INTRODUCTION

The manuscripts belonging to the library of the Maharaja Sawai Man Singh II Museum at Jayapura are divided into four separate collections: the Khāsmohor ("personal seal") collection, which was originally the personal library of the Mahārājas; the Puṇḍarīka, which was the collection belonging to the Puṇḍarīka or Pauṇḍarīka family descended from Ratnākara Pauṇḍarīka, who was the officiating guru at many of the performances of Vedic sacrifices patronized by Jayasiṃha; the Pothikhānā, which consists of manuscripts copied by the Pothikhānā staff; and the Museum collection, many of the manuscripts of which are on display in the Museum. Except for the Puṇḍarīka collection, these manuscripts were collected by various of the Mahārājas, first at Amber from the reign of Bhāramalla (1547 to 1573) till Jayasiṃha's foundation of Jayapura in 1727,[1] and thereafter at Jayapura itself until the reign of Sawāī Mānasiṃha II (1922 to 1970).[2]

I. The Khāsmohor collection contains at present manuscripts identified by a sequence of nearly 8,000 numbers (many numbers cover several manuscripts); an index of titles and of authors (divided into Sanskrit and vernacular texts) was published in 1976 by the scholar who has done most to catalogue the Jaipur manuscripts, Gopal Narayan Bahura.[3] This has been of immense value to us as the Khāsmohor collection contains 205 manuscripts on astronomy (not counting the pañcāṅgas or calendars, which we have not included in our catalogue). All but eleven of these lie between the library numbers 4951 and 5609, reflecting an attempt to group manuscripts by subject matter. The latest dated manuscript among these is 5122(b) (our catalogue 89), which was copied in 1788/9. This date falls during the reign of Sawāī Pratāpasiṃha (1778 to 1803), who was well known for his interest in the manuscript library that he had inherited and worked to increase.[4]

According to James Tod,[5] Pratāpasiṃha's son, Sawāī Jagatsiṃha (1803 to 1818), whom he describes as "the most dissolute of his race," was so devoted to his concubine Raskafur that: "In the height of his passion for this Islamite concubine, he formally installed her as queen of half his dominions, and actually conveyed to her in gift a moiety of the personality of the crown, even to the invaluable library of the illustrious Jai Singh, which was despoiled, and its treasures distributed amongst her base relations." Bahura[6] notes that the lady probably would not have appreciated manuscripts and would undoubtedly have preferred other objects to satisfy "her lust for wealth".

Inventories of the contents of the library were periodically made. They are now preserved in the Rajasthan State Archives at Bikaner. Unfortunately, these inventories have not as yet been investigated in order that the history of the fate of individual manuscripts in the library could be traced. The astronomical and astrological books listed in one such inventory have been published by Sharma,[7] who claims that they were in Jayasiṃha's personal library. I list here those among these which are astronomical; the ones followed by a number are included in our catalogue of the Khāsmohor collection (we omit those copied after 1743,

the year of Jayasiṃha's death). The numbers in parentheses following the titles refer to the number of copies.

Āryabhaṭīya, golādhyāya (1)	
Āryasiddhānta (1)	
Bṛhaspatisiddhānta (1)	
Bhāsvatī (3)	49 (1606/7); 50 (1699); 51 (1701); 52 (1706); 54
Brahmatulyasāraṇī (1)	100–103
Candrasūryagrahaṇādhikāra (1)	
Grahalāghava (6)	72 (1647); 73 (1653); 74 (1704); 75 (1705); 76 (1706); 77(1733); 78 (1741); 81–85
Grahalāghavaṭīkā (1)	76 (1706), 84
Grahalāghavodāharaṇa (1)	82, 86 (1667), 87 (1706), 88 (1710), 91, 92
Karaṇakutūhala (1)	55 (1572); 56 (1705); 57 (1711); 61–63
Karaṇaprakāśikā (1)	47 (1626/7)
Mahādevīsāraṇī (1)	108–110, 112
Makaranda (1)	113–114
Makarandaviveka (1)	116(?)
Mitākṣarā ṭīkā (1) (see *Vāsanābhāṣya*)	
Nalikābandhanakarmapaddhati (1)	244 (1706)
Pātasāraṇī (3)	121; *cf.* 122 (1705)
Pitāmahasiddhānta (1)	3
Rājamṛgāṅka (1)	46 (1618)
Siddhāntakaustubha majastī (1)	
Siddhāntarahasyaṭīkā (1) (see *Grahalāghavaṭīkā*)	
Siddhāntasaṃhitāsāra (1)	247
Siddhāntasindhu Nityānandī (2)	266; 267 (1727); 268; 269
Siddhāntaśiromaṇi (6)	22 (1652); 23 (1651); 24 (1657); 25 (1706); 26 (1709); 27 (1727); 28 (1733); 29–31
Siddhāntaviveka (1)	42; 43
Śrīyantracintāmaṇi (1)	238 (1706)
Sudhāsāraṇī (1)	124(?)
Sundarasiddhānta (1)	41 (1706)

Surasiddhānta (1)	(?)
Sūryasiddhānta (7)	6 (1579); 7 (1642); 8 (1705); 11 (1707); 12; 13; 16
Sūryasiddhānta with ṭīkā (1)	9–10 (1706); 14; 15
Sūryatulyavidhāna (1)	71
Tattvaviveka (1) (see *Siddhāntaviveka*)	
Tithicintāmaṇisāraṇī (1)	123, 180
Tithivinodasāraṇī (1)	
Tripraśnādhikāra (1)	
Vāsanābhāṣya pātādhyāya (1)	26 (1709)
golādhyāya (1)	23 (1651); 25 (1706); 28 (1733); 31; 33
Vāsanābhāṣyamitākṣarā (1)	24 (1657); 26 (1709); 32
Vāsanāyantrādhyāya (1)	25 (1706)
Vyāsasiddhānta (1)	37
Yantrarāja (5)	229 (1596); 230 (1617); 231 (1617); 232 (1706); 233 (1706)
Yantrarājaṭīkā (1)	229 (1596); 230 (1617); 231 (1617); 232 (1706); 233 (1706)
⟨*Zīj-i*⟩ *Muḥammad Shāhī* in Nāgarī (1)	

Just six manuscripts from the above list are definitely not now in the Khāsmohor collection; but the list does not include many manuscripts that we know were in Jayasiṃha's library, some of which still are at Jayapura. The manuscripts definitely in that library include those that he had copied by Tulārāma and Nātha when he first began to study astronomy in about 1706.[8]

9. *Sūryasiddhānta* with bhāṣya of Caṇḍeśvara. Nātha. 6 Nov. 1706.
10. Idem with idem. Nātha. 30 Nov. 1706.
11. *Sūryasiddhānta*. Tulārāma. 1 March 1707.
21. *Sauravāsanā*. Nātha. 31 August 1706.
26. *Siddhāntaśiromaṇi* with *Vāsanābhāṣya*. Tulārāma. 8 Sept. 1709.
41. *Sundarasiddhānta*. Tulārāma. 5 Nov. 1706.
52. *Bhāsvatī*. Tulārāma. 8 Dec. 1706.
76. *Grahalāghava* with ṭīkā. Tulārāma. 5 Sept. 1706.
87. *Grahalāghavodāharaṇa*. Tulārāma. 11 Oct.–26 Oct. 1706.
118. *Makarandodāhṛti*. Tulārāma. 8 Dec. 1706.
232. *Yantrarājāgama* with vyākhyā. Tulārāma. 23 Sept. 1706.

233. Idem. Tulārāma. 16 Nov. 1706.

238. *Yantracintāmaṇi.* Tulārāma. 14 Nov. 1706.

244. *Nalikābandhakarmapaddhati.* Tulārāma. 17 Sept. 1706.

One further manuscript from this group has gone astray. This is a copy of Kamalākara's *Śeṣavāsanā.* 42ff. Copied by Tulārāma at the command of Mahārājādhirāja Jayasiṃha on 1 kṛṣṇapakṣa of Kārttika in Saṃ. 1765 = ca. 18 September 1708. This is now 417 of 1884/86 at the Bhandarkar Oriental Research Institute, Puṇe. Of these 15 manuscripts only the *Śeṣavāsanā* and the *Sauravāsanā* seem not to be included in the inventory.

Another group that we know Jayasiṃha had were manuscripts based on Islamic astronomy that he acquired in the late 1720s; they include copies of translations from Arabic and Persian that are uniformly bound.[9]

253. *Ukara.* ⟨Lakṣmīdhara⟩. 23 October 1729; acquired 1730.

255. *Jarakālīyantra.*

257. *Yantrarājasya rasāla.* Kṛpārāma. ca. 1729.

259. *Śarahatajkirā Virjandī.* Kṛpārāma; acquired 1730.

260. *Vakramārgavicāra.* Lakṣmīdhara.

262. Lunar tables of the *Ulakabegījīca.*

265. *Hayatagrantha.* ⟨Tīkārāma⟩. 1728/9.

267. *Siddhāntasindhu.* Gaṅgārāma. 1727.

270. *Yantraprakāra.*

We also know that Jayasiṃha had a copy of Nityānanda's *Sarvasiddhāntarāja,* since he quotes from it.[10] Of these texts only the name of the *Siddhāntasindhu* is found in the inventory.

Yet another group of manuscripts that should have been in Jayasiṃha's library are those of works that he himself or his associates wrote. Jayasiṃha's works on astronomy are the *Sūryasiddhāntasāravicāra* of ca. 1715/20 (manuscript 44), the *Yantrarājaracanā* of ca. 1720 (not in the Khāsmohor collection, but there is a copy, manuscript 240, in the Puṇḍarīka collection, and a copy was made at the court in Jayapura and presented to David Eugene Smith at Jayapura in 1907; it is now Smith Indic 73 at Columbia University), the *Yantraprakāra* of 1729 (manuscript 270, now in the Museum collection, was presumably once in the Khāsmohor; manuscript 271 is in the Puṇḍarīka collection), and the *Jayavinodasāriṇī* of 1735 (there are no manuscripts left at Jayapura, though pañcāṅgas following its method have been produced there up to the present day. One of the five extant manuscripts—11839 in the Rājasthan Oriental Research Institute in Jodhpur—was copied by Karuṇākara Pau(ṇḍarīka) on 28 September

1906[11]). Only two of Jayasiṃha's own four productions, then, are still in the Khāsmohor collection, and none are included in the inventory.

Jayasiṃha's Jyotiṣarāya, Kevalarāma, an astronomer from Modasa in Gujarāt who entered his service in 1725, wrote six works at the Mahārāja's command: the *Bhāgavatajyautiṣayor bhūgolakhagolavirodhaparihāra*, the *Brahmapakṣanirāsa*, the *Dṛkpakṣasāraṇī* in about 1732, the *Vibhāgasāraṇī*, the *Jīvāchāyāsāriṇī*, and the *Pañcāṅgasāriṇī* in 1735. None of these works is represented in the Khāsmohor collection or included in the inventory, but there are two manuscripts—171 and 172—of the *Pañcāṅgasāriṇī* in the Puṇḍarīka collection.

Jayasiṃha's chief guru, Jagannātha Samrāṭ, translated Euclid's *Elements* and Ptolemy's *Almagest* from Arabic into Sanskrit. One manuscript containing both these translations is now number 32 of the Reserved Collection of the Museum collection; we were not allowed to examine it because of pending litigation. It presumably was once in the Khāsmohor collection, but is not included in the inventory. A second copy, perhaps of the Reserved Collection manuscript, is in the Pothikhānā collection (254). There were three versions of Jagannātha's *Siddhāntakaustubha*; the first, written in early 1727, is in the Puṇḍarīka collection (45);[12] the last, presented as a supplement to the translation of the *Almagest* in 1732, is apparently the *Siddhāntakaustubha majastī* of the inventory. At least part of Jagannātha's library was acquired by Viśveśvara Pauṇḍarīka, whose floruit was toward the end of the eighteenth centry. His acquisitions included manuscripts 36 (*Vṛddhavasiṣṭhasiddhānta*. Copied 10 October 1690), 39 (*Somasiddhānta*. Copied 13 October 1723), and 123 (*Subodhinī*. Copied 15 November 1730), but apparently none of Jagannātha's own works.

It is quite surprising that so many of the treatises produced by these three men at Jayasiṃha's court are no longer in the Jayapura library, but it is even more astonishing that only one is included in an inventory that allegedly comes from Jayasiṃha's own time, and that that is a work written in 1732.

The last item in the inventory is ⟨*Zīj-i*⟩ *Muḥammad Shāhī*, allegedly in Nāgarī. There are several manuscripts at Jayapura with material from Ulugh Beg's *Zīj-i Jadīd*; these are manuscripts 261–264. Ulugh Beg's planetary tables and lunar tables (261 and 262) are in the Museum and Khāsmohor collections; the star catalogues, precessed to 1726, are in the Puṇḍarīka collection. Of course the precessed star-catalogue of Ulugh Beg was incorporated into the Persian *Zīj i Muḥammad Shāhī*, but it is doubtful that this is what the inventory refers to, especially as it is not in the Khāsmohor collection. A more likely candidate is a manuscript now in Berlin, or. fol. 2973 at the Städtbibliothek.[13] This contains computations of the longitudes and latitudes of the Moon and the planets and of the longitudes of the Sun at noon at Jayapura on 7 March 1718 according to the *Zīj i Muḥammad Shāhī* and computations according to the same authority of a lunar eclipse on 28 May 1732 and of a solar eclipse visible at Jayapura on 20 May 1734. This manuscript may well have once been in the Khāsmohor collection. I do not know how it got to Berlin.

The inventory, then, bears some relationship to the Jayapura library. If the reference to the *Zīj i Muḥammad Shāhī* is part of the original list, that list was

made after about 1735, otherwise after 1732. But it was clearly not a complete inventory, whenever it was compiled.

II. The Puṇḍarīka collection, which consists of about 2,300 manuscripts collected by Ratnākara Pauṇḍarīka and his descendents between the early eighteenth and the late nineteenth century, was acquired by the Jayapura Pothikhānā under Sawāī Mādhavasiṃha II in 1905[14] and added to the existing library. We were fortunate to be given access to a handwritten, classified list, from which we identified fifty-seven manuscripts to include in this catalogue. Ratnākara belonged to a Mahārāṣṭrian family of the Śauṇḍilyagotra, named Mahāśabde. His father, Devabhaṭṭa, who had been honored by Jayasiṃha's great-grandfather, Mahārāja Rāmasiṃha (1667 to 1689),[15] was a resident of Kāśī, where his son, Ratnākara, studied under the famous scholar Nāgeśa (Nāgojī) Bhaṭṭa. He was summoned by Jayasiṃha to Amber to be his guru shortly after his ascent of the *gaddi* of Amber on 25 January 1700; for Ratnākara at the conclusion of his *Jayasiṃhakalpadruma*, which he completed on ca. 21 August 1713, reports that he had already performed for Jayasiṃha the following Vedic sacrifices: *jyotiṣṭoma, vājapeya,* and *pauṇḍarīka* (for which he received the title Pauṇḍarīkayājin).[16] It is known that he performed the *vājapeya* for Jayasiṃha on 31 December 1708.[17]

Nothing further is known about Ratnākara, who must have been quite elderly in 1713; he probably died about 1720. His son Sudhākara performed a *puruṣamedha* sacrifice for Jayasiṃha at some uncertain time.[18] Another son, Gaṅgārāma, who had participated in the *vājapeya* sacrifice in 1708,[19] and to whom Jayasiṃha paid his respects in 1733, died in 1755.[20]

The members of the family who are known to have acquired manuscripts on astronomy lived in the latter half of the eighteenth century. The most important was Viśveśvara, the son of Rāmeśvara[21], the son of Gaṅgārāma, the son of Ratnākara, whose acquisition of at least three of Jagannātha's manuscripts has already been reported. The other manuscripts that he owned included 48 (*Karaṇaprakāśa*), 60 (*Karaṇakutūhala.* Copied by Gopīnātha, the son of Rāmeśvara Vyāsa, on 31 October 1788), 65 (*Brahmatulyodāharaṇa*), 90 (*Grahalāghavodāharaṇa.* Copied in 1788/9), 212 (*Chādikanirṇaya*), 236 (*Dhruvabhramayantra.* Copied by Gopīnātha, the son of Rāmeśvara Vyāsa, on 5 November 1789), 240 (*Yantrarājaracanā*), and 258 (*Yantrarājasya rasāla.* Copied for the Pauṇḍarīkas on 28 November 1788). Viśveśvara Mahāśabda Pauṇḍarīka also composed 243 (*Palabhāyantra*), probably in the 1790s; he was the author of the tables in manuscript 199 as well. Viśveśvara also wrote a *Nirṇayakautuka* and a *Pratāpārka* on dharmaśāstra for Mahārāja Pratāpasiṃha.

Another member of the Pauṇḍarīka family, Gokula or Gokulanātha, the son of Śambhūnātha, copied 93 (*Grahalāghavodāharaṇa*), 171 and 172 (*Pañcāṅgasāraṇī.* Copied 3 April and 28 April 1793), and 189 (a sāyanalagnasāriṇī. Copied in November or December 1788). He also employed Gopīnātha—presumably the son of Rāmeśvara Vyāsa, who had worked for Viśveśvara—to copy 152 (*Grahalāghavasāriṇī*). Gopīnātha, the son of Rāmeśvara Vyāsa, also copied 234 (*Yantrarājāgama*) for Jāgeśvara on 14 December 1788; it is not known whether or not Jāgeśvara was a Pauṇḍarīka.

The last Pauṇḍarīka whom we know to have contributed manuscripts on astronomy to the family collection was Dhaneśvara who owned 225 (a treatise on stars) and 228 (*Palabhājñāna*) and who employed Śyāmasundara to copy 80 (*Grahalāghava*) on 6 March 1826. It was probably the same scribe who copied the same text on 16 January 1826 (manuscript 79), and who seems to have been involved in 245 (on the gnomon).

Certain other manuscripts in the Puṇḍarīka collection clearly represent or are manuscripts that were once in the Khāsmohor collection. These are 48 (*Karaṇaprakāśa*. A copy of Khāsmohor 4953), 94 (*Grahalāghavavārttika*. A commentary that illustrates the astronomy of the *Grahalāghava* by computing according to it the longitudes of the planets at the time of Jayasiṃha's birth on 3 November 1688), 222–223 (sūryapattras), 234 (*Yantrarājāgama*. Copied from Khāsmohor 4958 by Gopīnātha on 14 December 1788), 246 (on gnomonics as practiced at Jayapura), and 256 (*Jarakālīyantra*).

III. The Pothikhānā collection, which was instituted by Jayasiṃha, comprises copies of manuscripts in the Khāsmohor collection, copies of other manuscripts and printed books, and manuscripts presented as gifts. There are about 2,200 manuscripts in this collection: catalogues have been published of its holdings on *dharmaśāstra*[22] and *stotras*.[23] We consulted a handwritten list of the jyotiṣa manuscripts, and found just five that fit the criteria for inclusion in this catalogue. Four of these were copied by the same scribe from printed books; these are 4 (*Āryabhaṭīya*), 5 (*Śiṣyadhīvṛddhidatantra*. Copied by Līchamīnārāyaṇa at Surata on 10 July 1895), 17 (*Sūryasiddhānta*), and 35 (*Brahmasiddhānta*. Copied by Līchamīnārāyaṇa at Surata on 24 August 1895). The last manuscript is 254 (*Rekhāgaṇita* complete and *Samrāṭsiddhānta* incomplete), perhaps a copy of manuscript 32 of the Reserved Collection.

IV. The Museum collection presumably contains manuscripts extracted from the Khāsmohor collection as being especially rare and valuable, and suitable for public display in the Museum. A list of these manuscripts has been published;[24] we have included twelve in our catalogue. We did not have sufficient time to include the fourteen manuscripts of astronomical works in Arabic and Persian.[25] We hope to be able to remedy this failure on a later occasion.

In conclusion, we should comment on some of the most valuable manuscripts that we discovered in cataloguing this collection. We will discuss those in each category in its order in the catalogue.

B. Siddhāntas

3. The *Paitāmahasiddhānta* from the *Viṣṇudharmottarapurāṇa*. One of four copies of this work, fundamental to the Brahmapakṣa. David Pingree hopes to prepare a new edition.

44. The *Sūryasiddhāntasāravicāra* attributed to Jayasiṃha himself; there is only one other known copy. The Jayapura copy is important especially for its diagrams. An edition is being prepared by Gary Tubb.

45. The earliest version of Jagannātha's *Siddhāntakaustubha*, in which Jayasiṃha's bijas to the *Sūryasiddhānta* devised in 1726 and his parameters derived

from Nityānanda's *Sarvasiddhāntarāja* are recorded. David Pingree has prepared an edition of this.

C. Karaṇas

46. A full version of Bhojadeva's *Rājamṛgāṅka* radically different from the published version. David Pingree will publish this.

71. Dāmodara's *Sūryatulya*. Only three other copies are known.

D. Koṣṭhakas

118 The unique manuscript of Moreśvara's *Makarandaṭippaṇa*.

143. The unique manuscript of Harināṭha's tithi, nakṣatra, and yoga tables.

147. The unique manuscript of Goparāja's *Khagatarangiṇī*.

171 and 172. Two of the four known manuscripts of Kevalarāma's *Pañcāṅgasāriṇī*. An edition has been prepared by David Pingree.

E. Eclipses

216–220. Observations and computations of lunar eclipses on 18 May 1761, 17 April 1772, 23 March 1773, 30 September 1773, 15 February 1775, 5 February 1860, and 6 February 1860 (sic!).

F. Star Charts

221. The unique star chart of Mādhavasiṃha, made in about 1760.

222 and 223. Unique sūryapattras.

G. Geographical Tables

226 and 228. Two geographical tables supplementing those previously published.[26]

I. Miscellaneous

250–251. Two manuscripts of Nandarāma Miśra's *Bhāgavatajyoṭiḥśāstrabhūgolakhagolavirodhaparihāra*, an expansion of Kevalarāma's similarly entitled treatise. Editions of both are being prepared by Christopher Minkowski and David Pingree.

J. Translations

259. The unique copy of the Sanskrit translation of II 11 of Naṣīr al-Dīn al-Ṭūsī's *Tadhkira* with al-Birjandī's commentary. An edition has been published by Takanori Kusuba and David Pingree.

263 and 264. Sanskrit versions of Ulugh Beg's star catalogue. These will be edited by David Pingree.

265. A rare manuscript of the Sanskrit translation of 'Alī al-Qūshjī's *Risālah dar hay'at*. An edition by David Pingree and Kim Plofker is in preparation.

266–269. Four of the six manuscript copies of Nityānanda's Sanskrit translation of Farīd al-Dīn Dihlawī's *Zīj i Shāhjahānī*.

271. The third known copy of Jayasiṃha's *Yantraprakāra*, which has been published from the other two by S. R. Sarma.

272. The manuscript copy of the second edition of Philippe de La Hire's *Tabulae Astronomicae*, published at Paris in 1727, completed by Joseph du Bois at Jayapura on 10 September 1732.

273 and 274. Two of the four manuscripts containing the prose Sanskrit translation of de La Hire's *Tabulae* and/or the *Phirangicandracchedyopayogika*. Both texts will be published by David Pingree.

275. Attempts to illustrate de La Hire's third lunar equation.

276. Tables comparing Jayasiṃha's observed lunar positions with those computed by means of de La Hire's tables and the "New Tables."

The thorough investigation of these manuscripts will greatly expand our knowledge of the astronomical activities at Jayasiṃha's court, which constitute in many aspects a sort of rehearsal for the Indian reaction to Western astronomy in the nineteenth century.

The Manuscript Descriptions

Each separate text is headed by a paragraph giving its title or titles, its author if known, the place of its composition if known, and its date if known. These data are followed by references to *CESS* (D. Pingree, *Census of the Exact Sciences in Sanskrit*, Series A, vols. 1–5, Memoirs of the American Philosophical Society, Philadelphia: American Philosophical Society, 1970–1994), *SATIUS* (D. Pingree, *Sanskrit Astronomical Tables in the United States*, Transactions of the American Philosophical Society 58,3, Philadelphia: American Philosophical Society, 1968), and *SATE* (D. Pingree, *Sanskrit Astronomical Tables in England*, Madras, Kuppuswami Sastri Research Institute, 1973), as appropriate, and a reference to the edition, if one exists, with which the manuscript has been compared. After this is given, whenever available, the work's incipit—usually a verse.

The description of the manuscripts of each work are arranged first in ascending order of the dates of copying for those that are dated, then in the ascending order of their identification numbers in the collection they belong to.

The description of each manuscript consists of its serial number, its shelfmark, the numbers given by the scribe to its folios or, lacking those, an assignment of capital English letters to unnumbered folios, the dimensions of the manuscript leaves in centimeters to the nearest half-centimeter, height before width (the writing is always taken to be parallel to the width), and the number of lines per page. After this, as appropriate, are comments on the physical condition of the manuscript, the presence of marginalia, the part of the text included, and the presence of a commentary. Then, as available, is information about the scribe, his location, and the date on which he completed the copying of the manuscript. Finally, any information concerning owners of the manuscript is recorded.

If the manuscript is incomplete, the beginning and end of each portion of the text (but not the incipit if nothing is missing from the beginning of the text) is given with the page and line in the edition referred to on which the first and last words occur. Descriptions of koṣṭhakas generally give details concerning the structure, use, and parameters of each table.

Succeeding this is the colophon with a reference to the folio on which it occurs; the colophon is the statement of the author and the title of the text.

After this is the post-colophon, which gives information concerning the scribe, his patron, and the place and date of the copying. Ownership notes, if any, follow this. These excerpts from the manuscript are presented in the scribe's orthography.

Next are given copies of material extraneous to the main text that the original scribe or later persons have written in blank spaces in the manuscript—usually on the recto of the first leaf and/or the verso of the last. The final element is an indication of the price of the manuscript.

The volume ends with a concordance of library numbers and catalogue numbers of the manuscripts, a list of the dates on which manuscripts were copied, and indices of authors, titles, scribes and owners, other owners, families and other social units, toponyms, and subjects. The reference numbers are the catalogue numbers of the manuscripts.

David Pingree

Notes

[1]Gopal Narayan Bahura, *Literary Heritage of the Rulers of Amber and Jaipur*, Jaipur 1976, first part, pp. 27–49.

[2]*Ibid.*, pp. 71–95.

[3]*Ibid.*, second part, pp. 3–130 (Sanskrit works), pp. 131–217 (bhāṣā works), and p. 218 (Arabic, Persian, and Urdu works); pp. 219–287 (Sanskrit authors), pp. 288–342 (bhāṣā authors), and pp. 343–500 (extracts from important manuscripts).

[4]*Ibid.*, first part, pp. 17–18 and 80–81.

[5]James Tod, *Annals and Antiquities of Rajasthan*, edited by William Crooke, 3 vols., London: Oxford University Press, 1920, vol. 3, pp. 1364–1365.

[6]Bahura, *op. cit.*, first part, p. 18.

[7]Virendra Nath Sharma, *Sawai Jai Singh and His Astronomy*. Delhi: Motilal Banarsidass, 1995, pp. 328–330.

[8]David Pingree, "An Astronomer's Progress," *Proceedings of the American Philosophical Society* 143, 1999, 73–85. I have reinterpreted the ambiguous wordings of the dates of manuscripts 9, 26, 41, 232, 233, 238, and 244 in an attempt to improve the data given on p. 74, fn. 7.

[9]D. Pingree, "Sanskrit Translations of Arabic and Persian Astronomical Texts at the Court of Jayasiṃha of Jayapura," *Suhayl* 1, 2000, 101–106.

[10]D. Pingree, "The Original Version of Jagannātha's *Siddhāntakaustubha*," forthcoming.

[11]The manuscripts and the tables of Jayasiṃha's *Jayavinodhasāriṇī* are described by D. Pingree, "Kevalarāma's *Pañcāṅgasāriṇī*", forthcoming.

[12]For these versions and their interrelation see the article cited in fn. 10.

[13]D. Pingree, "Indian Reception of Muslim Versions of Ptolemaic Astronomy," in F. Jamil and Sally P. Ragep, eds., *Tradition, Transmission, Transformation*, Leiden: E. J. Brill, 1996, 471–485 (484).

[14]Bahura, *op. cit.*, first part, pp. 21 and 89.

[15]*Ibid.*, first part, p. 44, and second part, p. 424.

[16]*Jayasiṃhakalpadruma*, edited by Harinārāyaṇa Śarman, Kalyāṇa-Muṃbaī, 1925, p. 912.

[17]Bahura, *Literary Heritage*, first part, p. 59, and second part, p. 423. This yajña is described by Viśvanātha Bhaṭṭa in his *Rāmavilāsakāvya* III 1–51, ed. G. N. Bahura, Jaipur: Maharaja Sawai Mansingh II Museum, 1978, pp. 46–53.

[18]V. S. Bhatnagar, *Life and Times of Sawai Jai Singh*, Delhi: Impex India, 1974, p. 344.

[19]Bahura, *op. cit.*, second part, p. 425.

[20]Bhatnagar, *op. cit.*, p. 332; see also K. V. Sarma "Brahmapuri, the Scholars' Village Established by Maharaja Sawai Jai Singh," *Indologica Jaipurensia* 2, 1988–1995, 45–53, esp. 48–49.

[21]On Rāmeśvara see Sarma, *op. cit.*, 49-50.

[22]G. N. Bahura, *Catalogue of Manuscripts in the Maharaja Sawai Man Singh II Museum (Pothikhana Collection; (a) Dharmaśāstra)*, Jaipur: Maharaja Sawai Man Singh II Museum, 1984.

[23]G. N. Bahura and R. G. Sharma, *Catalogue of Manuscripts in the Maharaja Sawai Man Singh II Museum (Pothikhana Collection; (b) Stotras)*, Jaipur: Maharaja Sawai Man Singh II Museum, 1987.

[24]G. N. Bahura, *Catalogue of Manuscripts in the Maharaja of Jaipur Museum*, Jaipur: Maharaja of Jaipur Museum, 1971, pp. 2–63 (Sanskrit), pp. 64–69 (Hindī), pp. 70–77 (Arabic and Persian), pp. 76–77 (Latin), p. 78 (Reserved Collection), and pp. 79–126 (details of important manuscripts).

[25]*Ibid.*, pp. 72–77; David A. King, "A Handlist of the Arabic and Persian Astronomical Manuscripts in the Maharaja Mansingh II Library in Jaipur," *Journal for the History of Arabic Science* 4, 1980, 81–86; and D. Pingree, "Indian and Islamic Astronomy at Jayasiṃha's Court," in D. A. King and G. Saliba, eds., *From Deferent to Equant*, New York: New York Academy of Sciences, 1987, pp. 313–328 (pp. 313 and 326, fn. 4).

[26]D. Pingree, "Sanskrit Geographical Tables," *IJHS* 31, 1996, 173–220.