturthā dṛṣṭiḥ pādadṛg iha* [...]

Here again, the fraction of the circle involved has been reinterpreted as a fraction of strength.

Sahl

And as for the aspect of the trine (*and it is one third of the circle*), it is if a planet looks at a planet from the fifth sign in front of it (and it is called the aspect of the first trine), and it looks at it from the ninth sign (and it is called the aspect of the second trine).

Samarasiṃha

The aspect on the ninth and fifth [signs] is strong, *less than a full aspect by a quarter*.[19]

This last instance is quite opaque, though it is possible that some paraphrase of "one third" was misunderstood as "three [quarter] parts," the quarter (*pāda*, literally "foot") being a ubiquitous fraction in Indian culture. Later Tājika authors – including Haribhaṭṭa and Vāmana, both quoted by Balabhadra – in fact abandon the seemingly arbitrary fractions of ⅔ and ⅙ in favour of a straightforward division into quarters: the two sextiles each get ¼ of full strength; the squares, ½; the trines, ¾; and the conjunction and opposition retain full strength. These are the same ratios found in classical Sanskrit sources, though applied to a different set of aspects.[20] While Balabhadra notes that they conflict with the ratios given by Samarasiṃha, who is "anointed to the rank of a sage," and that their basis is therefore "questionable" (*mṛgya*),[21] his own method of calculating exact aspect strength is based on these same streamlined ratios.[22]

3. DEXTER AND SINISTER

Although Sahl does not quantify the strength of various aspects numerically, we have seen that he considers the conjunction and opposition to be

19 Quoted in *Hāyanaratna* 2.1: *navapañcamayor dṛṣṭiḥ pādonā sarvadṛṣṭitaḥ sabalā* | While the sentence on the trines appears last in the passage quoted from Sahl (which proceeds from lesser to greater angular distances), it has been moved to the beginning of Samarasiṃha's epitome (thus grouping the benefic aspects together).

20 The standard system (see, e.g., *Bṛhajjātaka* 2.13) is: ¼ on the third and tenth signs; ½ on the fifth and ninth; ¾ on the fourth and eighth; full strength on the seventh. A more detailed method of calculation is found in *Jātakakarmapaddhati* 2. For further sources, see also Pingree 1978: II 223.

21 *Hāyanaratna* 2.1: *tatra ṛṣisthānābhiṣiktasamarasiṃhavirodhād vāmanādivākye mūlaṃ mṛgyam*.

22 *Hāyanaratna* 2.3. The exact strength is considered to vary with the deviation from the ideal aspect angle; cf. the section on margins and orbs of light below.

stronger than the rest. He further states that aspects cast from the eleventh, tenth and ninth signs (for the sextile, square and trine, respectively) are stronger than those cast from the third, fourth and fifth signs. In other words, an aspect is stronger when cast forward in the order of zodiacal signs. This is the classical distinction between what is known as dexter and sinister aspects. To an observer in the northern hemisphere gazing up at the aspecting planet – for instance, when it is culminating in the south – planets in preceding signs will appear to the right; planets in following signs, to the left. A planet casting an aspect forward along the zodiac to a following sign (e.g., a sextile from Aries to Gemini) will therefore hold the dexter or right-hand end of the aspect, while the planet casting its aspect backwards to the preceding sign will hold the sinister or left-hand end. As demonstrated by Hellenistic interpretation texts, the planet at the dexter end is considered more powerful.[23]

This distinction between dexter and sinister was likewise misunderstood by Tājika authors. Balabhadra quotes "Hillāja" and Vāmana to the effect that the 180° from the ascendant to the descendant, measured forward along the zodiac (that is, below the horizon), comprise the dexter half of the horoscope, while the remaining 180° make up the sinister half.[24] While the origin of this misunderstanding is not known, it may quite conceivably have arisen from a hypothetical example featuring a planet located in the rising degree, and Balabhadra in his exposition of the doctrine in fact makes use of just such an example. He then quotes another example from Samarasiṃha, involving a planet placed in the midheaven and aspecting the fourth place by opposition. This, says Balabhadra, is a strong aspect because it is dexter, while an opposition cast from the fourth place to the midheaven would be sinister and therefore weaker. The reasoning seems to be that the former aspect terminates in the "dexter zone," the latter in the "sinister zone." By the original definition of the terms, an opposition can be neither dexter nor sinister: the distinction is applicable only to the aspect angles formed in two opposite directions by the same planet: 60°, 90° or 120°.

4. ASPECT MARGINS AND ORBS OF LIGHT

Although an aspect figure is considered complete only when the two points involved occupy the same degree, or even the same minute and second of arc, within their respective zodiacal signs, it is active both while in the process

23 See, for example, Firm. *Math.* VI 3–14. The translation by Holden (2011: 307–29) helpfully provides corresponding excerpts from an anonymous Greek work (CCAG 2: 160–80).

24 *Hāyanaratna* 2.2. For the fictitious authority "Hillāja," see Gansten 2012.

of forming (an applying aspect) and of dissolving (a separating aspect). The standard margin given for this by Sahl is twelve degrees, a figure repeated by Samarasiṃha:

Sahl

As for the union (and it is the conjunction), indeed that comes to be if two planets were in one sign, the heavy one in front of the light one, and between the two of them in degrees are 12° and what is less than that: for that is the limit of the conjunction.[25]

Samarasiṃha

For if all these aspects occur within twelve degrees, then they should be known to be particular[ly effective]. All results [come to be] in accordance with the aspects.[26]

In explaining the concept of application (Arabic *ittiṣāl*), however, Sahl – for reasons not entirely clear – abandons this generic twelve-degree margin in favour of the concept of individual "bodies" of light for each of the seven planets, known in European tradition as "orbs of light:" 15° to either side for the sun, 12° for the moon, 9° for Saturn and Jupiter, 8° for Mars, 7° for Venus and Mercury. Tājika authors faithfully reproduce both systems, typically without addressing the discrepancy. Balabhadra, mirroring the arrangement of Sahl's text eight centuries earlier, gives the twelve-degree rule when discussing the aspects generally and introduces the individual orbs of light (Sanskritized as *dīptāṃśa* "illumined degrees") in connection with "the configurations beginning with *itthaśāla*" – that is, application – at the opening of the following chapter. While Balabhadra prefers to quote Tejaḥsiṃha and Haribhaṭṭa on this topic, the transmission of the orb doctrine does go back to Samarasiṃha, as seen from the latter's *Karmaprakāśa* (where the curious phrase "within thirty degrees" probably reflects Sahl's initial clause):

25 Translation based on Dykes 2018, modified. In Sahl's text, this sentence is immediately followed by an exposition of the other aspects, beginning with the sextile; the twelve-degree limit was presumably meant to apply to all aspects.

26 Quoted in *Hāyanaratna* 2.1: *sarvāś caitā hi dṛśo dvādaśabhāgāntare bhaveyuś cet | tat saviśeṣā jñeyā dṛṣṭyanusārāt phalaṃ sarvam ||*

Sahl

Know that the body of the Sun is 30°, so one half of them are in front of him and one half of them behind him: so if there was from a degree to 15° between the Sun and one of the planets, then he has already shone his light, and he is connected with [the planet]. And the light of the Moon is 12°, in front of her and behind her. And the light of Saturn and Jupiter (each one) is 9° in front of him and likewise behind him. And Mars is 8° in front of him and likewise behind him. And Venus and Mercury (each one of them) is 7° in front of it and likewise behind it. So by the extent of these lights, they are connected one to the other.[27]

Samarasiṃha

Fifteen, twelve, eight, seven, nine, seven and nine are the respective illumined degrees of the sun and other [planets] within thirty degrees, in front and behind. The configurations form in accordance with these.[28]

5. DIVISIONS OF THE ZODIAC: DOMICILES, EXALTATIONS AND TERMS

As will be seen below, aspects may in themselves constitute a form of dignity or debility for the aspected planet – that is, conditions under which it is considered particularly well or ill placed in the horoscope, indicating favourable or unfavourable outcomes, respectively.[29] The most fundamental type of planetary dignity, however, is the occupation of particular zones of the zodiac. Early

27 Translation based on Dykes 2018, slightly modified.

28 *Karmaprakāśa* 2.14: *tithyarkavasvadrinavarṣinandāḥ sūryādikānāṃ nijadīptibhāgāḥ | triṃśāṃśamadhye purataś ca pṛṣṭhe yatanti yogās tadupāśrayeṇa* || The implied order of the planets is the standard Indian one, corresponding to the days of the week: the sun, the moon, Mars, Mercury, Jupiter, Venus, Saturn. Some text witnesses, including the printed edition consulted, give the inferior reading *patanti* "fall" for the similar-looking *yatanti* "form."

29 In Tājika as in astrological tradition generally, the relation of the notion of strength or dignity to that of beneficence is not always clear. A naturally benefic planet such as Jupiter or Venus is universally regarded as even more benefic when strong, but opinions differ with regard to the naturally malefic planets Mars and Saturn. The majority

Tājika authors preserved the notion of a fivefold zodiacal dignity (*pañcavargī*) found in the Perso-Arabic tradition, where the five categories are domicile, exaltation, terms, triplicity and decan (the last-mentioned also known as "face"). Three of these constitute different classifications of the zodiacal signs themselves, while two – terms and decans – are based on subdivisions of the signs.

Planet	*Domicile*	*Exaltation*	*Fall*
Sun	Leo	Aries	Libra
Moon	Cancer	Taurus	Scorpio
Mercury	Virgo, Gemini	Virgo	Pisces
Venus	Libra, Taurus	Pisces	Virgo
Mars	Scorpio, Aries	Capricorn	Cancer
Jupiter	Sagittarius, Pisces	Cancer	Capricorn
Saturn	Capricorn, Aquarius	Libra	Aries

Table 2: The domiciles, exaltations and falls.

The domiciles and exaltations of Tājika astrology are identical to those found in pre-Islamic Indian sources, and the same Sanskrit nomenclature is employed, *gṛha* (with several synonyms, such as *kṣetra* or *sadman*) designating domiciles, and *ucca*, exaltations.[30] While the principles behind the domicile system are at least partly discernible – the adjacent signs Cancer and Leo being assigned to the

position appears to be as stated here – that a strong or dignified planet is always more disposed to do good – but some authors do suggest that it is better for the malefic planets to be weak. Instances of this view can be found in *Hāyanaratna* 6, dealing with the results of the planets in the twelve places (houes) from the ascendant.

30 The domiciles and exaltations are further identical with those found in Hellenistic and Arabic sources, except that the particular degrees identified as the "highest exaltations" of the planets differ in some cases, undoubtedly due to textual corruptions; cf. Pingree 1978: II 220 f. On this topic, Balabhadra (*Hāyanaratna* 2.5) quotes Yādava's *Tājikayogasudhānidhi* 4.16, which reproduces the classical Indian rather than the Graeco-Arabic degrees. It may be parenthetically remarked here that Pingree's estimation of the exaltation degrees listed in Mīnarāja's *Vṛddhayavanajātaka* 1.43–46 as "completely confused" is somewhat exaggerated. The author seems to have been working from a Greek list where some form of Κριός "Aries" – perhaps curtailed as κς – was misread as κζ "27," causing all subsequent numerals to be displaced. (Cf. Gundel 1933: 98 for similar instances of curtailment: λν for Λέον "Leo," πς for Παρθένος "Virgo," etc.) Once this mistake has been corrected, the figures are identical to those found in most Indian texts.

moon and the sun, respectively, and the remaining signs to either side allotted to the five planets proper in order of apparent velocity – both the theoretical basis and the historical origin of the exaltations are debated issues.[31] The sign opposite a planet's exaltation, known as its fall or depression (*nīca*), is another category common to both traditions, as well as to Greek and Arabic sources; but a planet's occupation of the sign opposite its *domicile* (sometimes called its exile) is not regarded as a debility in classical Indian astrology, and although the notion did exist in the Hellenistic tradition, it appears to have been little emphasized by the earliest authors.[32] Tājika sources, however, include it in the definition of *duruḥpha* (with many variants, from Arabic *ḍuʿf* "weakness"), the last of the "sixteen configurations," on the unacknowledged authority of Sahl.[33]

The terms have only a slightly more complex history.[34] A subdivision of each sign into five unequal segments, assigned to the rulership of the non-luminary planets and known as *triṃśāṃśa* ("thirtieth-parts"), exists in pre-Islamic Indian astrology. This is obviously a form of terms (Greek ὁρία, but often called simply μοῖραι "degrees," that is, thirtieths of a sign), though not an exact match for any of the several systems of terms found in extant Greek sources.[35] Unlike the Hellenistic terms, the classical Indian *triṃśāṃśas* also have rather few practical uses. The system employed in Tājika sources is, with two minor variations, identical with the so-called Egyptian terms, which may justifiably be called the standard system of the Hellenistic tradition, and even more so of the Arabic. The variations, which may easily be the result of textual corruptions, consist of a simple reversal of the order of the terms of Venus and Jupiter in Gemini, and of those of Mars and Saturn in Sagittarius: see Table 3.

The terms are nearly always designated in Tājika sources by the loanword *hadda* or *haddā* (from Arabic *ḥadd*, plural *ḥudūd*), but their analogy with the

31 While a Mesopotamian origin has been assumed by many scholars over the past century, identifying the exaltations or ὑψώματα with the "secret houses" (*bīt niṣirti*) of the planets, Egyptian and Hellenistic origins have likewise been suggested. For an accessible introduction to the subject, see Brennan 2017: 242–8; cf. also Heilen 2015: 713–7.

32 See Brennan 2017: 249–52.

33 *Hāyanaratna* 3.16. See also Gansten and Wikander 2011.

34 "Terms" (from Latin *termini*) is the traditional designation of this dignity, used in English at least since the seventeenth century. Although some modern scholars and practitioners have attempted to popularize other translations – including "limits," "bounds" and "confines" – I see a value in preserving the technical language of earlier works, which will otherwise grow increasingly unintelligible to modern readers.

35 See Pingree 1978: II 211–16; Jones and Steele 2011; Heilen 2015: 718–31; Brennan 2017: 275–9. The μοῖραι in this sense should not be confused with the μονομοιρία or attribution of planetary rulers to single degrees, a less common zodiacal dignity found in some preserved horoscopes and astrological works; see Paul. Al. 32 and, for a practical example, Greenbaum and Jones 2017.

Sign	*Terms up to*	*Terms up to*	*Terms up to*	*Terms up to*	*Terms up to*
Aries	Jupiter 6°	Venus 12°	Mercury 20°	Mars 25°	Saturn 30°
Taurus	Venus 8°	Mercury 14°	Jupiter 22°	Saturn 27°	Mars 30°
Gemini	Mercury 6°	**Venus** 12°	**Jupiter** 17°	Mars 24°	Saturn 30°
Cancer	Mars 7°	Venus 13°	Mercury 19°	Jupiter 26°	Saturn 30°
Leo	Jupiter 6°	Venus 11°	Saturn 18°	Mercury 24°	Mars 30°
Virgo	Mercury 7°	Venus 17°	Jupiter 21°	Mars 28°	Saturn 30°
Libra	Saturn 6°	Mercury 14°	Jupiter 21°	Venus 28°	Mars 30°
Scorpio	Mars 7°	Venus 11°	Mercury 19°	Jupiter 24°	Saturn 30°
Sagittarius	Jupiter 12°	Venus 17°	Mercury 21°	**Mars** 26°	**Saturn** 30°
Capricorn	Mercury 7°	Jupiter 14°	Venus 22°	Saturn 26°	Mars 30°
Aquarius	Mercury 7°	Venus 13°	Jupiter 20°	Mars 25°	Saturn 30°
Pisces	Venus 12°	Jupiter 16°	Mercury 19°	Mars 28°	Saturn 30°

Table 3: The terms.

classical Indian *triṃśāṃśas* was clear to the early Tājika authors: Balabhadra quotes both Samarasiṃha and Haribhaṭṭa (late fourtheenth century?) as using the name *triṃśāṃśa* as a synonym of *haddā* at least once each.[36]

6. TRIPARTITE TANGLES

Confusion sets in with the last two dignities. Triplicities are sets of three zodiacal signs, forming four equilateral triangles within the circle of the zodiac, while decans are divisions of a single sign into three equal parts of 10°.[37] The triplicity classification system does survive to some extent in classical Indian astrology, but the rulerships connected with it do not, so that triplicities are not included in the scheme of planetary dignities.[38] The decans – known as *dṛkāṇa*

36 *Hāyanaratna* 2.5 (quoting *Tājikasāra* 74), 4.6 (cf. note 59 below).

37 For an overview of these two categories, see Brennan 2017: 256–72 and 279–83, respectively. For the importance of the Egyptian decans in the development of horoscopic astrology, see also Greenbaum and Ross 2010; Heilen 2015: 1333–48.

38 The triplicities are particularly associated with the cardinal directions, a tradition with Mesopotamian roots; see Pingree 1978: II 223–7. A peculiarly Indian zodiacal dignity, the *mūlatrikoṇa* (lit. "root triangle"), appears from its name to be associated with the triplicities, but is conceptually more analogous to – though not identical with – the signs where, in the Hellenistic tradition, the planets "rejoice" (Pingree 1978: II 221 f.).

or *dreṣkāṇa*, with variants, from Greek δεκανός – do constitute such a dignity; but the Indian assignment of planetary rulers to the decans follows the order of the triplicities (so that, for instance, the three decans of Aries are assigned in turn to the domicile rulers of Aries, Leo and Sagittarius), suggesting that the two "groupings of three" were conflated at some point.[39] The Graeco-Arabic rulership scheme for the decans, by contrast, commences with Mars in the first decan of Aries and proceeds in the so-called Chaldean or Ptolemaic order of the planets, that is, order of apparent velocity (Saturn as the slowest-moving body being followed in turn by Jupiter, Mars, the sun, Venus, Mercury and the moon): see Table 4.

Sign	*First (up to 10°)*	*Second (up to 20°)*	*Third (up to 30°)*
Aries	Mars	Sun	Venus
Taurus	Mercury	Moon	Saturn
Gemini	Jupiter	Mars	Sun
Cancer	Venus	Mercury	Moon
Leo	Saturn	Jupiter	Mars
Virgo	Sun	Venus	Mercury
Libra	Moon	Saturn	Jupiter
Scorpio	Mars	Sun	Venus
Sagittarius	Mercury	Moon	Saturn
Capricorn	Jupiter	Mars	Sun
Aquarius	Venus	Mercury	Moon
Pisces	Saturn	Jupiter	Mars

Table 4: The decans.

In Tājika astrology, this confusion was compounded by the introduction of two new terms which were variously interpreted: the Sanskrit neologism *trairāśika* or *trirāśi* and the loanword *musallaha* or *muśallaha* (from Arabic *muthallatha* "trigon, triplicity").[40] Both were apparently coined by Samarasiṃha, who is quoted by Balabhadra on the five dignities as follows:

39 See Pingree 1978: II 209 f. The Graeco-Arabic and Indian rulership systems both begin with Mars followed by the sun, a fact that may have contributed to the confusion.

40 Although *trairāśika* was a recognized mathematical term in the sense of "rule of three," this unrelated astrological usage was an innovation.

> Domicile, exaltation, *haddā*, triplicity (*trairāśika*) and *musallaha* are the five dignities of the planets. Without dignity, a planet is not strong.[41]
>
> A planet is strong in its domicile, triplicity (*trirāśi*), *haddā*, exaltation or *musallaha*.[42]

While Samarasiṃha interpreted the notion of triplicities correctly as referring to a group of entire zodiacal signs, he also appears to be responsible for a mis- or reinterpretation of the rulership scheme associated with them that still survives today. To understand how it arose, it will be helpful first to grasp the original Graeco-Arabic system of triplicity rulerships, shown in Table 5.

Signs	*Day*	*Night*	*Participating*
Aries, Leo, Sagittarius	Sun	Jupiter	Saturn
Taurus, Virgo, Capricorn	Venus	Moon	Mars
Gemini, Libra, Aquarius	Saturn	Mercury	Jupiter
Cancer, Scorpio Pisces	Venus	Mars	Moon

Table 5: The Graeco-Arabic triplicities.

Each triplicity consists of three zodiacal signs located at 120° intervals in the zodiac, and each sign in the triplicity is jointly ruled by three planets. If the horoscope is diurnal (the sun being above the horizon), the day ruler is primary and the night ruler secondary; vice versa if the horoscope is nocturnal. The participating ruler is of tertiary importance at all times.[43]

Samarasiṃha offers two different interpretations of the system, perhaps based on a table similar to the above. The first of these is described in a stanza apparently found in his no longer extant *Tājikaśāstra* as well as in the preserved

41 Quoted in *Hāyanaratna* 2.5: *svagṛhaṃ svoccaṃ haddā trairāśikam atha musallahaṃ ceti | pañca grahādhikārā vinādhikāraṃ graho na balī ||*

42 Quoted in *Hāyanaratna* 2.6.1: *sabalī svagṛhatrirāśihaddoccamuśallaheṣu vā kheṭaḥ |*

43 This system, used extensively by Arabic authors, rests largely on Dorotheus' *Pentateuch* (no longer extant in Greek but preserved in a second-hand translation into Arabic via Middle Persian, edited as *Carmen astrologicum* with an English translation by Pingree (1976a); an improved translation was recently published by Dykes (2017)). Cf. the slightly different system of Ptol. *Tetr.* I 18, which excludes the participating rulers. Both versions appear to be elaborations of Mesopotamian associations between triplicities and planets, presumably based on considerations rather different from those found in later astrological tradition.

Karmaprakāśa (or *Manuṣyajātaka*).[44] While terse, it is most naturally understood as reflecting the standard Graeco-Arabic model just described:

> The rulers of the four triplicities beginning with Aries are the sun, Venus, Saturn and Venus by day; Jupiter, the moon, Mercury and Mars by night; Saturn, Mars, Jupiter and the moon at all times.[45]

The phrase "the four triplicities" (*catustrairāśika*) is plausibly understood by Nārāyaṇa[bhaṭṭa] Sāmudrika in his *Daivajñasaṃtoṣaṇī* commentary – a late text[46] – as identical to the *catustrirāśika* mentioned in the stanza immediately preceding, which indisputably refers to the Graeco-Arabic triplicities.[47] It thus seems that Samarasiṃha was aware of and understood the traditional system. I shall refer to this system below as method A. Balabhadra, however, interprets the expression *catustrairāśika* as referring to *three* groups of *four* consecutive signs:

44 The stanza in question is quoted by Balabhadra in *Hāyanaratna* 5.7, immediately followed by another in the same metre (*āryā*). In the *Karmaprakāśa*, it is followed instead by two stanzas in a different metre (*upajāti*); cf. note 50.

45 *Karmaprakāśa* 1.21: *meṣādicatustrairāśikeśvarā ravisitārkibhṛgavo 'hni | guruśaśibudhabhaumā niśi śanikujagurvindavaḥ satatam ||*

46 Pingree 1970–1994: A3 166b gives the author's *floruit* as c. 1725, a date repeated in Pingree 1981: 97. I am not aware of the existence of any earlier commentary on the *Karmaprakāśa*.

47 *Karmaprakāśa* 1.20ab reads: *ajamakaratulākulīrapūrvā navalavajāś ca catustrirāśikasya |* "[The domains] arising from the ninth-parts of the four triplicities begin with Aries, Capricorn, Libra and Cancer, [respectively]." As noted by Pingree (1978: II 211), this formulation of the distribution of ninth-parts, repeating in signs forming equilateral triangles within the zodiac, is a commonplace of Sanskrit astrological literature. This is explicitly confirmed by the *Daivajñasaṃtoṣaṇī* ad 1.20–21 (*daṇḍas* inserted for ease of reading): *pūrvaṃ yāni catvāri trairāśikāny uktāni tatra navāṃśakramo likhyate | tad yathāpi | meṣasiṃhadhanuḥṣu meṣādyā navanavāṃśā jñeyāḥ | vṛṣakanyāmakareṣu makaram ārabhya pratyekanavanavāṃśā jñeyāḥ | mithunatulākumbheṣu tulādyā navanavāṃśā jñeyāḥ | karkavṛścikamīneṣu karkādyā navanavāṃśā jñeyāḥ* [...] *pūrvoktatrirāśicatuṣkāṇāṃ divā rātrau sadeśāḥ | tad yathā | divā raviśukraśaniśukrāḥ | rātrau guruśaśibudhabhaumāḥ | sadeśāḥ śanimaṅgalagurvindavaḥ | tad yathā | meṣasiṃhadhanuṣāṃ divā raviḥ rātrīśo guruḥ sadeśaḥ śaniḥ | evaṃ sarveṣāṃ jñeyam |* "The order of the ninth-parts within the four triplicities described above is stated as follows: the nine ninth-parts in Aries, Leo and Sagittarius should be understood to begin with Aries; the nine ninth-parts in each of [the signs] Taurus, Virgo and Capricorn should be understood to commence with Capricorn; the nine ninth-parts in Gemini, Libra and Aquarius should be understood to begin with Libra; the nine ninth-parts in Cancer, Scorpio and Pisces should be understood to begin with Cancer [...] The rulers by day, at night, and constantly, of the four triplicities described above are as follows: by day, the sun, Venus, Saturn, and Venus; at night, Jupiter, the moon, Mercury, and Mars; constant rulers, Saturn, Mars, Jupiter, and the moon, as follows: for Aries, Leo, and Sagittarius, the sun [rules] by day; Jupiter is the night ruler; Saturn is the constant ruler. It should be understood thus for all [the triplicities]."

> If [it should be asked] what, then, is meant by the word "triplicity" (*trairāśika*), [in reply] it is said: among the twelve signs (*rāśi*) beginning with Aries, the first group (*rāśi*) is the four beginning with Aries; the second group is the four beginning with Leo; [and] the third group is the four beginning with Sagittarius. The three groups thus produced are denoted by the word "triplicity".[48]

Balabhadra's interpretation hinges on the double meaning of *rāśi* as "group" and "zodiacal sign" (an ambiguity which he exploits in other contexts as well, citing the *Amarakośa*),[49] by which *trirāśi* and its derivative *trairāśika* may be taken as referring not to "three signs" but to "three groups [of four signs]." Although it is not clear how he envisages this variant being applied in practice, Balabhadra's understanding of the underlying concept clearly differs from Graeco-Arabic tradition and may be designated as method A².

The second system of triplicity rulerships given by Samarasiṃha is clearly based on a table similar to the one given above, but read differently: in each group of three signs, the day ruler is assigned to the first sign, the night ruler to the second sign (these two to be reversed in a nocturnal horoscope), and the participating ruler to the third sign (irrespective of the horoscope being diurnal or nocturnal). Each sign is thus assigned only a single ruler at any one time. I shall refer to this as method B:

> In Aries, the sun [is the ruler] by day, Jupiter by night; for Leo, the two are reversed; for Sagittarius, Saturn [is ruler] at all times. For Taurus, Venus by day, the moon at night; the reverse for Virgo; Mars rules Capricorn at all times. For Gemini, Saturn rules by day, Mercury at night; the reverse for Libra; Jupiter rules Aquarius at all times. For Cancer, Venus by day, Mars at night; the reverse for Scorpio; the moon rules Pisces at all times.[50]

Of the five manuscripts of the *Karmaprakāśa* that I have seen, three include the single word *yavanamate* "in the Yavana opinion" between the stanzas presenting methods A and B, leaving some ambiguity as to which is being referred to; one

48 *Hāyanaratna* 5.7: *tatra trairāśikaśabdena kim ucyata iti ced atrocyate | meṣādidvādaśarāśīnāṃ madhye meṣādicatuṣṭayaṃ prathamo rāśiḥ | siṃhādicatuṣṭayaṃ dvitīyo rāśiḥ | dhanurādicatuṣṭayaṃ tṛtīyo rāśiḥ | evaṃ niṣpannās trayo rāśayas trairāśikaśabdavācyāḥ |*

49 See *Amarakośa* 3.214c: *dvau rāśī puñjameṣādyau*.

50 *Karmaprakāśa* 1.22–23: *aje divārko niśi vākpatis tau harer vilomau dhanuṣaḥ sadārkiḥ | vṛṣasya śukro 'hni vidhur niśāyāṃ striyo 'nyathāraḥ satataṃ mṛgeśaḥ || yugmasya mando 'hni niśīśvaro jño 'nyathā tulāyāṃ ghaṭapaḥ sadejyaḥ | karkasya śukro 'hni kujo niśāyām aler vilomau jhaṣapaḥ sadenduḥ ||*

manuscript omits the word entirely; but the fifth has *iti yavanamate trairāśikāḥ*, clearly referring to the former stanza (1.21).[51] This last version agrees with the *Daivajñasaṃtoṣaṇī*, which ends its commentary on 1.21 with the words *yavanamatam etat*. It also happens to be historically accurate: method A is indeed the one employed by the "Yavanas," whether we take that term to refer to Greek- or Arabic-language authors. The latter system (method B), the commentary says, is identical with the rulership scheme set out by "Romaka".[52]

Balabhadra once more reverses matters: after quoting statements from Tejaḥsiṃha and "Maṇittha"[53] that agree with method B and claiming that *this* model is the one ascribed to the Yavanas, he presents method A² as the one preferred by Samarasiṃha himself. Although the work by Samarasiṃha referred to by Balabhadra is no longer available, the testimony of the *Karmaprakāśa* casts doubt on his account.

Why Samarasiṃha should have chosen to present two conflicting systems of triplicity rulers, one of which was presumably his own creation, is an open question. Perhaps he simply found the notion of multiple planets sharing a single dignity alien and unsatisfactory. Irrespective of how their rulerships are conceived, however, Samarasiṃha clearly distinguished triplicities from decans. The latter are briefly delineated in the *Karmaprakāśa*, with no suggestion of the two dignities being in any way conflated.[54] Nevertheless, Balabhadra insists – on the

51 The manuscripts are listed below in "Works with Manuscripts Sources" (from p. 194). The printed edition consulted confuses matters further by inserting the word *dṛkāṇapau* "the two decan rulers" immediately before *yavanamate*, almost certainly by mistake.

52 *Daivajñasaṃtoṣaṇī* ad *Karmaprakāśa* 1.22–23: [...] *ye samarasiṃhoktās trirāśipāḥ eta eva romakoktā ravir ity atra jñeyāḥ* || For the authority "Romaka," see Gansten 2012. I have not yet been able to identify this particular reference.

53 To "Maṇittha" is ascribed the popular *Varṣaphala* or *Varṣacaryā* (see note 75 below), but I have not been able to locate Balabhadra's quotation in that text. Tejaḥsiṃha (fl. 1337; see Gansten 2017) is one of the earliest preserved Tājika authors. Although belonging to the same geographical area, hereditary community and social stratum as Samarasiṃha – on whose *Tājikaśāstra* he apparently wrote a commentary, now lost – Tejaḥsiṃha, separated from him by approximately two generations, states explicitly towards the end of his *Daivajñālaṃkṛti* that he studied Tājika astrology from books, without the assistance of a teacher. It thus seems possible that some misunderstandings of the earlier tradition originated with him.

54 *Karmaprakāśa* 1.20cd reads: *patir avanisutāc ca ṣaṣṭhaṣaṣṭho 'py ajamukhaṣaṭkṛtikādṛkāṇakānām* || "And the rulers of the thirty-six [*lit.* 'six squared'] decans beginning from Aries are every sixth [planet counted] from Mars." The implicit order of planets here is once more that of the days of the week, which in turn is derived from the so-called Chaldean order (see above) applied to the 24 hours in a day and night (the ruler of the first hour of each day being assigned rulership over the day). Selecting every sixth planet in the Indian order, counting inclusively, will restore the Chaldean order. The same system of decan rulerships is followed by later Tājika authors.

authority of several Tājika authors, including his *guru's* elder brother, the celebrated Nīlakaṇṭha Daivajña – that in the general context of the five dignities, *trirāśi* or *trairāśika* does indeed denote the decans. The wholly different *trairāśikas* expounded by Samarasiṃha according to methods A and B he explains as special varieties to be used only in a particular technical context – namely, that of selecting a planet as ruler of a given year of life.[55] The reason behind this contrived argument appears to be a wish on the part of Balabhadra and his favoured authorities to retain the familiar decan as one of the five essential zodiacal dignities while leaving room for the last item on the list: the *musallaha*.

7. *MUSALLAHA* MUDDLES

The merging of triplicities with decans, while foreign to Samarasiṃha, began early in Tājika tradition, as is clear from the definitions of the five dignities given by Tejaḥsiṃha and Haribhaṭṭa in the former and latter half of the fourteenth century, respectively:

> [A planet's] own domicile, exaltation, *haddā*, decan (*dṛkāṇa*) and ninth-part are said to be its five dignities of strength.[56]
>
> Its own domicile, own exaltation, then *haddā*, then third-part (*tribhāga*) and ninth-part, are claimed by the planets as [their] group of five separate [dignities].[57]

These definitions further differ from those quoted above by substituting the ninth-part (*navāṃśa*) for the Arabic loanword *musallaha*. In this latter respect, however, they do seem true to the intentions of Samarasiṃha, who in fact alternates between the designations *musallaha* and *navāṃśa*[*ka*]. We may compare his statements above with the following:

> Domiciles, exaltations, *haddā* parts, ninth-parts (*navāṃśaka*) and triplicities are the group of five [dignities] of the planets.[58]
>
> Of [planets] occupying their domiciles, exaltations, thirtieth-parts, triplicities or ninth-parts (*navāṃśaka*), [the one] in each foregoing place is stronger, and the one in the following place, less so.[59]

55 *Hāyanaratna* 2.5, citing Nīlakaṇṭha's *Saṃjñātantra* 1.61 in support.

56 *Daivajñālaṃkṛti* 4.1ab: *sadmoccaṃ haddā dṛkāṇo navāṃśaḥ svāḥ proktā ye pañcavīryādhikārāḥ |*

57 *Tājikasāra* 63ab: *svakṣetraṃ nijam uccakaṃ ca parato haddā tribhāgas tato nandāṃśas tv iti khecarair nigaditā vargāḥ pṛthak pañcadhā |*

58 *Karmaprakāśa* 1.11ab: *gṛhoccahaddāṃśanavāṃśakāś ca trairāśikāni grahapañcavargī |*

59 Quoted in *Hāyanaratna* 4.6 (note also the implicit equation of the *haddā* or terms with the *triṃśāṃśa*): *svagṛhoccatriṃśāṃśatrairāśinavāṃśakagatānām | prākprākṣthāne balavān yathottarasthānago hīnaḥ ||*

The equation of the foreign *musallaha* with the familiar *navāṃśa*, arguably both the most prominent and the most characteristic of the many zodiacal subdivisions found in pre-Islamic Indian astrology, thus began with Samarasiṃha himself.[60] Exactly how it arose is, on the available evidence, difficult to say. *Muthallatha* being the standard Arabic word for "triplicity," it would seem that the same concept has been included twice in the list of dignities – first as a Sanskrit calque (*trairāśika*), then as a loanword (*musallaha*) – although it is, of course, possible that one of Samarasiṃha's Arabic sources spawned the confusion by employing some additional synonym of *muthallatha*. It is also quite possible that one or more of these sources did use the ninth-parts (though without including them among the five dignities), as these had already been introduced into Arabic-language astrology through Persian intermediaries.[61]

Most Tājika authors follow Samarasiṃha in assigning planetary rulers to the *musallahas* according to the classical Indian *navāṃśa* system. This is a form of "micro-zodiac," the first ninth-part of the first sign Aries corresponding to Aries itself (and thus being ruled by Mars), the next to Taurus (ruled by Venus), and so forth. Over four zodiacal signs, this "micro-zodiac" thus repeats thrice ($4\times9 = 3\times12$), the sign Cancer ending with the ninth-part of the last sign, Pisces. The process then begins again from 0° Leo, and similarly from 0° Sagittarius.[62]

Some later Tājika works, however, give a different account of the *musallaha* rulers. Balabhadra particularly identifies the *Tājikālaṃkāra* by Sūryasūri (or Sūryadāsa) and the *Tājikabhūṣaṇa* by Gaṇeśa of Pārthapura (the former's first cousin once removed), both composed in the sixteenth century, and quotes the latter:

> The sun, Jupiter and Saturn; Venus, the moon and Mars; Saturn, Mercury and Jupiter; Venus, Mars and the moon: [these are] the rulers of

60 The *navāṃśa*, which may be indigenous to India (as opined by Pingree 1978: II 211), is identical with the division of the 27 normalized asterisms (*nakṣatra*) into four quarters each ($9\times12 = 4\times27$). It divides the zodiac into 108 parts, a number of great importance in Indian religious speculation. Some scholars, however, have attempted to link the *navāṃśa* with the three λειτουργοί or *liturgi* in each decan mentioned in Firm. *Math.* II 4; see Tester 1987: 116 f., 164 f. Holden (1996: 70 f. 2011: 48 n.) states the connection as a fact. An earlier source for the λειτουργοί is discussed in Heilen 2010; cf. also Heilen 2015: 1344 ff.

61 The route of transmission is indicated by the Arabicized form *nawbahra*, from Persian **nō bahr*; see Panaino 1993: 427. While Sahl does not mention ninth-parts, al-Kindī and Abū Maᶜshar do, and either the Persian or the subsequent Arabic translator of Dorotheus' *Pentateuch* interpolated them into that work (see Pingree 1976a: 110, 266 = V 5,26; Dykes 2017: 237 = V 6,29). Through Arabic sources, the concept of ninth-parts even reached Europe, although it remained an exotic and little-used astrological technique; see, e.g., *Liber astronomiae* IX 12 (Liber astronomiae: 395 f. English translation in Dykes 2007: 1406 f.).

62 Cf. note 47. For pre-Islamic Indian sources, see Pingree 1978: II 210 f.

> the *musallahas* from Aries, from Leo, [and] from Sagittarius, by day, by night, and at both [times].[63]

These, as Balabhadra objects, are 'the triplicity rulers described by Samarasiṃha for determining the ruler of the year' – to be precise, according to method A above – although it is not entirely clear whether Gaṇeśa meant to assign them to the ordinary signs of the zodiac or to the *navāṃśa* "micro-zodiac." The former would imply a rejection of the identification of *musallahas* with *navāṃśas*, but Gaṇeśa's definition of the five dignities gives no clue either way.[64] His contemporary Tuka Jyotirvid, on the other hand, is explicit:[65]

> Those [planets] that have here been declared rulers of the triplicities (*trairāśika*) are the *musallaha* rulers from the [zodiacal] sign of the ninth-part. Those who say that the [ordinary] rulers of the ninth-parts are rulers of the *musallahas* are not versed in the doctrine of Khindaka.[66]

Tuka thus identifies the *musallahas* with the ninth-parts but assigns rulerships to them according to the triplicity system (rather than according to domicile rulerships, as in classical Indian astrology), presumably in an attempt to harmonize Samarasiṃha's doctrine with a knowledge of the original meaning of the Arabic *muthallatha*. Balabhadra, in what must be called a rather underhand attempt to justify his own position, quotes only the latter half of this stanza, and with one important, if syntactically awkward, alteration:

> [Those] who say that the rulers of the ninth-parts are rulers of the *musallahas* are versed in the doctrine of Khindaka according to [his] school.[67]

63 *Tājikabhūṣaṇa* 1.31, quoted in *Hāyanaratna* 2.5: *ravīǰyamandāḥ sitacandrabhaumāḥ śanijñajīvāḥ kavibhaumacandrāḥ | muśallaheśā ajato mṛgendrād dhanurdharād ahni niśi dvayor vā ||*

64 *Tājikabhūṣaṇa* 1.21ab: *pañcādhikārāḥ sadanoccahaddās trirāśikaṃ cāpi muśallahaś ca |*

65 Assuming the *Tājikamuktāvaliṭippaṇī* to be an autocommentary, as suggested by the fact of Balabhadra quoting from the *mūla* text and its *ṭippaṇī* under a single title; see Gansten 2017.

66 *Tājikamuktāvaliṭippaṇī* 1.15: *trairāśikeśā iha ye niruktā musallaheśā navamāṃśabhāt te | musallaheśān navamāṃśapān ye jagur na te khindakaśāstravijñāḥ ||* Khindaka or Khindi[ka] is probably identical with the Arabic philosopher and astrologer Yaʿqūb al-Kindī; see Gansten 2012. (The two independent text witnesses of the *Tājikamuktāvaliṭippaṇī* examined actually read *daivaka-* for the *khindaka-* quoted by Balabhadra – presumably a scribal "correction.")

67 Quoted in *Hāyanaratna* 2.5 (emphasis added): *musallaheśān navamāṃśapān ye jagur* mate *khindakaśāstravijñāḥ ||* While some text witnesses even of the *Hāyanaratna* do read *na te*, the earlier manuscripts support *mate*, and preserving the negation would contradict Balabhadra's reasoning in the surrounding passage. See my forthcoming edition for details.

In a final twist, one manuscript of Balabhadra's *Hāyanaratna*, dated *saṃvat* 1890 (1833–1834 CE), consistently equates a *musallaha* not with 3°20′ (the ninth-part or *navāṃśa*), but with 2°30′ (the twelfth-part or *dvādaśāṃśa*).[68] While such an identification is not currently known from any other Tājika work, the doctrine of twelfth-parts (δωδεκατημόρια) – the original "micro-zodiac" – is an ancient one, going back to Babylonian times and present in both Greek and Arabic sources. The identification could represent an attempt to incorporate this division in the five-dignity scheme.

8. THE TWELVE DIVISIONS OF A SIGN

Most Tājika authors thus understand the "five dignities" (*pañcavargī*) to comprise domiciles, exaltations, terms (*haddā*, occasionally called *triṃśāṃśa*), decans (*dṛkāṇa*, though these are sometimes referred to as "triplicities," *trairāśika*) and ninth-parts (designated either as *navāṃśa* or as *musallaha*), the last three of which constitute divisions of a zodiacal sign into smaller segments. Such subdivisions were already familiar to Indian astrologers: to the terms, decans and twelfth-parts originally taken over from Hellenistic tradition, the classical Indian system had at an early stage added both the ninth-part discussed above and the *horā*, half a zodiacal sign (from Greek ὥρα "hour," the average rising time of half a sign) – making, together with the whole-sign unit, the "group of six [dignities]" (*ṣaḍvarga*).[69] Including the sexagesimally awkward division of a sign into seven equal parts, the *saptāṃśa*, made this a "group of seven" (*saptavarga*).[70] Later sources added equal divisions by ten, sixteen and sixty to form the *daśavarga* or "group of ten," and eventually by four, twenty, twenty-four, twenty-seven, forty and forty-five to make a total of sixteen divisions, the *ṣoḍaśavarga*.[71]

It was probably this Indian tradition of numerous subdivisions that prompted later Tājika astrologers to develop a parallel system of twelve dignities (*dvādaśavargī*), independent of the *pañcavargī*. The *dvādaśavargī* seems to have been associated with the Tājika author Vāmana, and may have originated with

68 The identification is not a copying error confusing the figures 2 and 3, but occurs in the context of mathematical calculations of planetary strengths (*Hāyanaratna* 2.6.1), with repeated operations demonstrating that half a *musallaha* is equated with 1°15′ of longitude (rather than the 1°40′ of most text witnesses).

69 See, e.g., *Bṛhajjātaka* 1.9.

70 See, e.g., *Sārāvalī* 3.9–16. A unique version of *saptāṃśas* is found in Sphujidhvaja's *Yavanajātaka* (1.40); see Pingree 1978: II 210.

71 For the *daśavarga*, see, e.g., *Jātakapārijāta* 1.30 (with further details in vv. 31–46) and *Phaladīpikā* 3.1–10. The notes in Sastri 1932: 18 ff. give several additional sources. For the *ṣoḍaśavarga*, see *Bṛhatpārāśarahorā* 6.

him in the fifteenth century.[72] This simple and streamlined system, dividing the 30° of longitude in a zodiacal sign equally by every integer from 1 to 12, has a decidedly Indian flavour: rulerships of half-signs (*horā*), decans, fourth-parts, seventh-parts, ninth-parts and twelfth-parts – all present in pre-Islamic Indian astrology – are identical with those found in classical Sanskrit sources, and the fifth-parts, while equal in size, are likewise modelled on the Indian *triṃśāṃśas* rather than on the Tājika *haddās*. The newly invented sixth-, eighth- and eleventh-parts are all arranged as "micro-zodiacs" similar to the Indian *navāṃśa*, each series commencing at 0° Aries with a segment equated with Aries (and thus ruled by Mars) and ending at 30° Pisces with one equated with Pisces (ruled by Jupiter). The same is true of the tenth-parts (*daśāṃśa*), the only one of the "twelve dignities" found in classical Indian astrology but still assigned rulers on a different principle, perhaps by oversight.

From Balabhadra's phrasing, it seems that his interest in defending the *dvādaśavargī* doctrine lay in the fact that it was upheld by Nīlakaṇṭha Daivajña, to whom he owed a family allegiance. Without stating his source, Balabhadra reproduces and refutes an objection apparently taken from the *Tājikamuktāvaliṭippaṇī*:

> Because the twelve dignities of the planets set forth by Vāmana have not been described by the teachers of old, they are declared to be artificial.[73]

This, says Balabhadra, is an invalid criticism, as the twelve dignities are described by "the most ancient teacher Maṇittha" (pseudo-Manetho) in *Varṣaphala* 51–60. In reality, this text was probably composed in the fifteenth century; Pingree dates the earliest manuscript known to him to 1475.[74] Balabhadra, accepting the attribution at face value, did not have to justify the epithet "most ancient" to his readers: Maṇittha was well-known as an authority cited even by early Sanskrit authors on astrology such as Varāhamihira.[75]

As this investigation draws to a close, it is clear that Pingree's outline of zodiacal dignities in the Tājika tradition needs correcting in several respects:

72 Pingree (1981: 98) dates Vāmana's *Tājikasāroddhāra* to "before 1559," but Pingree 1970–1994: A5 616a lists a single older manuscript dated 1517. If Vāmana did indeed invent the *dvādaśavargī* system, he must have written before "Maṇittha" in the latter half of the fifteenth century; see below.

73 *Tājikamuktāvaliṭippaṇī* 1.2, quoted in *Hāyanaratna* 2.8 (no source given): *vāmanena grahāṇāṃ yā proktā dvādaśavargikā | purācāryair anuktatvāt kṛtrimā sā prakīrtyate ||*

74 Last mentioned in Pingree 1997: 82.

75 See, e.g., *Bṛhajjātaka* 7.1. The speculation by Pingree (1970–1994: A4 344a, 1981: 98, 1997: 83, 90) that the pseudonym Maṇittha was chosen due to its superficial similarity with the Arabic technical term *muntahā* seems fanciful and is not, to my knowledge, substantiated by any connection made

> Similarly, the traditional [= pre-Tājika] *jātaka ṣaḍvargas* of the planets, involving the *ucca* (exaltation), house (*gṛha*), term (*triṃśāṃśa*), ninth (*navāṃśa*), twelfth (*dvādaśāṃśa*), and decan (*dreṣkāṇa*), are replaced by the Arab/Persian *pañcavargī* – the house, the exaltation (*tājika* retains the traditional Indian longitudes of the *paramoccas* rather than adopting the slightly differing longitudes given in the Arab/Persian tradition), the terms (here, as the Arabic terms derived from Dorotheus of Sidon are used, the technical term employed is *hadda* corresponding to Arabic *ḥadd*), the decan, and the triplicity, called *muśallahā* from Arabic *muthallatha* (pronounced *musallasat* in Persian). The lords of these triplicities are those given first by Dorotheus, which then became standard in Arabic and Persian astrological texts.[76]

First, the classical *ṣaḍvargas* have been given incorrectly, with exaltations usurping the place of *horās*. Second, these as well as more elaborate schemes of zodiacal subdivisions correspond more closely to the Tājika *dvādaśavargī* than to the *pañcavargī*. Third (a minor quibble), the terms or *haddās* are nearly, but not exactly, identical with the "Egyptian" terms given by Dorotheus. Fourth, and far more important, *muśallaha* is understood in Tājika tradition to refer not to triplicities but to ninth-parts, which are thus not "replaced" at all (and the designation actually used for triplicities, *trairāśika*, is mostly conflated with the *dṛkāṇa* or decan). And fifth, the rulership scheme for the triplicities in the original sense (chiefly employed for finding the ruler of the year) does not typically follow Dorotheus but rather the innovative model introduced by Samarasiṃha.

9. SOLAR PHASES AND SECT

Though prominent, the occupation of particular zodiacal zones is not the only kind of planetary dignity. Balabhadra somewhat artificially applies the classical Indian notion of "six strengths" (*ṣaḍbala*) to the dignities discussed by Samarasiṃha and other Tājika authors: strength by zodiacal position (*sthānabala*), direction (*digbala*), time (*kālabala*), nature (*nisargabala*), motion (*ceṣṭābala*) and aspect (*dṛgbala*).[77] For understanding the Tājika reception of dignities foreign to

between the two in Tājika works. Invocation of ancient authority is sufficiently attractive in itself, as shown by Balabhadra in equating the "Yavana" origin of Tājika with the author of the *Yavanajātaka* (*Hāyanaratna* 1.2; see Gansten 2012). For the actual ancient work on astrology ascribed to Manetho, see Lopilato 1998.

76 Pingree 1997: 88.

77 *Hāyanaratna* 2.6. For a systematic exposition of *ṣaḍbala* according to classical Indian astrology, see, e.g., *Jātakakarmapaddhati* 3.

the earlier Sanskrit tradition, however, it will be more helpful to focus on two conceptual complexes: the cycles of the planets proper (and the moon) with the sun and the notion of sect.

From a terrestrial point of observation, the "superior" planets – Mars, Jupiter and Saturn, whose orbits around the sun lie outside our own – form a continual series of phases in relation to the sun: following the conjunction, during which they are too close to the sun to be seen, they make their first visual appearance above the eastern horizon at a time shortly before sunrise (heliacal rising), then progress through the zodiac for some months until they gradually appear to slow down, station, and retrace part of their course in retrograde motion. During this retrograde period they form an exact opposition with the sun in the zodiac, rising at the eastern horizon as the sun sets in the west (acronychal rising). Eventually they station for a second time and resume direct motion until they once again "enter the rays of the sun" and approach a conjunction, having last been visible in the west shortly after sunset (heliacal setting). The "inferior" planets Mercury and Venus, whose orbits lie between us and the sun and which therefore never appear far from the sun in the zodiac, form somewhat different cycles: they make their heliacal risings in the west (vespertine, or as evening stars) and heliacal settings in the east (matutine, or as morning stars) and never rise acronychally, but rather reach their maximum elongation from the sun and then approach a second conjunction by retrograde motion. The moon is never retrograde, but like the inferior planets makes its first appearance in the west and its last in the east.

In pre-Islamic Indian astrology, the astrological significance of these solar phases is relatively simple: proximity to the sun is bad, distance from it is good. For a planet to be heliacally set (*asta*) is its weakest condition, while a retrograde (*vakra*) planet is strongest of all, with other deviations from the mean motion falling between the two.[78] These views contrast with the more intricate doctrines of both Greek and Arabic authors, according to which a planet is generally weak when heliacally set but powerful when synodic or in the heart of the sun (within a degree); strong when direct in motion, swift and visible – particularly before its first station, when the superior planets are oriental (appearing in the east) – but weakened when slow and retrograde.[79]

78 See, e.g., *Bṛhajjātaka* 2.20; *Jātakakarmapaddhati* 3.16–18.

79 See, e.g., Paul. Al. 14–16 and Sahl's *Introduction* (translated in Dykes 2018), particularly the so-called fifty precepts. For additional sources, see also Brennan 2017: 206 f.; Dykes 2010: 93–108. While the condition of being "in the heart" of the sun (ἐγκάρδιος, *kaṣmīmī*) is first found in Rhet. (CCAG 1: 145), which states that none of the ancients had explained its power, the concept of being synodic (συνοδικός) or conjunct the sun is considerably earlier. The definition in Porph. *Isag.* 2 (CCAG 5.4: 187–228), apparently derived from Antiochus of Athens

Relation to the sun	*Sect*	*Gender*
Superior: Mars, Jupiter, Saturn	*Diurnal:* Sun, Jupiter, Saturn	*Masculine:* Sun, Mars, Jupiter, Saturn
Inferior: Moon, Mercury, Venus	*Nocturnal:* Moon, Venus, Mars	*Feminine:* Moon, Venus
	Ambivalent: Mercury	*Ambivalent:* Mercury

Table 6: Classifications of the planets.

Sect (αἵρεσις) is a different concept, fundamental to Hellenistic astrology and still of great importance in the medieval Arabic tradition, but not found in classical Indian astrology and only partly understood by the Tājikas, who lack a technical term for it. Unlike the solar cycles, which are phenomena of observational astronomy, sect is largely symbolic: a division of the planets into two contrasting groups – the solar or diurnal sect comprising the sun, Jupiter and Saturn, and the lunar or nocturnal sect comprising the moon, Venus and Mars – with changeable Mercury sitting on the fence. Either sect thus consists of one luminary, one benefic and one malefic planet. A third and much less symmetrical classification is that by gender: only the moon and Venus are generally considered feminine, with Mercury once more being ambivalent and the remaining planets, masculine. See Table 6.

(first century CE?) and repeated almost verbatim in Paul. Al. 14, states that planets become synodic when, occupying the same sign, "they happen to be of like degree with the sun, not being distant from it by more or less than 59 minutes' (ἰσόμοιροι τύχωσι τῷ Ἡλίῳ μὴ ἀπέχοντες αὐτοῦ πλέον ἢ ἔλασσον λεπτῶν νϑ′). The idea seems to be that a conjunction is formed the moment that the longitudinal distance between the sun and the planet in question falls short of 60′ (one full degree, regarded as a unit of distance). In almost every case, this will entail the sun and the planet being in different *discrete* degree units (e.g., the sun at 14°43′ and a superior planet at 15°42′ in the same sign). Only if either body is at the very beginning of a discrete degree (e.g., 14°00′) can the other be 59′ distant and still occupy the same discrete degree (14°59′). This will be a rare occurrence, on average perhaps present once in sixty cycles of the sun with a given planet, rather than once every cycle. The phrase "not being distant from it by more or less than 59 minutes" must therefore be understood as an exegesis of the expression "of like degree" and not as an additional condition. This is implicitly confirmed by Rhet.: ἰσομοίρως τῷ ἡλίῳ ἢ περὶ μοίρας ἢ παρὰ μοίρας "of like degree with the sun, either to the degree or adjacent to the degree." I am not aware of Sahl or any Tājika author explicitly addressing this distinction between degrees as discrete or continuous units. For an English rendering of Porph. *Isag.*, see Holden 2009a; for Paul. Al., see Greenbaum 2001; Holden 2012; for Rhet., Holden 2009b. Holden, however, seems to have struggled with the phrase "not [...] more or less than 59 minutes," which he mistranslates in two opposite ways: "not [...] by more than 59 minutes" (Holden 2009a: 6,

These three ways of grouping the planets – by their relation to the sun, sect, and gender – are easily confused, not least due to the overlap found in the cases of Jupiter and Saturn on the one hand, and of the moon and Venus on the other. Such confusion is reflected in Sahl's definition of the eleven types of "strength," *quwwa* (emphasis added):[80]

> And as for the explanation of the strength of the planets, such that they do not have a deficiency at the time of judging the sought thing, when they accept [the management] and make a promise, that is in eleven ways: Of them, the first is that a planet is in an excellent place from the Ascendant: that is, in the angles or what follows them, of the places which aspect the Ascendant. The second is that a planet is in something of its own share: that is, in its domicile or its exaltation, triplicity, term, face, or joy. The third is that it is direct in course. The fourth is that there is not an infortune with it in its sign, connecting with it, or aspecting it from a square or opposition. The fifth is that it is not connecting with a star that is cadent from the Ascendant, or with a star in its fall, or [that] it is itself in its own fall. The sixth is that it is advancing. *The seventh is that a masculine planet* (*and they are Saturn and Jupiter* ⟨*and Mars*⟩) *is eastern, arising at dawn.*[81] *The eighth is that the planets are in their own light: that is, a masculine planet in the day, and a feminine planet in the night.*[82] The ninth is that a planet is in fixed signs. The tenth is that the planets are in the heart of the Sun (that is, when they are with him in one degree): for indeed at that time the fortunes increase good fortune, and the infortunes decrease their evil. The eleventh is that, of the quarters of the circle, the masculine ones are in the masculine quarters of the Ascendant (and they are from

simply omitting the "less") and "not [...] by more than approximately 59 minutes" (Holden 2012: 22 f. here "approximately" corresponds to the Greek phrase "more or less," so that Holden's additional "more" has no basis in the Greek text).

80 Translation based on Dykes 2018. To facilitate comparison, the technical vocabulary has been modified so as to agree with the traditional English terminology employed in this article. The eleven conditions have further been collected in a single paragraph rather than forming separate paragraphs, and Dykes's numbering of the sentences (77–88) removed.

81 Mars is missing from the text, and there is no mention of the feminine planets. As noted by Dykes, Sahl does give a more complete account of the oriental/occidental distinction somewhat later in the text, where he makes a distinction based on sect rather than gender. Both are, however, wrong: the pertinent classification here is that of superior/inferior. As will be shown below, Mars is likewise missing from the Sanskrit epitomes of Sahl.

82 Again as noted by Dykes, this is another mistake: the relevant distinction here is one of sect, not gender.

> the Midheaven to the Ascendant, and from the fourth to the seventh), and the feminine planets are in a feminine quarter (and they are from the seventh to the Midheaven, and from the Ascendant to the fourth), and the masculine planets are in masculine signs, and the feminine planets in feminine signs.

I have quoted this passage *in extenso* in order to demonstrate the dependence of Samarasiṃha – and, through him, of the entire Tājika tradition – on Sahl's definitions, including the confusion of the three categories just discussed. Samarasiṃha's account is available to us in two versions: firstly, as quoted piecemeal by Balabhadra from the now lost *Tājikaśāstra* in the context of constructing a Tājika doctrine of "sixfold strength," and secondly, in a brief summary in the *Karmaprakāśa*. The relevant quotations given by Balabhadra – not necessarily in their original order – are as follows:

> A planet is strong in its domicile, triplicity, *haddā*, exaltation or *musallaha*.[83]
>
> [The planet] that, [placed] in the ascendant or an angle, or in [a house] approaching them, aspects the ascendant; male [planets in the interval] from the tenth house to the third, and female [planets from the fourth house] up to the ninth; male planets in male signs, and female planets in female signs, are strong; or for all of them, male or female, they are strong in a fixed sign.[84]
>
> If Jupiter and Saturn rise [heliacally] at the end of night, and Venus, the moon and Mars in the evening, then they are strong; also [strong are] male planets in the day, and the others, at night.[85]
>
> [A planet] slow in motion, not swift in motion, not retrograde, free from malefic aspects, not joined to malefics, joined to [or] aspected by benefics, having risen [heliacally], is strong; also, in one degree with the sun [...].[86]

83 Quoted in *Hāyanaratna* 2.6.1 (cf. note 42 above), where the stanza is explicitly said to occur in the context of "the *kuttha* configuration" (that is, *quwwa*).

84 Quoted in *Hāyanaratna* 2.6.1: *yo lagne kendre vā tannikaṭe vātha vīkṣate lagnam | puruṣā gaganād yāvat tṛtīyabhavane striyo 'pi navamāntam || puṃkheṭāḥ puṃrāśau strīrāśau strīgrahā balinaḥ | sarveṣāṃ strīpuṃsāṃ sthirarāśau vā bhavanti te balinaḥ ||*

85 Quoted in *Hāyanaratna* 2.6.3: *gurumandau yadi paścimarātrau śukrendubhūsutāḥ sāyam | udayanti tadā balino naragrahāś cāhni naktam apare ca ||*

86 Quoted in *Hāyanaratna* 2.6.5: *mandagatir aśīghragatiś cāvakraḥ krūradṛgrahitaḥ | krūrāyukto balavān śubhayutadṛṣṭaḥ kṛtābhyudayaḥ || sūryasya caikabhāge [...] |* Balabhadra's quotation breaks off after the first *pāda* of the

The *Karmaprakāśa* version, while more concise, covers a greater number of considerations and also presents them in an order closer to that of Sahl's original list:

> [A planet] occupying its domicile, exaltation and so on, forming an *ikkavāla*,[87] free from the sun and from retrogression, is strong; [also one] not joined to or aspected by a malefic, nor having a *mutthaśila*[88] with a fallen planet; Saturn and Jupiter [heliacally] risen in the latter part of the night; Venus, Mercury and the moon, earlier; a male [planet] in a male [sign and] by day, a female [planet] in a female sign [and] at night, has strength; [likewise] in a fixed [sign] and in the same degree as the sun; male [planets] are strong from the tenth house up to the third, the others from the fourth house up to the ninth: this determination of strength is known as *kuttha*.[89]

Of Sahl's eleven types of strength, ten are included here in greater or lesser detail.[90] The one missing appears to be the sixth, though perhaps it would be more correct to say that types one and six may have been conflated.[91] Both lists also

second stanza. Viśvanātha's *Prakāśikā* commentary on Nīlakaṇṭha's *Saṃjñātantra* 2.69 quotes this half-stanza from Samarasiṃha: *sūryasya caikabhāge sthirarāśau vā tadā ca te balinaḥ |* But mark the similarity with the last *pāda* in the quotation in note 84, which casts some doubt on the sequence of these *pādas* (possibly quoted from memory by either or both authors).

87 That is, occupying an angular or succedent place (from the Arabic term *iqbāl* "advancing").

88 That is, application: approaching an exact conjunction or aspect (from Arabic *muttaṣil* "connecting").

89 *Karmaprakāśa* 3.15–16ab: *svarkṣoccādiga ikkavālaga inād vakrāc ca bāhyo balī nāpi krūrayutekṣito muthaśilī no nīcakheṭena ca | mandejyāv aparatra naktam uditau prāk śukrasaumyendavaḥ puṃsaḥ puṃsi divā striyo yuvatibhe rātrau balaṃ ca sthire || tulyāṃśe ca raver narāś ca gaganād bhrātrantam anye bhuvo mārgāntaṃ balinaś ca kuttham uditaṃ hy evaṃ balasthāpanam |*

90 Intriguingly, while the *Karmaprakāśa* itself does not arrange the types of strength by number, the *Daivajñasaṃtoṣaṇī* commentary on the same passage does. The resemblance of its introductory sentence to that of Sahl (quoted above) is too great to be dismissed as a coincidence: *atha kutthavicāraḥ | tatra kutthaṃ nāma yasmin vidyamāno grahaḥ kāryaṃ kartuṃ kṣamo bhavati tādṛśaṃ balaṃ kuttham | atha tasya vicāra ekādaśaprakāraiḥ* "Now, the consideration of *kuttha*; and *kuttha* is that [state] being found in which a planet is capable of effecting its result: such strength is [called] *kuttha*. Now, its consideration is in eleven ways." Despite this resemblance, however, the commentator's numbering differs significantly from that of Sahl.

91 According to Dykes (2018), the Arabic text under the sixth heading reads *muqbil* "advancing" (previously defined by Sahl as occupying an angular or succedent place, cf. note 84) rather than *maqbūl* "received." While Dykes perceives a subtle technical difference between this criterion and the first, it is easy to see why the Indian epitomist may not have done so. The possible conflation thus indirectly supports Dykes's current

simplify Sahl's last type – intentionally or not – so that the horoscope is divided into a masculine and a feminine half, rather than alternating quarters.[92] But the most conspicuous discrepancies concern the solar phases of the planets.

Both lists reproduce Sahl's error in omitting Mars from the list of planets making their heliacal rising in the east towards the end of night; but while the stanza quoted by Balabhadra requires Mars to rise heliacally in the west like the moon and Venus – an astronomical impossibility[93] – the *Karmaprakāśa* substitutes Mercury for Mars.[94] It would thus appear that Samarasiṃha, in the interval between authoring the two works, realized and rectified his mistake, although later Tājika tradition has perpetuated it.[95] Both variants are additions to Sahl's text as we have it, which mentions only Jupiter and Saturn; it is not clear whether these additions were made by Samarasiṃha himself or by some intermediate source.[96]

Other additions concern planetary motion. Where Sahl has simply "direct in motion," Balabhadra quotes the somewhat redundant phrase "slow in motion,

reading (not yet adopted in Dykes 2008: 40); but it may be worth noting that both the Latin and the Byzantine translations of Sahl studied by Stegemann (1942: 52 f.) do take the word in question to mean "received" (*receptus*, ὑποδεδεγμένος), as does Stegemann himself (*aufgenommen*). (The Byzantine list appears to be contaminated by Arabic sources other than Sahl, as it not only omits some of Sahl's items but also contains an item not found in Sahl's list. I am indebted to Levente László for this observation.)

92 The consideration of quarters is also found in Ptol. *Tetr*. I 12.

93 All examined text witnesses of the *Hāyanaratna* agree on the reading *-bhūsutāḥ* "Mars," which could not easily be confused with any of the common designations of Mercury; moreover, independent sources following Samarasiṃha corroborate the error (cf. note 95). Nor can the astronomical difficulty be solved by assuming that ordinary rising at the eastern horizon is meant, as it would be equally impossible for Venus to rise in the east in the evening. Balabhadra (*Hāyanaratna* 2.6.3) decides to interpret "in the evening" (*sāyam*) as the exact moment of sunset, and the rising in question therefore as acronychal rising, only to launch into an *ad hoc* argument for interpreting this as maximum elongation in the case of Venus, which can never rise acronychally. The former interpretation seems needlessly restrictive; the latter, inadmissibly loose.

94 The compound *śukrasaumyendavaḥ* (cf. note 89) might be suspected of being a corrupt reading for **śukrabhaumendavaḥ* "Venus, Mars and the moon;" but all examined text witnesses of the *Karmaprakāśa* do agree on the former, astronomically more agreeable reading, and omit Mars altogether.

95 See, e.g., *Saṃjñātantra* 2.68d–69ab: […] *sāyaṃ ca sitendubhaumāḥ || yadodayante pararātribhāge jīvārkajāv* […] "[…] when Venus, the moon and Mars rise in the evening, Jupiter and Saturn in the latter part of the night […]"

96 The Latin translation includes Mars among the "higher, masculine planets" and gives Venus, Mercury and the moon as the "feminine" ones, while the Byzantine translation mentions "higher" and "lower" planets without specifying either. See Stegemann 1942: 52 f.; for an English rendering of the Latin, Dykes 2008: 41.

not swift in motion, not retrograde" from Samarasiṃha. It is not clear what the motivation behind this reformulation may have been, except perhaps a desire for compromise between the opposed views on planetary velocity and retrogression found in the classical Indian and Graeco-Arabic traditions, respectively.[97] Once more, the innovation appears to have influenced later Tājika authors.[98] It is, however, missing from the *Karmaprakāśa*, which instead adds freedom from "the sun" – that is, from heliacal setting – as an element of strength.[99] Harmonizing this with the strength arising from occupying the same degree as the sun (that is, being synodic) poses a challenge for some Tājika authors. Balabhadra, giving no reason, chooses to interpret *bhāga* as "ninth-part" rather than "degree" and does not appear to perceive any conflict of ideas. But his senior contemporary Viśvanātha – a fellow resident of Varanasi, whose commentary on the *Tājikanīlakaṇṭhī* (authored by the elder brother of Balabhadra's teacher), written two decades before the *Hāyanaratna*, was almost certainly known to Balabhadra[100] – is more explicit, advocating a different reading of both Nīlakaṇṭha's and Samarasiṃha's texts:

> Likewise, *not placed in one part* (bhāga) *with Ina*, [that is], the sun. If planets happen not to be in the sign and ninth-part where the sun is, then too they are strong. Therefore, *others at night; or not placed in one part with Ina* is the better reading. There is also the reading *others at night; likewise, placed in one part with Ina*. And Samarasiṃha says: *not* [*placed*] *in one part with the sun, or* [*if placed*] *in a fixed sign, then too they are strong*. Here, [some] uphold the reading *and* [*placed*] *in one part with the sun* and explain *in one part* as in one sign and ninth-part; [but] not so, as [the planet] would then also be [heliacally] set, and in no book is a [planet that is heliacally] set said to be strong. On the contrary, in this very book it is said to be weak. Therefore, *not* [*placed*] *in one part with the sun* is the correct reading.[101]

97 Cf. note 79.

98 See, e.g., *Saṃjñātantra* 2.67d: *balī graho madhyagatis tv aśīghraḥ* "A planet of mean motion, not swift, is strong."

99 But the topic of velocity is reintroduced by *Daivajñasaṃtoṣaṇī* ad *Karmaprakāśa* 3.15–16: *vārddhakāstabālyavakravarjitatve sati śīghravikalagativarjitatvaṃ* "[one type of strength is], in the absence of senility, [heliacal] setting, infancy, and retrogression, being free from swift motion and from stationing." Senility and infancy may perhaps refer in this instance to phases immediately preceding heliacal setting and following heliacal rising, respectively.

100 See Pingree 1970–1994: A5 669a, 681b, 1981: 125.

101 *Prakāśikā* ad *Saṃjñātantra* 2.69: *tathā inasya sūryasya naikabhāgasthitāḥ | sūryo yadrāśinavāṃśe yadi grahā na syus tadāpi balino bhavanti | tasmād anye niśīnasya na vaikabhāge sthitā iti pāṭhaḥ sādhīyān | anye niśīnasya tathaikabhāga ity api pāṭhaḥ | uktaṃ ca samarasiṃhena |*

While two opinions clearly existed, I am not aware of any Tājika source attempting systematically to explain the doctrine of planets being "in the heart of the sun;" and from his silence on the matter, it would appear that neither was Balabhadra. The same is true of the concept of sect: the distinction between day and night is fundamental in determining triplicity rulerships, as we have seen, and likewise for the so-called lots (*sahama*, from the Arabic *sahm*, translating κλῆρος) to which most Tājika works devote a separate chapter; but nowhere is it clearly stated that the planets are divided into two opposite and complementary groups, one diurnal, the other nocturnal.

10. CONCLUSION

From a number of textual similarities, including some distinctive misunderstandings, it appears that Tājika teachings on both aspects and planetary dignities derive at least partly from Sahl ibn Bishr's popular ninth-century introduction to astrology, possibly in the form of abbreviated or paraphrased excerpts. The earliest available Sanskrit sources for these doctrines are Samarasiṃha's *Tājikaśāstra* (preserved only in fragments quoted by later authors, particularly in Balabhadra's *Hāyanaratna*) and *Karmaprakāśa*, most likely composed in the thirteenth century.

While Tājika tradition faithfully preserves the Graeco-Arabic categories of aspects, along with Sahl's two versions of the limits of ecliptical longitude within which they are considered effective, Sahl's geometric definitions of the aspect angles were misunderstood as fractional values of "aspect strength" similar to those found in pre-Tājika Indian astrology and were eventually adjusted to match the preexisting system more closely. The distinction between dexter and sinister aspects was similarly misinterpreted as referring to the parts of the zodiac below and above the horizon, respectively, possibly as a result of a hypothetical example with an aspecting planet located in the rising degree.

Aspect strength forms part of a system of "six strengths" (*ṣaḍbala*), recognized by classical Indian astrology, which Balabhadra attempts to impose on the Tājika tradition. The most complex of these is strength by zodiacal placement, present in two varieties: the five dignities (*pañcavargī*) of the earliest Tājika sources and the additional twelve dignities (*dvādaśavargī*) of later authors. The latter system, strongly influenced by pre-Islamic Indian astrology, consists of

sūryasya naikabhāge sthirarāśau vā tadā ca te balinaḥ | ity atra sūryasya caikabhāge iti pāṭhaṃ dhṛtvā ekabhāge ekarāśinavāṃśe iti vyākhyānaṃ kurvanti | tan na | astamitasyāpy evaṃ sambhavāt | na cāstamitaḥ kvacid granthe balī śrūyate | pratyuta asminn eva granthe nirbalaḥ śrūyate | tasmāt sūryasya naikabhāga iti yuktaḥ pāṭhaḥ |

subdivisions of each zodiacal sign, while the former is based on the five Graeco-Arabic dignities of domicile, exaltation, terms, triplicities and decans, the last two of which have given rise to much confusion and "creative misunderstanding" among Tājika authors.

Samarasiṃha presents two different systems of triplicity (*trairāśika*) rulerships, one of which is more or less that of the Graeco-Arabic tradition (although misunderstood by Balabhadra). The other system, presumably introduced as an innovation by Samarasiṃha himself, has gained greater influence among later Tājika authors, but is applied chiefly to the procedure of selecting a single planet as "ruler of the year." For other purposes, the later Tājika tradition conflates triplicities with the decans, to which planetary rulers are assigned by the Graeco-Arabic method. This conflation leaves room for the Indian *navāṃśa* or ninth-part, often referred to as *musallaha* (from Arabic *muthallatha*, properly "triplicity"), as the last of the five dignities. Tājika authors differ on whether ruling planets should be assigned to these ninth-parts according to the classical Indian "micro-zodiac" model or follow the order of triplicity rulerships.

With regard to non-zodiacal dignities, Tājika authors beginning with Samarasiṃha reproduce two mistakes found in Sahl's account, confusing the genders assigned to the planets with, on the one hand, their status as superior and inferior, and on the other, their classification as diurnal or nocturnal (sect). To these misunderstandings they add changes of their own, simplifying the division of the horoscope into masculine and feminine sectors and resisting the Graeco-Arabic interpretation of swift motion as a dignity. Some Tājika authors likewise question the concept of partile conjunction with the sun as a dignity.

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