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Al-Bīrūnī's *Kitāb Sānk* and *Kitāb Pātanǧal*:

A Historical and Textual Study

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A Historical and Textual Study

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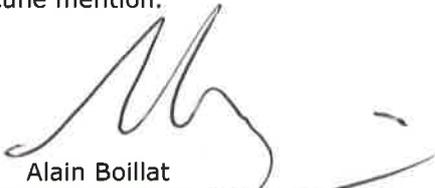
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Al-Bīrūnī's *Kitāb Sānk* and *Kitāb Pātanğal*:

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Preface

At the suggestion of Professor Johannes Bronkhorst, I let al-Bīrūnī into my life when I was looking to do my Master thesis on a figure who brings together Islamic and Indological studies. Since that fateful moment, I have held an unrelenting appreciation for al-Bīrūnī's significance across disciplinary boundaries. Investigating al-Biruni's life and works has been satisfying, both for my inclination toward trans-disciplinarity as well as for my interest in exploring the obscure and mysterious. This study has strengthened my conviction that bridges between cultures are not only enriching but also essential, in the past and today. The experience of writing this dissertation thus contributed to the fulfilment of my personal aims.

This dissertation is owed to the discussions generated in several talks I have had the opportunity to give during these years of research, and was likewise inspired by many rich interactions with scholars from around the world. I would like to express my gratitude to all the colleagues and friends who have contributed to this research in one way or another.

First and foremost, I would like to thank my two thesis supervisors, Professors Johannes Bronkhorst and Charles Genequand, who continually enriched my processes of reflection, research, and writing with invaluable insights and enthusiasm. I am also grateful to my two external experts, Professors Michio Yano and Blain Auer, for their intellectual support, unyielding encouragement, and willingness to give suggestions and constructive criticisms.

Special thanks also go to Vladimir Lončar, who shared with me the instructive and extraordinary experience of creating a documentary movie on al-Bīrūnī and provided me with the opportunity to relate my research on the distant past with contemporary field work.

Abbreviations

Al-Āṯār al-Bāqiya, *Al-Āṯār*	*Al-Āṯār al-Bāqiya ʿan il-Qurūn al-Ḥāliya*
bhāṣya	*bhāṣya*-part of the *Pātañjalayogaśāstra*
Bhoja	*Rājamārtaṇḍa*
EI	Encyclopaedia of Islam
EncInPhil	Encyclopedia of Indian Philosophies
EIr	Encyclopaedia Iranica
kā, kās	*kārikā*-s of the *Sāṃkhyakārikā*
MBh	*Mahābhārata*
PYŚ	*Pātañjalayogaśāstra*
Q	Group of question-answer in the *Kitāb Pātanğal*
sū	*sūtra*-s of the *Pātañjalayogaśāstra*
Taḥdīd al-Amākin, *Taḥdīd*	*Kitāb Taḥdīd Nihāyāt al-Amākin li-Taṣḥīḥ Masāfāt al-Masākin*
Taḥqīq mā li-l-Hind, *Taḥqīq*	*Fī Taḥqīq mā li-l-Hind min Maʿqūla Maqbūla fī l-ʿAql aw Marḏūla*
Tafhīm	*Kitāb al-Tafhīm li-Awāʾil Ṣināʿa al-Tanjīm*
Vivaraṇa	*Pātañjalayogaśāstravivaraṇa*

Standard references[1]

Sanskrit sources

Gauḍapādabhāṣya	Sharma (1933)
Māṭharavṛtti and *Jayamaṅgalā*	Vaṅgīya (1970)
Pātañjalayogaśāstra	Maas (2006), chapter 1
	Āgāśe (1904a), chapters 2, 3, and 4
Pātañjalayogaśāstravivaraṇa	Harimoto (1999), chapter 1
	Sastri/Sastri (1952), chapters 2, 3, and 4
Rājamārtaṇḍa	Āgāśe (1904b)
Sāṃkhyakārikā	Wezler/Motegi (1998), or Sharma (1933)
Sāṃkhyasaptativṛtti	Solomon (1973a)
Sāṃkhyavṛtti	Solomon (1973b)
Suvarṇasaptati	Takakusu (1904b, French translation)
Tattvakaumudī	Srinivasan (1967)
Tattvavaiśāradī	Āgāśe (1904a)
Yuktidīpikā	Wezler/Motegi (1998)

Arabic sources

Al-Āṯār al-Bāqiya	Al-Bīrūnī (1963[1923])[2]
Kitāb Pātanǧal	Ritter (1956)
Kitāb Sānk	Al-Bīrūnī (1958)
Taḥqīq mā li-l-Hind	Al-Bīrūnī (1958)[3]

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[1] Any deviation from this procedure is specified.

[2] The present dissertation refers to both the Sachau (al-Bīrūnī: 1963[1923]) and Azkaei editions (2001) of *Al-Āṯār*. The readings of these two editions are relatively similar. However, there are important discrepancies in the transliteration of Sanskrit terms which appear in the original Arabic. Sachau's reading is generally closer to the corresponding Sanskrit word than Azkaei. Therefore, Sachau's edition has been used in this dissertation as a preferred edition.

[3] Two editions of the *Taḥqīq* are used in this dissertation, one from Hyderabad (al-Bīrūnī: 1958) and the other from Beirut (1983). Both are based on Sachau's first edition of the text and on the *Bibliothèque de France* manuscript number 6080. These editions refer to the former with the abbreviation *zāy* (ز) and to the latter with *šīn* (ش). Each presents similar readings that chiefly vary only with regard to diacritic signs. Their references to Sachau's readings made it possible to remark that Sachau provides transliterations of Sanskrit occurring in the Arabic text that agree with the Sanskrit original words. Therefore, this dissertation also takes into account Sachau's readings whenever possible.

Author's Note

Symbols with regard to quotations and transliterations have been used as follows:

[ ]	My additions in my translations
[…]	My exclusions/omissions
< >	Sachau's or Solomon's additions or emendations
{ }	My additions or emendations to others' translations[4]
"…"	My own translations

Date conversions between Christian Era and Hegira have been made with the converter provided by the Institute of Oriental Studies of Zurich University:

http://www.oriold.uzh.ch/static/hegira.html

In the bibliography, the Arabic article (al) is not taken into account for referencing the names of Arab authors.

The transliteration system follows that of the Arab World Institute.

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[4] This dissertation mainly employs existing translations of al-Bīrūnī's works (Sachau for the *Taḥqīq mā li-l-Hind* and the *Kitāb Sānk*; Pines and Gelblum for the *Kitāb Pātanǧal*). Sections of these translations have however been modified for the sake of clarity in the following cases: words transliterated from Sanskrit to Arabic appear in my quotations as they are in the standard references; translations of technical terms and proper names, either Arabic or Sanskrit, have been standardized in order to enable the reader to readily recognize them; and over-interpretations (although Sachau's translations are for the most part valid, in a few cases he introduced elements to his translation which are not found in the Arabic texts).

Introduction

> I have translated two books into Arabic, one about the {fundamental principles}[5] and a description of all created beings, called {Sānk}, and another about the emancipation of the soul from the fetters of the body, called {Pātanǧal}. These two books contain most of the elements {around which their faith revolves, barring the section on religious laws}. (Sachau 1888b: I: 8)[6]

> Preface to the *Taḥqīq mā li l-Hind*, *ca.*1030

<u>Contextualizing al-Bīrūnī's translations</u>

A diverse body of evidence in the history of intellectual and cultural interactions between the Indian and Islamic worlds reflects the desire to share and transfer literary works across these cultural spheres. Transmission of such texts can be categorized into different periods of time and literary genres. Two main periods in particular are worth mentioning here. In the second quarter of the 8th century, several Sanskrit works were transferred to Islamic intellectuals. For instance, the Sanskrit collection of fables, known as the *Pañcatantra*, was translated, first into Pahlavi in the 6th century CE, and subsequently into Arabic around the 8th century, with the title *Kalīla wa Dimna*.[7] The medical treatise *Carakasaṃhitā*, too, was known to the Arabs, as well *Brāhmasphuṭasiddhānta*, an astronomical work composed by Brahmagupta.[8] This latter

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[5] All my alterations in quotations from Sachau's translations are indicated in braces in this dissertation.

[6] Al-Bīrūnī 1958: 6.1-4.

[7] Brockelmann, EI (2nd), s.v. 'Kalīla Wa-Dimna', http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/kalila-wa-dimna-COM_0427 [last accessed in 30 September 2014]. 'Abd Allah Ibn al-Muqaffaʿ (*ca.* 720-756), for instance, is amongst those who played a part in the translation of the *Pañcatantra* into Arabic. Gabrieli, EI (2nd), s.v. Ibn al-Muḳaffaʿ, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/ibn-al-mukaffa-SIM_3304 [last accessed in 30 September 2014]. This author is mentioned by al-Bīrūnī (al-Bīrūnī 1958: 123.10-15; Sachau 1888b: I: 159).

[8] Knowledge of the transmission of the *Carakasaṃhitā* into Arabic remains limited, as no known Arabic manuscript exists today. Al-Bīrūnī mentions it as the *Book Charaka* (al-Bīrūnī 1958: 123.3-9; 126.4-7; 321.16-

text has been available to the Muslims since the 8th century. Al-Bīrūnī, for instance, extensively refers to this work under the title *Brāhmasiddhānta* in the *Fī Taḥqīq mā li-l-Hind min Maʿqūla Maqbūla fī l-ʿAql aw Marḏūla* (*True Account of what the Indians say, both what is acceptable by Reason and what is not*).

From the late 13th century or early 14th century onward, numerous Muslim Indian authors in the courts of Perso-Muslim rulers in the Indian subcontinent began to interpret Sanskrit works related to different fields, chiefly into Persian. One of the earliest extant translated works within this movement is the Sanskrit *Śukasaptati*, which was translated into Persian by ʿImād ibn Muḥammad Ṯaġarī under the title of *Ṭūṭī-nāma*, and dedicated to a sultan of Delhi, ʿAlā al-Dīn Ḫalǧi, between the years 1313 and 1315.[9] A few centuries later the Mughal emperor, Akbar (1542-1605), also played a significant role in the transmission of Sanskrit literature into the Perso-Muslim cultural sphere. Notably, he had the *Mahābhārata* translated, known in Persian as the *Razmnama*.[10]

These two outstanding translation movements, which occurred in vastly differing contexts, were interrupted by a gap of approximately four centuries. In the 8th century, works primarily related to medicine and astronomy were translated into Arabic in Baghdad, the capital of the Islamic territory. These translations were promoted by the Abbasid rulers of the time, notably through the impulse of one of their administrators, Yaḥyā al-Barmakī (733 or 737–805). Al-Barmakī commissioned an emissary to gather Sanskrit materials.[11] This process occurred immediately following the first military incursions of the Muslims into Sindh in 712. The second vast translation project between the Indian and Islamic spheres began in the early 13th century, concerning works covering a range of topics, from Epics to medicine, natural

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17; Sachau 1888b: I: 159; 162; 382). The *Brāhmasphuṭasiddhānta* was penned in 628 in Bhillamāla (Pingree 1981: 254).

[9] Beelaert 2008, http:// abstractairanica.revues.org/39799 [last accessed in 30 September 2014].

[10] See Rice 2010.

[11] Van Bladel, EI (3rd), s.v. Barmakids, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-3/barmakids-COM_24302 [last accessed in 30 September 2014]; ibid. 2011: 74–86.

sciences to treatises on Indian religions. These works were translated into Persian by Muslim Indian scholars working at the court of the Sultans of Delhi or of the Moghul rulers, as Muslim authority had established itself in northwest India. [12]

At the turn of the first millennium between these two periods of intellectual exchange, al-Bīrūnī's works on India (*ca.* 1030)[13] – including his translations from Sanskrit into Arabic – can be considered within this tradition of intellectual interactions between South Asia and the Islamic world. In contrast with the two vast translation projects promoted by royal courts in the earlier and later periods, al-Bīrūnī however appears to have worked as a isolated cultural translator of his time. His contribution as an interpreter of the Indian literary tradition however far exceeds that of previous authors. Al-Bīrūnī began, or completed, translations of numerous books into Arabic, including the aforementioned *Brāhma*(*sphuṭa*)*siddhānta*, the *Pauliśasiddhānta* by Puliśa, the *Bṛhatsaṃhitā*, the *Laghujātaka* by Varāhamihira, the *Karaṇatilaka*, the *Kitāb Sānk*, and the *Kitāb Pātanǧal*.[14] Of the two latter works, only the text of the *Kitāb Pātanǧal* has come to us in a complete manuscript. Extracts of the *Kitāb Sānk* are scattered in al-Bīrūnī's *Taḥqīq mā li-l-Hind*. They both constitute the earliest extant Indian philosophical texts that were translated into Arabic. Furthermore, in his 1036 bibliography, al-Bīrūnī mentions several other works he translated from Arabic "into the Indian language" (في اللغة الهندية).[15] For students of history of ideas, literature, and cultural translations across the Indian and Islamic worlds, al-Bīrūnī is thus an important piece of the puzzle.

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[12] See the information provided in the Perso-Indica Project (http://perso-indica.net/table-of-contents, [last accessed in 30 September 2014]) and Athar on translations of Sanskrit works in Akbar's court (Athar 1992).

[13] According to the description provided by the *Bibliothèque Nationale de France*, manuscript 6080, dated to Ǧumādā al-ūla 4th 554 A.H. (May, 5th, 1159 CE), bears an authograph with the date of Muḥarram 1st 423 A.H; which corresponds to the 19th of December 1031. See also Mishra (1985: 9).

[14] Al-Bīrūnī 1958: 6.2; 119.8-9; 122.5-6; 327.2; Sachau 1888b: I: 8; 154; 158; 389. See also Yano (EI, 3rd ed., s.v. al-Bīrūnī, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-3/al-biruni-COM_25350 [last accessed in February 2014]).

[15] The two books are listed in Boilot's article under the numbers 174 and 176 (1955: 238-239).

<u>Literary review</u>

The large body of work on, or references to, al-Bīrūnī in secondary modern literature attests to his significance for the history of science. The quality of these studies, however, varies. For instance, the figure of al-Bīrūnī sometimes takes on a legendary dimension, which obscures the actual historical facts of his biography. Moreover, whereas the socio-historical contexts of the translation projects taking place at Abbasid and Moghul courts have been the objects of several studies, the social, historical, and intellectual environments in which al-Bīrūnī lived still need to be investigated. This dissertation aims to explore how, in this relatively unknown and complex period, al-Bīrūnī conducted his research on India.

The subsequent literature review delineates the few key authors and books amongst the vast literature on al-Bīrūnī. Thorough investigations of the circumstances in which he encountered the South Asian subcontinent is nearly non-existent. Numerous researchers of Indian or Islamic history or culture refer to the scholar, including Alain Daniélou (1983), Hermann Kulke and Dietmar Rothermund (1986), Wilhelm Halbfass (1988), André Wink (1990; 1997), Mohammed Hassan Syed (2003), Akhilesh K. Dubey (2005), and Brajadulal Chattopadhyaya (2006). Yet, these authors generally use al-Bīrūnī as a source for their argument, rather than in an investigation of the socio-historical context in which the Perso-Muslim scholar himself evolved.

Most publications on al-Bīrūnī pertain to natural or exact science. Important authors who examined his inputs in the field of mathematics or astronomy include Stewart Edward Kennedy, David Pingree, and Michio Yano. Several of al-Bīrūnī's writings – or passages of them – have been edited and/or translated by Carl Edward Sachau (1879; 1888b), Hellmut Ritter (1956), Jamil Ali (1967), Schlomo Pines and Tuvia Gelblum (1966; 1977; 1983; 1989), Gotthard Strohmaier (1991), Seyyed Hossein Nasr, and Mehdi Mohaghegh (2005). Information regarding editions and translations of al-Bīrūnī's works is provided in the

valuable works of D.J. Boilot (1955) and Jan Hogendijk.[16] Al-Bīrūnī's significant treatise on mathematics, *al-Qānūn al-Masʿūdī* (1030) is not translated in its entirety into any modern Western language.[17] Two significant commemorative volumes were published, in 1951 and 1979, comprising articles from two conferences.

There are also several well-grounded and useful biographies, including the works of Kennedy (1970), F.A. Shamsi (1979), Mohammed Hakim Said and Ansar Zahid Khan (1981), and Yano (EI, 3rd).

Other studies examine al-Bīrūnī's methods regarding his work on India. M.S. Khan (1976), Bruce. B. Lawrence (1978), G. Kaur (1982), Akbar S. Ahmed (1984), Vincent-Mansour Monteil (1996), M.A. Saleem Khan (2001), Floréal Sanagustin (2003), and Kemal Ataman (2005) all to some degree explore the Perso-Muslim scholar's approach. They highlight his innovative and original treatment of Indian society.

Jan Gonda (1951) analyzes several passages drawn from the *Taḥqīq* and ascribed to the *Purāṇa*-s by al-Bīrūnī. Arvind Sharma (1983) provides a study comparing al-Bīrūnī's quotations of the *Kitāb Gītā* found in the *Taḥqīq mā li-l-Hind* to the Sanskrit *Bhagavadgītā*. Pingree examines in some of his publications al-Bīrūnī's quotations from Sanskrit astronomical works (1969; 1983). Between the late 19th and late 20th centuries, there have been various attempts to identify al-Bīrūnī's Sanskrit sources of the *Kitāb Sānk* and the *Kitāb Pātanğal*. Sachau (1888b), Richard Garbe (1894; 1896; 1917), Junjiro Takakusu (1904a), Surendranath Dasgupta (1922; 1979[1930]), Louis Renou and Jean Filliozat (1953), as well as Pines and Gelblum (1966 to 1989) are amongst the scholars who examined the relationship between al-Bīrūnī's Arabic works and Sanskrit literature. However, they were unable to find conclusive answers concerning his Sanskrit sources. Barring these studies, no thorough investigation has been undertaken into al-Bīrūnī's translations of Sanskrit texts into Arabic.

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[16] http://www.jphogendijk.nl/biruni.html
[17] See Boilot (1955: 210-212) and Hogendjik's web page.

<u>Dissertation's outline</u>

Although al-Bīrūnī's writings have been subject to many publications, there is a need for an in-depth and more accurate investigation regarding the exact circumstances in which al-Bīrūnī gathered his information on India and encountered the South Asian subcontinent. However, such an investigation is essential to use al-Bīrūnī as a historical source on India. This dissertation focuses on his compilation of the *Kitāb Pātanğal* and the *Kitāb Sānk*, examining how and why he had access to the Sanskrit sources of these two works. It also aims to analyze the relationship between the two Arabic translations and their possible originals. In order to do so, this dissertation takes two main approaches: historical and textual.

The first pole is a survey of al-Bīrūnī's cultural knowledge and socio-cultural surroundings, which will make it possible to appraise al-Bīrūnī's interest in, and knowledge of, India. In the Indian context, the historical and geographical circumstances in which the ideas of Indian philosophies were formulated, written, and studied are largely unknown. In the *Taḥqīq mā li-l-Hind*, al-Bīrūnī scarcely deals with philosophical schools other than classical Sāṃkhya and Yoga, such as Buddhism, Vedānta, and Vaiśeṣika. The reasons al-Bīrūnī specifically translated works related to classical Sāṃkhya and Yoga prompt investigation to complement our understanding of the history of Indian philosophy.

The question of geographical and cultural zones, as well as boundaries, lies at the heart of the problem of al-Bīrūnī's discovery and interpretation of Sāṃkhya-Yoga. Therefore, delimiting an area of al-Bīrūnī's encounter with the Indians will make it possible to grasp his work on Indian texts, considering the historical and geographical contexts. The scholar dwelt in different cultural zones over the duration of his life: present-day Uzbekistan, Turkmenistan, Iran, northern Afghanistan, and northern Pakistan (Sections 1.1, 1.2, and 1.3).[18] Al-Bīrūnī's travels to early medieval India, and thus his observations, appear to concern present-day

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[18] This geographical distribution was inspired by a discussion with Professor Najaf Haider (Professor Associate, JNU, New Delhi).

northern Pakistan (Section 1.3). Archaeological data and primary literary sources covering five locales in this region, which al-Bīrūnī certainly visited, are examined (Section 1.4.1). This dissertation reveals that a particular Indian dynasty, the Indian Šāhis, was ruling the regions al-Bīrūnī visited in early medieval India. Therefore, the society of this Indian dynasty is described to the extent possible (Section 1.4.2).

Between his birth in Khwarezm (Uzbekistan) and his travels in early medieval India, by way of his stay in Ghazna, various opportunities could have enabled al-Bīrūnī to discover and study Indian culture. As already underlined, for instance, translations of Indian works, such as the *Brāhmasiddhānta*, the *Book Charaka*, i.e., the *Carakasaṃhitā*, and the *Kalīla wa Dimna*, were available to him before he physically moved nearer to this culture. This literature undoubtedly provided al-Bīrūnī with initial notions of Sanskrit, notably in the astronomical field, early in his life (Section 2.1). By the time he compiled the *Taḥqīq mā li-l-Hind*, his knowledge of Sanskrit, Indian literature, religion, and science had significantly increased, enabling him to translate the two works related to Sāṃkhya and Yoga. Al-Bīrūnī's understanding of Sanskrit and Indian science is, to a large extent, owed to Maḥmūd's conquests of early medieval India and to the scholar's position at the sultan's court. Sections 2.2 and 2.3, therefore, examine the question of royal courts providing favorable conditions for intellectual and inter-cultural exchanges between al-Bīrūnī and Indian scholars.

The sources of al-Bīrūnī's information with regard to Indian science, geography, culture, and religion vary.[19] Oral reports and written documents appear to have constituted his chief sources of information, rather than direct observations.[20] As the scholar did not visit a culturally monolithic India, it is pertinent to elaborate on the origin of the information he transmitted. Sections 2.4 and 2.5 raise the questions as to what extent al-Bīrūnī describes living traditions in the *Taḥqīq* and foregrounds the significance of al-Bīrūnī's visits to

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[19] Perso-Muslim geographical accounts of foreign lands generally originated from different types of sources. See Touati (2000: 154-156), Zadeh (2011: 131; 154-155; 172), or Bosworth (1970[1937]: xlviii; 26).
[20] Touati 2000: 13-14.

northern Pakistan for his translations of two Sanskrit works related to classical Sāṃkhya and Yoga.

Primary sources on al-Bīrūnī's cultural knowledge and socio-cultural surroundings are scanty, or sparsely studied. A few surveys exist on the Ghaznavids (Muhammad Nazim, 1931; Clifford Edmund Bosworth, 1963, 1977; Inaba 2013; Cappelletti 2015), as well as on the Indian Šāhis (Dīnabandhu Pāṇḍeya, 1973; Abdur Rehman 1979b). However, the history in northern Pakistan, between the end of the 10th and beginning of the 11th centuries CE remains relatively unknown. Therefore, the sections of this dissertation that examine the issue from a socio-historical perspective are grounded on information drawn from varying types of sources: archaeology, numismatics, and literature. I draw from *Al-Āṯār al-Bāqiya* (1000), the *Taḥdīd al-Amākin* (1025), the *Tafhīm*, and the *Taḥqīq mā li-l-Hind* (1030) in the first pole of this dissertation. Al-ʿUtbī, al-Bīrūnī's contemporary, equally provides valuable information, as well as the anonymous *Ḥudūd al-ʿĀlam* (982/83), and the historical chronicles by Kalhaṇa from Kashmir, the author of the Sanskrit *Rājataraṅgiṇī* (mid 12th c. CE). These materials provide information that makes it possible to reconstruct the historical context in which al-Bīrūnī encountered India.

The second pole of this study concerns al-Bīrūnī's two Arabic translations, the *Kitāb Sānk* and the *Kitāb Pātanǧal*. Their titles suggest that their sources consist of two works related to classical Sāṃkhya and Yoga. These specific philosophical schools of thought are elaborated in two short Sanskrit works, the *Sāṃkhyakārikā* and the *Pātañjalayogaśāstra*, which were compiled some time between the 3rd and the 5th centuries CE (Section 3.1). These two works systematized and developed further ideas found in earlier Sanskrit literature. Between the 4th and the 10th centuries, each school gave birth to a relatively limited number of commentaries, which reflect the classical stage in the development of Sāṃkhya and Yoga. From the 16th century onward after the classical period, commentators revisited these ideas

and adapted them according to their own interpretations.

The translations of al-Bīrūnī must be placed within this particular context. Philological evidence has been thoroughly investigated in order to elucidate the ways in which the information provided by al-Bīrūnī vis-à-vis his two translations connects with the Sanskrit textual tradition (Sections 3.2, 3.3, and 3.4). This philological approach is only the first step in a more developed understanding of the relationship between Arabic and Sanskrit works through their literary and philosophical content.

Further, as aforementioned, several attempts of identifying al-Bīrūnī's sources have been made by scholars in the past. However, they were unable to ascertain final answers. There were multiple reasons for their difficulties in identifying the Sanskrit sources. First, the academic world benefits from a complete manuscript of the *Kitāb Pātanğal* since 1956, when Hellmut Ritter critically edited the text that Louis Massignon had discovered in 1922. The manuscript, which is in a relatively impaired state, now lies in the Koprülü Library of Istanbul. The *Kitāb Sānk*, on the other hand, appears to be lost. In spite of this, a philological survey of the complete *Kitāb Pātanğal* is equally precious, as it makes it possible to draw conclusions regarding the *Kitāb Sānk*. Second, research in Indology has developed substantially, and a considerable number of Sanskrit texts have been discovered and edited in recent decades. Finally, previous attempts to identify al-Bīrūnī's source focused on comparing the Arabic translations with their possible Sanskrit sources, assuming that al-Bīrūnī translated them *verbatim*.

Researchers noticed that al-Bīrūnī's translations and the Sanskrit works to which they compared it presented both important parallels and crucial differences. With regard to the *Kitāb Pātanğal*, Philipp André Maas suggested in 2013 on the basis of limited evidence that its source may be in fact the *Pātañjalayogaśāstra*. A recent yet-unpublished article by this author and Noémie Verdon reassesses in detail earlier arguments on this question,

incorporating this discussion in the framework of Translations Studies.[21] It provides the first preliminary evidence for identifying the *Pātañjalayogaśāstra* as the source of the *Kitāb Pātanǧal*. Not only do comparisons with other Sanskrit works on classical Yoga fail to explain differences between these Sanskrit works and al-Bīrūnī's Arabic translation, but the scholar also appears to have himself transformed and adapted his Sanskrit source to a greater extent than modern scholars were led to believe. Many discrepancies may be accounted for by al-Bīrūnī's own interpretative choices, rather than due to his using a different work than the *Pātañjalayogaśāstra* as his source.

This dissertation builds upon these studies, while at the same time resolving some of the problems previous scholars faced in their endeavours. It highlights the fact that al-Bīrūnī consciously transformed his Sanskrit source when he prepared his Arabic translation (Section 4.2). The study posits that investigating the scholar's hermeneutics is a necessary step to trace the Sanskrit sources he may have used. Further, his choices of interpretation result from different underlying causes, which can be better identified with the help of Translation Studies. His desire to transmit a message, his own understanding, his religious and intellectual background, his pre-existing knowledge of India, and his interaction with Indian thinkers are all factors to take into account for reaching a better understanding of the relationship between al-Bīrūnī's translations and their possible Sanskrit sources.[22]

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[21] This article, which has been submitted for publication, is based on a presentation I gave in the international conference *Yoga in Transformation* held in Vienna in September 2013. In that presentation, I highlighted some adaptations al-Bīrūnī made with regard to his source when he composed the *Kitāb Pātanǧal*. While preparing the written version of this presentation, I participated in a research workshop organized by the Department of South Asian Culture and Civilization (University of Lausanne, April 2014), which led me to incorporate my arguments within the framework of Translation Studies. Later on, Maas offered to help me to complement my arguments with a thorough textual analysis of previous attempts to identify the Sanskrit source of the Arabic *Kitāb Pātanǧal*. For more than six months, we shared our respective expertise, reflections and ideas during numerous skype meetings and two visits in Vienna; these interactions resulted in a rich and complementary collaboration.
[22] Al-Bīrūnī's interpretation of classical Sāṃkhya and Yoga is based on a written source, as he writes that Indian philosophical books (litt. on wisdom; فى الحكمة) were read to him "letter by letter" (حرفا حرفا). Ritter (قُرئت علىّ حرفا حرفا). Ritter 1956: 167.10; Pines/Gelblum 1966: 305.

This dissertation thus aims to suggest a new approach for researchers who intend to examine this question. It allows us to move beyond a purely literal comparison between al-Bīrūnī's translations and their possible Sanskrit originals, as well as to progress in the analysis, as it offers interesting analytical tools. With the help of these analytical tools, this dissertation eventually examines passages of the *Kitāb Pātanǧal* and the *Kitāb Sānk* in connection to Sanskrit works related to Yoga and Sāṃkhya and locates these Arabic translations within this literature (Chapters 5 and 6).

For this textual approach, the main sources utilized are al-Bīrūnī's two translations, the *Taḥqīq mā li-l-Hind*, the Sanskrit commentaries on the *Pātañjalayogaśāstra* and on the *Sāṃkhyakārikā*, as well as secondary literature on Sāṃkhya and Yoga philosophies.

Rather than presenting comparisons between the whole Arabic translations and their sources, the analysis focuses on specific passages of the *Kitāb Pātanǧal* and the *Kitāb Sānk*. Readers may consult Ritter's edition and/or the English translation of the *Kitāb Pātanǧal* by Pines and Gelblum, as well as Appendix 1 to this dissertation, which gathers all extracts of the *Kitāb Sānk* and related passages found in the *Taḥqīq mā li-l-Hind*.

While the question of the reception of al-Bīrūnī's work in the Perso-Muslim intellectual context lies beyond the scope of this study, here are some brief elements of reflection on the issue. Al-Bīrūnī was interested in transmitting information regarding Indian culture, as he writes, for instance, in the conclusion of the *Taḥqīq mā li-l-Hind*:

> We think now that what we have related in this book will be sufficient for any one who wants to converse with the {Indians}, and to discuss with them questions of religion, science, or literature, on the very basis of their own civilisation. Therefore we shall finish this treatise, which has already, both by its length and breadth, wearied the reader. (Sachau 1888b: II: 246)[23]

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[23] Al-Bīrūnī 1958: 547.17-548.1. See a similar remark in the introduction of the *Taḥqīq*. Al-Bīrūnī 1958: 5.5-7; Sachau 1888b: I: 7.

However, despite al-Bīrūnī's desire to encourage intercultural dialogue between Indians and his peers, the amount of references to his works on India remains relatively small. Only a few scholars have referred to al-Bīrūnī's writings or translated portions of his works into Persian.[24] For several centuries, indeed, no studies on India (translations, monographs, etc.) were undertaken by Perso-Muslim thinkers. The fact that there is only one remaining copy of the *Kitāb Pātanǧal* written in the margins of a manuscript and no manuscripts of the *Kitāb Sānk* reflects the lack of impact of al-Bīrūnī's work on his peers. He also composed works for Indians, for instance, also contributing to the translations of Arabic texts into Sanskrit.[25] However, no known record of the reception of these works in the Indian intellectual sphere exists.

Two main causes may, in my view, be identified as the source of such a limited reception of al-Bīrūnī's works on India amongst his peers. First, from the 12th century onward, scientists and philosophers indebted to Aristotelian thought were regarded as unorthodox and were put under pressure from the government and religious authorities.[26] Al-Bīrūnī's works, such as the *Taḥqīq mā li-l-Hind*, the *Kitāb Pātanǧal*, and the *Kitāb Sānk*, were somewhat unconventional. It is worth noting in this context that al-Bīrūnī's auto-bibliography also lists the works of Moḥammad b. Zakariyyāʾ al-Rāzī (b. *ca*. 865), the disputed physician and philosopher. Both scholars are generally considered to be freethinkers, and both were criticized by Ibn Sīnā, who for his part was largely recognized as an authority in the domain of medicine and philosophy. Al-Bīrūnī's bibliography of al-Rāzī attests to his sympathy for this physician. Despite his important contribution to a large variety of sciences, al-Bīrūnī was a controversial figure, and for this reason did not attract many disciples. The second cause is related to the complexity of the topics addressed by the scholar, which may have dissuaded

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[24] See Sachau (1888b: I: 263, note 27), Pines/Gelblum (1966: 302, note 1), Khan (2001: 271), Ernst (2003: 174-177).

[25] Al-Bīrūnī 1958: 102.5.7; Sachau 1888b: I: 137; Boilot 1955: 238-239, nos 175; 176.

[26] Beckwith 2012: 139-140.

his successors from continuing or developing his work on Indian philosophy.

This dissertation, however, does not investigate the response al-Bīrūnī may have faced by other Muslim thinkers regarding his research on India, but rather examines the historical and political events which led him to conduct his work and to translate specific Sanskrit works into Arabic. In highlighting the intimate connection between al-Bīrūnī's life and intellectual cursus, this study's findings offer insightful theories, while at the same time raising new questions for further reflection.

Chapter 1: The many socio-historical contexts of al-Bīrūnī's biography

1.1. Persian locales in the abode of Islam

1.1.1. K̲āt (Khwarezm, modern Uzbekistan)

Al-Bīrūnī spent his youth in the region of K̲āt,[27] also referred to as K̲āt-Kala,[28] in Khwarezm. He lived there approximately between the year 973 and 995.[29] The Muslims, led by K̲utayba b. Muslim al-Bāhilī, conquered the region in 712,[30] coming to rule over the formerly prevalent religion, Zoroastrianism, in the region.[31] An ossuary was found in Tok-Kala, which bears a date that follows the Khwarizmian calendar, itself derived from the Zoroastrian calendar,[32] and that corresponds to the year 753 CE – 41 years after the Muslim conquests in the area. According to Clifford Edmund Bosworth, Zoroastrian practices would have endured there until the 11th c. CE.[33] However, in *Al-Ā̲t̲ār al-Bāqiya*, compiled in around 1000, al-Bīrūnī describes the adepts of Zoroastrianism, whom he calls Magians, as constituting only a minority of the Khwarizmian population. In addition, he explains that they do not display

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[27] See the discussion in this sense by Shamsi (1973: 261-265). Also in Kennedy (1970: II: 147-148) and Yano (EI, 3rd ed., s.v. al-Bīrūnī, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-3/al-biruni-COM_25350 [last accessed in February 2014]).

[28] The term *kala* originates from the Arabic *qalʻa*, meaning *fortress*. It is adjoined to a large number of toponyms of ancient walled cities, typical of Khwarezm, such as Khyzil-Kala, Toprak-Kala, or K̲āt-Kala. For further information see Tolstov (1953: 179-206).

[29] His numerous observations recorded in the *Taḥdīd al-Amākin* indicate that he was in the region of Khwarezm till the year 995. Ali 1967: 77; 211; Kennedy 1970: 148; Shamsi 1973: 268-9; Said/Khan 1981: 125.

[30] Le Strange 1930: 447; Bosworth, EI (2nd), s.v. K̲hwārazm, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/khwarazm-SIM_4205 [last accessed in February 2014].

[31] According to some, Khwarezm is the land from which the Zoroastrian religion originates, whereas others refute this opinion. See the discussion in Rapoport, EIr, s.v. Chorasmia i. Archeology and pre-Islamic history, http://www.iranicaonline.org/articles/chorasmia-i [last accessed in February 2014].

[32] Ibid. The exact location of Tok-Kala is not known to me.

33 Bosworth, EI (2nd), s.v. K̲hwārazm, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/khwarazm-SIM_4205 [last accessed in February 2014].

much consideration for their religion, and are not deeply knowledgeable of it.[34] Although Zoroastrianism existed in Khwarezm until a relatively late date, it seems to have been waning at al-Bīrūnī's time.[35]

It appears that in other domains as well, local traditions continued to exist after the incursions of Islam in this region. Inscribed pottery, wood and coinage indicate the late use of the Khwarizmian language.[36] The rulers of Khwarezm in Kāt̲ probably became dependent of the Samanid dynasty (819-1005)[37] during the 9th century, nearly two hundred years after Islam's first expeditions to this region in 712.[38]

Situated on important trade roads, Kāt̲, the capital of the time, was an emporium in the 10th century. Early medieval Arab writers report that the region benefited from great prosperity in terms of commerce.[39] For instance, the *Ḥudūd al-ʿĀlam* (982/83) considers Kāt̲ "the emporium of the Turks, Turkistān, Transoxiana and the Khazar" (Bosworth 1970[1937]: 121).[40] It was also an important intellectual center: al-Khwarizmī (d. 847),[41] the renowned mathematician who later worked in Baghdad, came from this region, as his name indicates. The urban development that took place at the time is clear in the archaeological evidence, as the number of cities increased between the 8th and 10th centuries CE in Khwarezm.[42]

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[34] Sachau 1879: 223-228; Bosworth, EI (2nd), s.v. K̲h̲wārazm, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/khwarazm-SIM_4205 [last accessed in February 2014].

[35] Al-Bīrūnī's *al-Āt̲ār* also strongly hints that they were relatively important Christian communities in Khwarezm, as the scholar was able to describe different sects, their fasting days, and their festivals. Sachau 1879: 282-298; Bosworth, EI (2nd), s.v. K̲h̲wārazm, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/khwarazm-SIM_4205 [last accessed in February 2014].

[36] Ibid.

[37] Bosworth/Crowe, EI (2nd), s.v. Sāmānids, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/samanids-COM_0995 [last accessed in February 2014] .

[38] Bosworth, EIr, s.v. Chorasmia ii. In Islamic times, http://www.iranicaonline.org/articles/chorasmia-ii [last accessed in March 2015].

[39] Bosworth, EI (2nd), s.v. K̲h̲wārazm, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/khwarazm-SIM_4205 [last accessed in February 2014].

[40] See also Bosworth, EI (2nd), s.v. Kāt̲h̲, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/kath-SIM_4020 [last accessed in February 2014].

[41] Vernet, EI (2nd), s.v. al-K̲h̲wārazmī, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/al-khwarazmi-SIM_4209 [last accessed in February 2014].

[42] Tolstov 1953: 255.

1.1.2. Ray (Iran)

In al-Bīrūnī's time, two dynasties, of al-ʿIrāq in Kāt and of al-Maʾmūn in Jūrjānīya[43] (Kunya-Urgench, now in Turkmenistan), were competing to rule Khwarezm. In 995, a war broke out between these two dynasties, leading al-Bīrūnī to leave Khwarezm. The exact duration of his exile is unknown, but he lived in Ray (a suburb southeast of present-day Tehran) some time between the years 995 and 997.[44] In *Al-Āt̲ār al-Bāqiya*, he mentions his visit to Ray where he met other scholars and led some research.[45] The Muslims conquered Ray between the years 639 and 644, more than three centuries prior to al-Bīrūnī's time. Former seat of important Persian families, this city, also referred to as Rag̲h̲ā, preserved its notoriety throughout the Islamic period. In the 10th century CE, governing bodies were present in Ray.[46] Beyond the city's wealth as a site of commercial exchanges,[47] Ray's reputation also made it an essential destination for scholars. The physician and philosopher Ibn Sīnā (980-1037), for instance, visited Ray approximately between the years 1014 and 1015.[48] The geographer Ibn Hurdād̲bah (early 10th century CE) stands among the witnesses to the greatness of Ray.[49] However, merely a few years later, Ibn Ḥawqal and al-Muqaddasī reported that the city was decaying.[50]

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[43] Ali 1967: 78; Al-Bīrūnī 1985: 67-70; Bosworth, EI (2nd), s.v. K̲h̲wārazm, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/khwarazm-SIM_4205 [last accessed in February 2014]. On the rulers of Kāt see Bosworth (EIr, s.v. Āl-E Maʾmūn, http://www.iranicaonline.org/articles/l-e-mamun-a-short-lived-dynasty-of-iranian-rulers-in-karazm-385-408-995-1017 [last accessed in March 2015]). Jūrjānīya should not be mistaken with Jūrjān, which stands for the ancient name of modern Gorgan, in present-day Iran.

[44] Kennedy 1970: 148-149. In 997, al-Bīrūnī observed a lunar eclipse in Kāt conjointly with the mathematician Abu'l-Wafaʿ, who was based in Bagdad. Ali 1967: 214-215; Kennedy 1970: 149.

[45] Al-Bīrūnī 2001: 433.18-19; Sachau 1879: 338.

[46] Le Strange 1930: 186. Referring to the 10th-century geographer Ibn Ḥawqal.

[47] Ibid.: 227.

[48] Gutas, EIr, s.v. Avicenna ii. Biography, http://www.iranicaonline.org/articles/avicenna-ii [last accessed in March 2015].

[49] Lombard 1971: 37.

[50] Le Strange 1930: 215.

1.1.3. Jūrjān (modern Gorgan, Iran)

Subsequently, from approximately 1000 to 1004, al-Bīrūnī dwelt in ancient Gorgan, referred to as Jūrjān in Arabic. The ancient site is located on the southeastern corner of the Caspian Sea. The Arab Muslims came to the region in 650/51, but it appears that they were unable to establish a stable authority until the early 8th century CE.[51] In the 9th and 10th centuries, the town was wealthy and comfortable place[52] known for its silk, and was strategically positioned for commerce. [53] Although there were only a few main roads passing through the city, Jūrjān constituted a passage between the North and the South. Southward, the road lead to Ray. To the West, one could reach Amul (or Amol), located to the south of the Caspian Sea, and, to the North, the route reached Khwarezm. The prince Qābūs bin Wušmagīr bin Ziyār (977 to 981, and 998 to 1012/13) of the Ziyārid dynasty governed the region at the time. Al-Bīrūnī devoted *Al-Āṯār* to this ruler. Qābūs was redoubtable because of his cruelty, but renowned as an important patron of science and art.[54]

1.1.4. Jūrjānīya (modern Kunya-Urgench, Khwarezm, Turkmenistan)

In 1004, al-Bīrūnī returned to Khwarezm's new capital, Jūrjānīya (Kunya-Urgench), where he lived until the year 1017.[55] Even before becoming the capital city of Khwarezm, Jūrjānīya was an emporium, linking the regions of Ghuzz and Khorasan in the same way as Kāṯ did.[56] During the 8th century CE, several institutions, known as *Bayt al-Ḥikma* or *Dār al-Ḥikma*

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[51] Bosworth, EIr, s.v. Gorgān vi. History from the Rise of Islam to the Beginning of the Safavid Period, http://www.iranicaonline.org/articles/gorgan-vi [last accessed in February 2014].
[52] Le Strange 1930: 377.
[53] Hartmann/Boyle, EI (2nd), s.v. Gurgān, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/gurgan-SIM_2565 [last accessed in February 2014].
[54] Bosworth, EI (2nd), s.v. Ḳābūs b. Wushmagīr b. Ziyār, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/kabus-b-wushmagir-b-ziyar-SIM_3749 [last accessed in February 2014].
[55] Al-Bīrūnī calculated the latitude of Jūrjānīya, and made other astronomical observations there, up to the year 1016. Ali 1967: 46-49; 50; 87; 96; 113.
[56] Le Strange 1930: 448.

(House of Wisdom), were developed in the Islamic territory,[57] which generally housed large libraries and welcomed thinkers. One such establishment, the Maʾmūn Academy, originally founded in Jūrjānīya,[58] was an important center of knowledge of the time where numerous scholars gathered. In addition to al-Bīrūnī, renowned scholars worked at the Academy, including the mathematician and astronomer Abū Naṣr ʿIrāq,[59] the Christian physician Abū Sahl al-Masīḥī al-Ǧurǧānī,[60] and Ibn Sīnā.[61]

This review of the historical context makes two key observations. First, the regions in which al-Bīrūnī spent the first part of his life were all part of the Sassanid Empire (*ca.* 224 CE - 650 CE) prior to the advent of Islam. However, they were inhabited primarily by a persanized population. Second, each of these cities were flourishing economically and fostered intellectual communities in which al-Bīrūnī encountered and interacted with scholars. Ray and Jūrjānīya in particular were influential and respected intellectual centers where he could access important libraries. Further, the regional ruler of Jūrjān, Qābūs, supported him in his efforts.

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[57] Balty-Guesdon: 1992; Sourdel, EI (2nd), s.v. Bayt al-Ḥikma, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/bayt-al-hikma-SIM_1338 [last accessed in February 2014]; ibid., s.v. Dār al-Ḥikma, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/dar-al-hikma-SIM_1701 [last accessed in February 2014].

[58] Today, this institution is located in modern Khiva (Uzbekistan), 170 km southeast to Kunya-Urgench.

[59] Goldstein, EI (2nd), s.v. Ibn ʿIrāḳ, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/ibn-irak-SIM_3218 [last accessed in February 2014].

[60] Dietrich, EI (2nd), s.v. al-Masīḥī, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/al-masihi-SIM_5013 [last accessed in February 2014]; Said/Khan 1981: 66-69.

[61] Gutas, EIr, s.v. Avicenna ii. Biography, http://www.iranicaonline.org/articles/avicenna-ii [last accessed in March 2015].

1.2. Ghazna and Kabul, gateways to early medieval India

This survey examines the cases of Ghazna and Kabul jointly, because of their commonalities in terms of their economic and geographical contexts, as well as their pre-Islamic traditions. The Muslim Arabs first arrived in the region in 663 and again later in 665 CE.[62] Islam took root only three centuries later when Alptigīn founded the Ghaznavid dynasty in Ghazna in 962.[63] This city became the capital of the Ghaznavid Empire.[64] Maḥmūd the Ghaznavid (997-1030), a successor of Alptigīn, considerably expanded the Empire attacking and defeating the dynasties of Khwarezm in 1017.[65] Al-Bīrūnī accompanied Maḥmūd, and spent the rest of his life in his court. Several of al-Bīrūnī's astronomical calculations indicate that he resided in Kabul and Ghazna.[66] He also compiled the *Taḥdīd al-Amākin* and the *Taḥqīq mā li-l-Hind* in Ghazna during Maḥmūd's rule.

Kabul and Ghazna lie at the crossroads of different cultural spheres, connecting the eastern Indian subcontinent to the West, namely modern Afghanistan, Iran, and Uzbekistan. Whereas the Hindu Kush connects Afghanistan to the Indian subcontinent, the Amu Darya River and its tributary the Qundus-āb link it to Uzbekistan.[67] The area has been included in a number of successive empires, such as the Achaemenid Empire (*ca.* from 8th to 4th century BC),[68] that of Alexander the Great, when he attacked the Achaemenid rulers in the second half of 4th century BC, the Greco-Bactrian kingdom, and that of the Kuṣāṇas (*ca.* from 1st century to 3rd century CE).[69] Later, the Sassanids and the White Huns, or Hephtalites (350-

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[62] Gibb, EI (2nd), s.v. Abd al-Raḥmān b. Samura, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/abd-al-rahman-b-samura-SIM_0117 [last accessed in February 2014].
[63] Lombard 1971: 50; Elverskog 2010: 51.
[64] Nazim 1931: 24-26.
[65] Ibid.: 56-60.
[66] Ali 1967: 86; 271; Shamsi 1973: 270-274.
[67] Dagens/Le Berre/Schlumberger 1964: 52.
[68] Schmitt, EIr, s.v. Achaemenid Dynasty, http://www.iranicaonline.org/articles/search/keywords:Achaemenid [last accessed in March 2015].
[69] Hallade 1968: 33; Elverskog 2010: 26.

550 CE), also established themselves in the region.[70] The geographical location of this region, as well as its inclusion in these different empires, conferred to it a crucial role to play in different kinds of exchanges with the Indian subcontinent.

1.2.1   Presence of Brahmin kings

Archaeological data display mixed influences with regard to art and architecture. Different marble sculptures or terracotta belonging to Gardez,[71] east of Ghazna, and to Tagab, east of Kabul, and dated to the 7th or 8th century CE, are representations of Śiva, Pārvatī, or Durgā. They simultaneously display Kashmiri features as well as present characteristics of the Gupta style.[72] Toprak-Kala, which is approximately 40 km north of Kāṯ, and was inhabited until the 6th century CE, presents similar sculpture techniques as seen in Haḍḍa (northern Afghanistan), with figures possessing strong Hellenistic features. This reveals artistic influences spanning the area between Khwarezm and Afghanistan at an early date.[73]

The position of eastern Afghanistan as an early crucial crossing point between East and West and as a site of exchange is, for instance, confirmed by architectural features of a non-Buddhist site situated north of Kabul, Khair Khaneh (5th century CE?).[74] In this site, an ancient sanctuary dedicated to the deity Zhun belonged to the early period, while three later surimposed shrines enclosing three statues of Sūrya could be dated to the 7th century CE.[75] This type of 'triple shrined temple' appears to have existed in other parts of India during the Gupta period (4th to 6/7th century CE).[76] Archaeologists have been able to identify sculptures

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[70] Elverskog 2010: 27.

[71] Bivar, EI (2nd), s.v. Gardīz, ttp://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/gardiz-SIM_2422 [last accessed in February 2014].

[72] Rehman 1979b: 289-292.

[73] Rowland/Rice 1971: 32-33. Other examples of mixed influences in art and architecture of Central Asia are displayed in Dagens/Le Berre/Schlumberger (1964).

[74] Hackin/Carl 1936: 19. The site is also mentioned in Ghirshman (1948: 52) and Hallade (1968: 162).

[75] Kuwayama 2002: 205-207.

[76] A shrine which has been identified with the later stage possesses three small square structures, probably the *cellae* (Skt. *garbhagṛha*). Similar groups of three edifices are found in other sites of India; for instance, in Bhumara (150 km south-west of Allahabad) and Nachna-Kuthara (60 km north-west of Bhumara). Their sizes are comparable to the three structures of Khair Khaneh. Hackin/Carl 1936: 6-7.

found in the shrine of Khair Khaneh with Sūrya statues. Moreover, this effigy also bears Persian influences in the style of clothing and in other attributes.[77] The design of its face shows similarities with the style developed by the Gandhara Art in the statues of Buddhas (Plate I; II; III; IV).[78]

This archaeological site appears then to have witnessed the conflation of the different artistic styles of various religious communities that existed at the time in Central Asia. It is not the purpose of this study to analyze which communities influenced which, but this example is presented in order to draw attention to their co-mingling in this particular area.

Moreover, the question necessarily arises whether populations adhering to a form of Brahmanism lived in this region after the Sassanid (mid-7th century) or White Hun (mid-6th century) dynasties declined. According to Abdur Rehman, the site of Khair Khaneh has to be ascribed to the Indian Šāhis.[79] Moreover, a mountain situated in a region known as Zamīn Dāwar, between Ghur and Bust in central Afghanistan, was known to the Arab writers as housing a Hindu temple.[80] According to al-Bīrūnī's account, Indian populations following a form of Brahmanism lived in Kabul.[81] In the *Taḥqīq mā li-l-Hind*, the scholar outlines historical events that concern the populations living in Kabul before the advent of the Ghaznavids:

> The {Indians} had kings residing in Kabul, Turks who were said to be of Tibetan origin. {The first of them who came was *Barhatikīn*}.[82] He entered a cave in Kabul, which {it was only possible to enter by lying down}. […] {He was dressed in Turkish clothes, such as the *qabaʾ*,[83] the tiara, the leather slippers, and arms}.

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[77] Hackin /Carl 1936: 7-27. For instance, it wears boots used in today's Uzbekistan. Rowland/Rice 1971: 49.
[78] Hackin/Carl 1936: plates I; XIV to XVI; Rao 1981[1872-1919]: 308-309.
[79] Rehman 1979b: 288-289.
[80] Rehman 1979: 6-7.
[81] I chose the expression Brahmanism, instead of Hinduism, to refer to the Indian Šāhis living in Kabul and later on in northern Pakistan, because, as it is seen in section 2.3, they presented themselves to al-Bīrūnī as followers of Brahmanical traditions.
[82] For *Barhatigīn*. An usual ending of Turkish names is *-tigīn*, e.g. Alptigīn, Sebuktigīn. Changes with regard to Sachau's translation are indicated in brace. See the author's note.
[83] On the *qabaʾ* see Flood (2009: 65-67).

[…] In fact he brought those countries under his sway and ruled them under the title of a {Šāhi of Kabul}. The rule remained among his descendants for generations {for around sixty generations. Had the Indians not been negligent with regard to the successions, nor had they been continuously indifferent to the series of the histories of the kings, and had they not sought refuge by preferring the confusion, they would have conveyed to us what some of their people remembered.} I have been told that the pedigree of this royal family, written on silk, exists in the fortress Nagarkot,[84] and I much desired to make myself acquainted with it, but the thing was impossible for various reasons.

One of this series of kings was Kanik, the same who is said to have built the {Bihāra}[85] of {Purušāwr}. It is called {Kanika Ğit}.[86] People relate that the king[87] of {Kanauj} had presented {a cloth to him, which was the most luxurious and original [cloth] he could have brought} […].

{The last of them was Lagatūrmān and his minister, a Brahmin, was Kallara}. The latter had been fortunate, in so far as he had found by accident hidden treasures, which gave him much influence and power. {The government then turned away from its leader, because the faith of the people of the [royal] house in him declined.} {Lagatūrmān} had bad manners and a worse behaviour, on account of which people complained of him greatly to {his minister}. {Hence, [the latter] tied him and imprisoned him as punishment}, but then he himself found ruling sweet, his riches enabled him to carry out his plans, and so he occupied the royal throne. After him ruled the {Brahmin kings Sāmanda,[88] Kamalū, Bhīma, Ğayapāla, Anandapāla, and Tirūğanpāla}.[89] The latter was killed A.H. 412 (A.D. 1021), and his son {Bhīmapāla} five years later (A.D. 1026). The {Indian Šāhis} dynasty is now extinct, and of the whole house there is no longer the slightest remnant in existence. (Sachau 1888b: II: 10-13)[90]

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[84] The ruins of Nagarkot (Kangra Kot or Kangra Fort) are located in today's Himachal Pradesh at the foot of the Himalayan range. Dey 1927: 135; Nazim 1931: 89-91; Bhattacharyya 1999[1991]: 227. On oral transmission see sections 1.3.4 and 2.3.

[85] From the Sanskrit term *vihāra*.

[86] Kanika-Caitya. See Dani 1969: 37-39.

[87] The Arabic has *rāy* (رای). The word *rājan* (king) was generally transposed as *rāy* into Arabic.

[88] From the Sanskrit name Sāmanta.

[89] From the Sanskrit name Trilocanapāla.

[90] Al-Bīrūnī 1958: 348.10-351.3.

The historical reliability of this passage is doubtful. It is likely that this excerpt only conveys a few historical facts. It claims a dynastic change between Turkish rulers of Tibetan origin who may have been Buddhists,[91] and a Brahmanical ones, i.e., the Indian Šāhis. The first of these dynasties was, according to this report, founded by a person named Barhatigīn. This king is perhaps to be identified with Vahitigina, a name of a legend in coins attributed to the Turkish Šāhis, some of which were found in the Mānikālya stupa, located to the southeast of present-day Islamabad.[92] Kanik, in all likelihood, stands for Kaniṣka (127-140 CE) the famous and important emperor of the aforementioned Kuṣāṇa dynasty (1st to 3rd century CE). Al-Bīrūnī explains that this king established a *vihāra* (Buddhist monastery) in the region of Peshawar, thus confirming the Kanika identification with the Kuṣāṇa ruler. According to al-Bīrūnī, Kanik belonged to the same lineage as Barhatigīn. However, it is very doubtful that al-Bīrūnī's Turkish Šāhis of Kabul are to be identified with the Kuṣāṇas.[93] Louis de La Vallée Poussin and Dīnabandhu Pāṇḍeya cast doubts on the historical reliability of this section of the account.[94]

Minoru Inaba has recently shed light on the history of this dynasty, which he identifies as a branch of the Khalajs, a Turkish tribe who ruled the area between the 7th and the 9th centuries CE.[95] Whoever the Turkish Šāhis of Kabul may have been, the reign of these kings, in all likelihood supporting Buddhist traditions, declined and was succeeded by the rule of the Indian Šāhis, who, for their part, promoted a form of Brahmanism. The shift toward Brahmanism had been facilitated by the pressure of the Arabs to the west and the Kashmiri kings to the northeast.

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[91] Rehman 1979b: 285.
[92] Ibid.: 177-181.
[93] Such a distinction between two kinds of Šāhis ruling in Kabul is not found in the *Rājataraṅgiṇī* according to Pāṇḍeya (1973: 51).
[94] La Vallée Poussin 1935: 17-18; Pāṇḍeya 1973: 63.
[95] Inaba (2004: 107-108; 2006). The dynastic and religious shift is generally during the 9th century CE, though scholars disagree on the exact date of this event (La Vallée Poussin 1935: 19; Pāṇḍeya 1973: 67; Rehman 1979b: 88; Mishra 1983: 31-32). On the term Ranbil, Rutbīl, Zunbīl, or Zanbīl, which referred to some kings of Kabul, see Rehman (1979b: 37-40), Wink (1990: 114-128), and Inaba (2006: 2).

The succeeding Brahmanical dynasty recorded by al-Bīrūnī is of more interest for the present dissertation. The dynasty of the Indian Šāhis (also Hindu Šāhis or Uḍi Šāhis) has attracted little attention of the academic world, thus I intend to shed some light on this dynasty and its society. The latter section of al-Bīrūnī's report dealing with the Indian Šāhis appears to be more historically reliable than his account on the Turkish Šāhis. Barring the name Kallara, the kings' names are all verified in other sources, notably in numismatics.[96]

The Indian Šāhis probably ruled the region of Kabul from the middle of the 9th century until the arrival of Alptigīn in 962. Contemporary Arabic and Persian sources inform us about the encounter between the Ghaznavids and the Indian Šāhis.[97] First, Alptigīn fought the local rulers of Kabul and Ghazna.[98] His successor, Sebuktigīn (977-997),[99] launched several raids against the Indian Šāhis in Kabul, as well as in the regions of Laghman[100] and Peshawar. Al-ʿUtbī, one of the official secretaries of the Ghaznavids, writing between the end of the 10th and the beginning of the 11th century CE, reported that Sebuktigīn destroyed various holy structures, including temples and churches.[101] Maḥmūd, the son of Sebuktigīn, continued the attacks against the Indian Šāhis, mainly in regions stretching from present-day northern Afghanistan and Pakistan. Thus, it appears that Brahmin kings did reside in the region of Kabul before the Ghaznavids established their authority in this region. These kings later ruled northwestern Pakistan, associating themselves with a form of Brahmanism and recognizing the authority of the Brahmins, as is discussed in section 1.4.1.

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[96] Cunningham 1875: 82-83; Dani 1969: 54-56; Rehman 1979: 89-167; Wink 1990: 125. On Indian Šāhis' coinage see Thomas (1846).

[97] See for instance Nazim (1931) and Rehman (1979) who provide a detailed account of Maḥmūd's military campaigns based on primary literary sources.

[98] It was perhaps during the reign of Bhīma. Rehman 1979b: 125.

[99] Nazim 1931: 28-33.

[100] Al-ʿUtbī 1858: 39. Laghmān, Laghman or Lamghan was situated in northeastern Afghanistan, lying on the northern side of River Kabul. Rehman 1979b: 13. See infra pp. 59-61.

[101] Al-ʿUtbī 1858: 42. Anooshahr, EIr, s.v. ʿOtbi, Abu Naṣr Moḥammed, http://www.iranicaonline.org/articles/otbi-abu-nasr-mohammed [last accessed in February 2014]; Bosworth, EI (2nd), s.v. al-ʿUtbī, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/al-utbi-SIM_7769 [last accessed in February 2014].

Before examining the role their society played in al-Bīrūnī's understanding and description of India, it is pertinent to recall that Kabul and Ghazna were also geographically close to India. As the previous section highlights, this region witnessed a number of various cultural influences. Economic exchanges also passed through this crossing point in Central Asia. For instance, the Kuṣāṇas encouraged craftsmen from different regions to work under their rule.[102] Ivory carvings from India were, for instance, found at Begram.[103] Furthermore, golden coins belonging to the 4th century CE and bearing the names of different Kuṣāṇa kings were found in the Punjab and surrounding areas.[104]

These examples belong to a period that predates the Ghaznavids' and al-Bīrūnī's time by several centuries. The role of eastern Afghanistan at this particular crossroad, however, remained important into the 10th and 11th centuries, if for commercial reasons at the very least. According to Arabic sources, trade with India continued to prosper, even after Alptigīn's arrival in the region.[105] During the reign of Maḥmūd, Ghazna became the administrative center of a vast empire. Al-ʿUtbī describes the city as a great emporium, where a large number of merchants gathered. Numerous slaves, from Ancient Khorasan, Transoxiana, and other parts of Iran, were also transited via Ghazna.[106] In this context, Bust, southwest of Ghazna, has been considered the "gateway to Hind" (Rehman 1979b: 8).[107] Kabul was an important Ghaznavid site as well. The location of the important Ghaznavid sites, including Lashkari Bazar, the Ghaznavid palace north of Bust, Ghazna, and Kabul conferred to the cities a crucial role to play in different types of exchanges between Islamic and Indian worlds.[108]

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[102] Rowland/Rice 1971: 23.
[103] Ibid.: 14, plate 24.
[104] Majumdar 1954: 53.
[105] For instance Ibn Ḥawqal (10th century CE), quoted in Bosworth, EI (2nd), s.v. G̲h̲azna, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/ghazna-SIM_2498 [last accessed in February 2014]. See also Le Strange 1930: 348-351.
[106] Al-ʿUtbī 1858: 462-3.
[107] With reference to the Ḥudūd al-ʿĀlam.
[108] See Schlumberger 1978; Sourdel-Thomine 1978.

It also appears that Ghaznavid art and coinage were gradually influenced by the Indian society that was contiguous to Maḥmūd's kingdom.[109] An archaeological survey illustrates the fact that the tomb of Sebuktigīn presents purely Iranian iconography and style, while that of Maḥmūd, his son, shows touches of Indian influence. According to the same study, the style of Masʿūd's tomb, son and successor of Maḥmūd, displays a greater debt to Indian art. It is thus likely that Maḥmūd brought marble from India and that he summoned Indian craftsmen.[110] The coinage of Sebuktigīn also displays similarities with that of the Indian Šāhis. In Bosworth's opinion, the administration of the Indian rulers must have affected the Ghaznavids not only with regard to the coinage, but in other respects as well. The Ghaznavids appropriated existing practices that would help them run the state in the territory they had penetrated.[111] Muslim rulers gradually became more acquainted with, and interested in, India and its peoples through civil and/or political contacts and military conquests. The period of the Ghaznavids embodies a particularly significant phase in this process.

The elements considered so far reveal, on the one hand, the presence of Brahmanical traditions and, on the other hand, different types of cultural exchanges that were taking place before and during the rule of the Ghaznavids in the region of Ghazna and Kabul.

1.2.2. Geographical delimitation of India in al-Bīrūnī's time

In a recent publication, I discussed the conceptualization of India, referred to as al-Hind in Arabic, by several Perso-Muslim authors between the 8th and the early 11th centuries. This survey indicates that the frontiers of al-Hind were conceived in terms of cultural boundaries, and that they moved eastward, depending upon the Muslim establishment.[112]

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[109] Thomas 1846: 275.
[110] Godard 1925: 59.
[111] Bosworth 1963: 43.
[112] Verdon 2015.

The description of al-Hind also evolved across the writings of the Perso-Muslim authors. The *Šašnāma*, originally compiled at the end of the 9th century CE, and the *Kitāb Futūḥ al-Buldān* (*The Book of the Conquest of the Countries*) by Balāḏurī, chiefly focus on narrating the conquest of the Sindh by the Muslims.[113] The *Kitāb al-Masālik wa l-Mamālik* (*The Book of the Roads and the Realms*), penned in the beginning of the 10th century CE by Ibn Ḫurdāḏbah, describes different itineraries linking cities and regions of the world known by the author.[114] The homonymous work by Iṣṭaḥrī and the *Ṣūrat al-Arḍ* (*The Shape of the Earth*) by Ibn Ḥawqal, both composed in mid-10th century CE, follow the style of Ibn Ḫurdāḏbah, drawing much of their information from this earlier geographical work.[115] Elements of history or culture regarding al-Hind are rather scanty in these works. Al-Masʿūdī was the first before al-Bīrūnī to provide a relatively detailed account of culture, religion, and history about India in his *Murūǧ al-Ḏahab wa Maʿādin al-Ǧawāhir* (*The Meadows of Gold and the Mines of Gems*), written in the middle of the 10th century CE.[116] The anonymous Persian *Ḥudūd al-ʿĀlam* (*The Frontiers of the World*), composed in 982/83 CE, chiefly

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[113] On Islamic geography see Miquel (1967) and for a global account of al-Hind as described by Perso-Muslim writers see Wink (1990: 109-192). On the *Šašnāma*: Elliot/Dowson 2008[1867]: I: 131-211; Ahmad 2005: 98, note 1; Friedmann, in EI (2nd), s.v. Čač-Nāma, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/cac-nama-SIM_8436 [last accessed in March 2015]; On Balāḏurī: Elliot/Dowson 2008[1867]: I: 113-130; Hitti 1966; Bosworth, EIr, s.v. Balāḏorī, Abu' l-Ḥasan or Abu Bakr Aḥmad b. Yaḥyā b. Jāber, http://www.iranicaonline.org/articles/baladori-abul-hasan [last accessed in March 2015]; Becke/Rosenthal, EI (2nd), s.v. al-Balāḏhurī, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/al-baladhuri-COM_0094 [last accessed in March 2015].

[114] The delimitation and description of the inhabitable world constituted a common topic among Arabic writers, whose conception of it was much indebted to Ptolemy's. Zadeh 2011: 88-91.

[115] On Ibn Ḫurdāḏbah: Elliot/Dowson 2008[1867]: I: 12-17; Ibn Ḫurdāḏbah 1967[1889]; Bosworth, EIr, s.v. Ebn Ḵordāḏbeh, Abu' l-Qāsem 'Obayd-Allāh, http://www.iranicaonline.org/articles/ebn-kordadbeh [last accessed in March 2015]; Hadj-Sadok, EI (2nd), http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/ibn-khurradadhbih-SIM_325 [last accessed in March 2015]; on Iṣṭaḥrī: Elliot/Dowson 2008[1867]: I: 26-30; Bolshakov, EIr, s.v. Eṣṭaḵrī, Abū Esḥāq Ebrāhīm, http://www.iranicaonline.org/articles/estakri-abu-eshaq-ebrahim [last accessed in March 2015]; Miquel, EI (2nd), s.v. al-Iṣṭakhrī, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/al-istakhri-SIM_3673 [last accessed in March 2015]; on Ibn Ḥawqal: Elliot/Dowson 2008[1867]: I: 31-40; Khalidov, EIr, s.v. Ebn Ḥawqal, Abu' l-Qāsem Moḥammad, http://www.iranicaonline.org/articles/ebn-hawqal [last accessed in March 2015].

[116] Elliot/Dowson 2008[1867]: I: 18-25; Al-Masʿūdī 1962: I; Shboul (1979): 160-161; Cooperson, EIr, s.v. Masʿūdī, Abu'l-Ḥasan 'Ali b. Ḥosaynb. 'Ali b. 'Abd-Allāh Hoḏali, http://www.iranicaonline.org/articles/masudi [last accessed in March 2015]; Pellat, EI (2nd), s.v. al- Masʿūdī, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/al-masudi-COM_0704 [last accessed in March 2015].

constitutes a geographical account describing different cities of the known world. In contrast with the aforementioned earlier accounts, which deal mainly with Sindh, Gujarat, coastal areas of al-Hind and Islands, the author of this work includes the description of cities located in northeastern Afghanistan and northern Pakistan.[117]

Generally speaking, populations described as Indians, in Arabic sometimes referred to with the collective *al-hind* (الهند), were considered as others in the eyes of these authors, particularly because they had different religious practices, especially idolatry and belief in reincarnation.[118] Al-Bīrūnī's account goes far beyond this general conception of the Indians by authors who preceded him. He describes an Indian society alongside its science, literature, philosophy, and religion in a rather comprehensive manner, as it has been repeatedly noted by modern scholars.

The evolution of the knowledge of al-Hind by early medieval Perso-Muslim authors can be linked with historical events that took place in the region. The case of Sindh is particularly interesting for understanding how cultural frontiers may have fluctuated. Muslims in the early 8th century CE first conquered the region of Sindh, then a border zone of al-Hind. Arab Muslim communities began settling in the region, while members of the Ismāʿīlī sect of Islam governed Sindh between 879 and 1025.[119] These political events are reflected in Arabic geographical accounts. Sindh appeared to have been considered part of al-Hind by Arab geographers from the 9th to the mid-10th century, when the Muslim establishment was still beginning, but became more independent from al-Hind in their writings from the end of the 10th century. The difference in their attitude toward Sindh can be explained by the growth of their knowledge of this region, as well as by the gradual Muslim establishment present

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[117] Bosworth 1970[1937]; ibid., EI (2nd), s.v. Ḥudūd al-ʿĀlam, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/hudud-al-alam-SIM_8627 [last accessed in March 2015]; ibid., EIr, s.v. Ḥodud al-ʿĀlam, http://www.iranicaonline.org/articles/hodud-al-alam [last accessed in March 2015].
[118] Verdon 2015: 46-52.
[119] Elverskog 2010: 51.

there.[120] By the time of the compilation of the *Taḥqīq mā li-l-Hind* in approximately 1030,[121] this region, still part of al-Hind, was relatively well-known to the Muslims.

Under attack from Maḥmūd's regime, the Indian Šāhis fled eastward, from Kabul to Peshawar, carrying with them their cultural and religious traditions. The case of northeastern Afghanistan and northern Pakistan is, in my opinion, another example of the shifting cultural frontiers at the time. If indeed cultural frontiers fluctuated depending upon the arrival of Islam, the question of how the delimitation of these frontiers was envisaged when al-Bīrūnī composed the *Taḥqīq mā li-l-Hind* must arise as the first step to contextualize his research on early medieval India.

Al-Bīrūnī defines the frontiers of al-Hind by natural elements (See Plate V), respectively by mountains and sea.[122] Although border zones remain relatively wide regions, as it was common at the time, it is possible to understand in general how al-Bīrūnī delimited the geographical area corresponding to al-Hind, as seen in his description included in a portion of the *Taḥqīq*:

> This sea [i.e., the Indian Ocean] is mostly called from <some island> in it or from <the coast> which borders it. Here, however, we are concerned <only with that part of the sea> which is bordered by the continent of India, and therefore is called {by its name}.
>
> {Furthermore, imagine high and uninterrupted mountain [range] in the inhabitable world, as if it had a vertebral spine, spreading in the center of its breadth, and along its length from East to West.} […][123]

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[120] Verdon 2015: 50-52. Derryl N. Maclean discusses at length the process by which Buddhist communities almost disappeared from Sindh when Muslim settled in the region (1989: 1-82).

[121] On the compilation's date of the *Taḥqīq*, see supra footnote 13.

[122] Medieval Muslim geographers, indebted to Ptolemy's views, generally conceptualized the division of the world into climes. See al-Bīrūnī's description of them in the *Tafhīm* (Wright 1934: 143-145, no 241). Al-Bīrūnī also describes different regions of the world and provides a map of it. Wright 1934: 121-125, no 211-212.

[123] Al-Bīrūnī here describes how this mountain range extends from the East in China to the West in the lands of the Franks.

Long as this range is, it has also a considerable breadth, and, besides, many windings which enclose inhabited plains watered by streams which descend from the mountains both towards north and south. One of these plains is India, limited in the south by the above-mentioned Indian Ocean, and on all three other sides by the lofty mountains. (Sachau 1888b: I: 197-198)[124]

In this excerpt, the delimitation remains relatively general. Further passages, however, provide a richer description of al-Hind's frontiers:

{Fort Rāğakirī} lies south of it [i.e., the mountain Kulārjak],[125] and {Fort Lahūr} west of it, the two strongest places I have ever seen. {Town of Rājāwūri}[126] is three {farsakhs}[127] distant from the peak. This is the farthest place to which our merchants trade, and beyond which they never pass. This is the frontier of India from the north.

In the western frontier mountains of India there live various tribes of the Afghans, and extend up to the neighbourhood of the Sindh Valley. The southern frontier of India is formed by the ocean. (Sachau 1888b: I: 208)[128]

The eastern islands in this ocean, which are {very close to the border of China}, are the islands {Zābağ}, called by the {Indians *Suvarna Dīb*},[129] *i.e.* the gold islands. (Sachau 1888b: I: 210)[130]

The reader must imagine that the mountains form the boundaries of India. The northern mountains are the snowy Himavant. In their centre lies {Kašmīr}, and they are connected with the country of the Turks. (Sachau 1888b: I: 258)[131]

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[124] Al-Bīrūnī 1958: 157.1-11.
[125] This mountain (ar. *Kulārğak*) is located south to the capital of Kashmir, i.e., Srinagar, according to al-Bīrūnī (Al-Bīrūnī 1958: 167.1-2; Sachau 1888b: I: 207). It perhaps corresponds to the Mount Taṭakūṭi belonging to the Pir Panjal Range. Kalhaṇa 2009[1892] : II: 297-298.
[126] Rājāwūri probably corresponds to the modern Rajauri district situated to the southeast of Punch in present-day Jammu and Kashmir. Sachau 1888b: II: 320; Dey 1927: 165; Bhattacharyya 1999[1991]: 258.
[127] *Farsakh* is a unit of distance that varies depending upon the epoch and the area.
[128] Al-Bīrūnī 1958: 167.5-9.
[129] In Sanskrit, the compound *suvarṇadvīpa* means golden island. It was probably used to name the Indonesian island of Sumatra.
[130] Al-Bīrūnī 1958: 169.3-5.
[131] Al-Bīrūnī 1958: 214.3-5.

Most importantly is that al-Bīrūnī's delimitation of the western frontiers of al-Hind begins at what is today Pakistan. The Indus Valley, including Sindh and Punjab, constituted to some extent a culture-meshing frontier zone between the early medieval Islamic world and India, as it was the first site of contact between Muslims and Indians via the land route. Subsequent questions to be addressed concern the places al-Bīrūnī visited in the territory he considered to be part of al-Hind, and attempt to determine what type of society lived in this region during his time.

1.3. Al-Bīrūnī's visits in northern Pakistan

1.3.1. Evidence from al-Bīrūnī's writings

This section assesses al-Bīrūnī's visits and observations in al-Hind as relayed by him. Yet, this question is problematic. Carl Edward Sachau, who remains an established authority on al-Bīrūnī, writes that while al-Bīrūnī stayed "at Multan, Peshawar, &c." (1888b: I: xv), the "absence of positive information" leads him to "infer, with a tolerable degree of certainty, that our author [...] stayed in different parts of India […]" (Ibid.: xvi). In spite of Sachau's important contribution in terms of providing information and a largely valid translation, some of his comments are now considered to be antiquated. When *Alberuni's India* was published at the end of the 19th century CE, British India included today's Pakistan – as well as Bangladesh. Sachau's statement on al-Bīrūnī's sojourn in India may have sewed a seed of confusion. However, Sachau asserts in another relatively unknown work that was published the same year as the *Taḥqīq* that al-Bīrūnī stayed in the Kabul Valley and Punjab.[132] Much ink has been spilled over al-Bīrūnī's life, achievements, works, and travels, but regarding his field of investigation, one is forced to notice a general lack of inquiry, accuracy, and consensus.

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[132] Sachau 1888a: 6.

M.S. Khan, for instance, writes, "[i]t seems unlikely that al-Bīrūnī visited South India, but this question must remain open for investigation" (1976: 91, note 24). Indeed, despite the vast literature on al-Bīrūnī, only few writers have developed the question, or provided details regarding the bases of their assumptions about al-Bīrūnī's travels. For instance, Suniti Kumar Chatterji locates some of al-Bīrūnī's visits in western Punjab, adding that he would "have stayed for some time in Multan" (1951: 86). V. Courtois, on his part, maintains that "al-Biruni stayed in India several years and spent most of his time in the North West, within the limits of pre-partition Punjab" (1952: 35). More recently, M. A. Saleem Khan notices that Afghanistan was part of India at al-Bīrūnī's time, stating that "[a]l-Biruni [stayed] in India – and present Afghanistan was […] part of India – and [visited] other places in the rest of India, [learned] its most important and difficult language i.e. Sanskrit, meeting with the learned pundits, [and] studying books" (2001: 21). The latter two, Courtois and Khan, are ambivalent; on the one hand, they underline the fact that the boundaries of India changed, yet, on the other, they continue to use the concept of India in vague terms.

Others analyze al-Bīrūnī's writings on this topic in a more elaborate manner. Bimala Churn Law (1955) considers al-Bīrūnī's observations regarding Forts Rājagirī and Lahūr, situated south of the Kashmir Valley,[133] while Ahmad Hasan Dani (1979) casts doubt on al-Bīrūnī's visit to Lahore.[134] The latter stresses that it "would not be unreasonable to say that al-Biruni's account is more pertinent to the areas that fall within the Indus region, i.e. within the present territorial limits of Pakistan" and that it "can hardly be perfectly true of the Ganges Valley much less of South India" (Dani 1979: 187). Edward Stewart Kennedy's (1970) well-documented biography of al-Bīrūnī only touches upon this question.[135] Mohammed Hassan

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[133] Law 1955: 9-10. On Fort Rājagirī and Fort Lahūr see infra pp. 62-63.
[134] Dani 1979: 186-187. It is however generally believed that al-Bīrūnī stayed in this city, as it became the second capital of Ghaznavids (Bosworth 1977: 64). See for instance Elliot/Dowson 2008[1869]: II: 3; 5. On Lahore see infra pp. 45-48.
[135] Kennedy 1970: II: 150.

Syed argues that al-Bīrūnī stayed for a short period of time in today's Pakistan.[136] Likewise Amrita Grover claims, on the basis that al-Bīrūnī consulted books from Multan, that he travelled West Punjab. Yet she provides no further explanation for such assumptions.[137]

Mohammed Hakim Said and Ansar Zahid Khan (1981) provide a relatively detailed account of al-Bīrūnī's life. They highlight the favorable circumstances in Kabul and Ghazna for al-Bīrūnī to learn about Indian sciences and, notably, Sanskrit, without explaining the reasons behind such suppositions. They also write that al-Bīrūnī visited Punjab, in particular Multan, Sialkot, Nandana, Fort Rājagirī, and Fort Lahūr, but again their account lacks proof. These two authors also cast doubt on the question whether al-Bīrūnī accompanied Maḥmūd on his military expeditions, and when this may have occurred, yet they do not come to a satisfying conclusion.[138] Ultimately, they state that "al-Bīrūnī seems to have travelled along Kabul and the Punjab routes" (Said/Khan 1981: 86). Further, according to these two authors, al-Bīrūnī travelled in early medieval India during three periods of time, namely during the years 1020 to 1021, 1023 to 1024, or 1028 to 1029, as they coincide with years during which the scholar's presence in Ghazna is not attested. The two authors further conclude that the best candidates amongst these dates are the years 1020 and 1024.[139] However, this is difficult to ascertain.

Jai Shankar Mishra's account (1985) is perhaps one of the most detailed analyzes of al-Bīrūnī's travels, including duration of trips taken and their limits. He argues that, since al-Bīrūnī usually informs the reader of his sources (oral or written), he would then have mentioned his repeated sojourn in al-Hind. Mishra refutes "the view that he travelled in many provinces of India" (1985: 11), asserting that the scholar only visited western Punjab. He bases his argument mainly on the study of the *Taḥqīq*, and enumerates the places that al-

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[136] Syed 2003: I: 36.
[137] Grover 2006: 61.
[138] Said/Khan 1981: 84-86.
[139] Said/Khan 1981: 82-83.

Bīrūnī actually saw as Forts Rājagirī and Lahūr.[140] In this list, he also includes locales for which al-Bīrūnī calculated the latitudes.[141]

In many cases, thus, there is a dearth of accuracy regarding al-Bīrūnī's observations in early medieval India. The same is true concerning his encounter with Indians and his learning of Sanskrit. There is evidence to support the fact that al-Bīrūnī's travels to al-Hind were actually confined to two provinces of present-day northern Pakistan, namely Khyber Pakhtunkhwa and the Punjab. The following sections reveal that indeed al-Bīrūnī did not visit a large numbers of locales in al-Hind, and further explore the socio-historical context of these locales. Sections 2.1 and 2.2 consider the way in which al-Bīrūnī learned Sanskrit.

Al-Bīrūnī's aim was certainly not merely to inform his reader about the places he himself had visited. Gathering verifiable data scattered in several of al-Bīrūnī's works, this study analyzes it. Verifiable data includes what al-Bīrūnī tells us about his observations in al-Hind, while unreliable data is what appears in later literature and often incorporates romanticized elements. Moreover, al-ʿUtbī, al-Bīrūnī's contemporary, does not shed much light on this question.[142]

Al-Bīrūnī's works providing information on this particular question are the *Taḥdīd al-Amākin*[143] and the *Taḥqīq mā li l-Hind*.[144] Evidence of al-Bīrūnī positioning himself as an observer can be found in a few extracts of the *Taḥqīq*. For instance, he witnessed the manner in which the Indians catch gazelles,[145] a struggle he has seen in al-Hind between an elephant and an animal he calls *gaṇḍa*,[146] and he informs the reader he has seen Brahmins.[147] Yet these passages are of no help here, as they do not specify where al-Bīrūnī observed these things.

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[140] This is dealt further with in the present section. Laghman and Peshawar are also sites belonging to al-Hind which al-Bīrūnī payed visit to before the compilation of the *Taḥqīq*. See infra pp. 59-62.
[141] Mishra 1985: 11-13. On the latitudes see infra pp. 43-44.
[142] Moreover, al-ʿUtbī's account is sometimes biased, for instance when he glorifies the Ghaznavid princes.
[143] Al-Bīrūnī 1992; Ali 1967.
[144] Al-Bīrūnī 1958; Sachau 1888b.
[145] Ibid.: I: 195.
[146] Ibid.: I: 204.
[147] Ibid.: II :134. On al-Bīrūnī's meeting with Brahmins and astronomers, see section 2.3.

However, there are four passages making explicit references to al-Bīrūnī's travels in India. In the *Taḥdīd al-Amākin*, compiled in 1025, he explains having been in the area of Laghman and in Fort Nandana. In the *Taḥqīq mā li l-Hind*, written around 1030, al-Bīrūnī declares that he saw Peshawar, Fort Rājagirī, and Fort Lahūr. Laghman[148] was situated to the north of modern Kabul and Jalalabad, along the northern bank of the River Kabul.[149] It also lies on one of the roads putatively taken by Maḥmūd, which leads from Ghazna to Peshawar via Kabul.[150] The locations of Fort Rājagirī and of Fort Lahūr are uncertain.[151] Yet the names of both sites could refer to several places of early medieval India. For Marc Aurel Stein, Fort Lahūr is the 'Castle of Lohara', referred to as Lohara(koṭṭa) in the *Rājataraṅgiṇī*,[152] also known as Lohkot, which is located southwest of the Pir Panjal Range.[153] Rehman argues that Fort Rājagirī was perhaps located near Uḍegrām in the Swat Valley,[154] which is now called Rāja Girā's castle. It is possible that, although al-Bīrūnī mentions them together, these two sites were not situated in the same region, and that Fort Lahūr was situated east of Fort Rājagirī. Fort Nandana is located in the Pakistani Punjab, on top of a hill belonging to a series of mountains called the Salt Range. [155]

In the *Taḥqīq*, al-Bīrūnī provides the latitudes' coordinates of the following sites: Fort Lahūr (34°10'), Ghazna (33°35'), Kabul (33°47'), Kandī, known as "the stronghold of the Prince" ("كندى رباط الأمير" ;33°55'),[156] Dunpur (34°20'), Laghman (34°43'), Peshawar (34°44'), Wayhind (34°30', Hund or Udabhāṇḍapura), Jhelum (33°20'), Fort Nandana

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[148] It is also known as Muraṇḍa. Dey 1927: 113. The inhabitants of Laghman are referred to as *lampāka* in the *Purāṇa*-s. Bhattacharyya 1999[1991]: 202.

[149] Rehman 1979b: 13.

[150] Al-Bīrūnī 1958: 165.5-11; Sachau 1888b: I: 206.

[151] Fort Lahūr (or Lawhūr) does not stand for the present-day Lahore, capital of Pakistani Punjab, as al-Bīrūnī seems to refer to this city as Mandahūkūr. On al-Bīrūnī's mention of Fort Lahūr and Fort Rājagirī, see pp. 62-63.

[152] *Rājataraṅgiṇī* IV.177. Kalhaṇa 2009[1892]: III: 50; Ibid.: I: 138; Ibid.: II: 293-300.

[153] Ibid.: II: 192-300. Another place known as Chota Lahore (small Lahore) and lying to the east of the Swāt Valley could correspond to the Fort Lahūr of al-Bīrūnī.

[154] Rehman 1979b: 275-276; Rehman 2003: 9. See also Dani (1969: 220).

[155] Bhattacharyya 1999[1991]: 229.

[156] According to Sachau, the reading is possibly Kirī (or Girī). Sachau 1888b: II: 341. This site would be then identified with that of Rājagirī.

(32°0'), Sialkot (32°58'), Mandahūkūr, which is modern Lahore,[157] (31°50'), and Multan (29°40').[158] Immediately after providing these latitudes, al-Bīrūnī states:

> We ourselves have (in our travels) in their country not passed beyond the places which we have mentioned, nor have we learned any more longitudes and latitudes (of places in India) from their literature. (Sachau 1888b: I: 318)[159]

The sites mentioned above are all located in present-day eastern Afghanistan or northwestern Pakistan. According to al-Bīrūnī's own words, he did not go beyond this region. Al-Bīrūnī also provides the latitudes of Ujjain, Taneshwar, and Kanauj, but explains that he drew this information from different Arabic sources (such as Yaʿqūb Ibn Ṭāriq, Abā Aḥmad ibn Ǧīlaġtakīn), as well as Sanskrit sources, (such as Balabhadra and the *Karaṇasāra,* which, according to al-Bīrūnī, was compiled by Vitteśvara).[160]

Al-Bīrūnī's presence then can at least be established in eastern Afghanistan (Laghman), and in present-day northwestern Pakistan (Nandana, Peshawar, Fort Rājagirī, and Fort Lahūr). Thus, although the possibility that al-Bīrūnī travelled through many provinces of early medieval India cannot be completely discarded, there may never be evidence confirming this.

1.3.2. <u>Northern Pakistan as Maḥmūd's chief target</u>

Beyond al-Bīrūnī's statement on the latitudes and his observations in five places, other evidence indicates that al-Bīrūnī's direct observations are confined to northeastern Afghanistan and northern Pakistan. The circumstances of al-Bīrūnī's descriptions of early

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[157] Al-Bīrūnī refers to Lahore as Mandahūkūr (مَندَهُوكُور), which is described as being the capital of [the region] of Lawhūr and situated to the east of the Ravi River (Ar. *Irāwah*; ايراوه; al-Bīrūnī 1958: 165.7; Sachau 1888b: I: 206). This name is not attested elsewhere. It could be however a is a corrupted form of Maḥmūdpur.
[158] Al-Bīrūnī 1958: 270.5-11; Sachau 1888b: I: 317. In addition, al-Bīrūnī provides several other latitudes in *al-Qānūn al-Masʿūdī.* Sachau 1888b: II: 317. See also Said/Khan 1981: 79.
[159] Al-Bīrūnī 1958: 270.13-15; Sachau 1888b: I: 317.
[160] Al-Bīrūnī 1958: 269.10-270.5; Sachau 1888b: I: 316-317. See sections 2.1 and 2.2 on al-Bīrūnī's written sources.

medieval India were intimately connected to the interests of Ghaznavids, particularly Maḥmūd's. It appears that Maḥmūd focused his campaigns against al-Hind on the modern states of Khyber Pakhtunkhwa and Punjab, an additional indication that al-Bīrūnī's direct observations occurred in this region. This section thus examines several historical and political aspects of the Ghaznavids' empire.

Prior to the Ghaznavids' conquests, northeastern Afghanistan and northern Pakistan remained a *terra incognita*,[161] as this dynasty was the first amongst the Muslims to direct its military campaigns at these regions. As for Maḥmūd, he repeatedly attacked this area, in all likelihood with the aim of (re)opening and controlling the important routes leading to the Ganges' Valley.[162] He concentrated the majority of his raids on the Khyber Pakhtunkhwa and Punjab states of Pakistan (Laghman, 1000; Peshawar, 1001; Wayhind, 1001, 1008, 1009; Fort Nandana, 1014; Fort Lahūr/Kashmir, 1015/16 and 1021/22). A few of them were launched against Sindh (Bhātinda, 1004/05; Nārayanapur, 1009; Multan, 1006, 1008, 1010), and modern India (Taneshwar, 1014; Kanauj, 1018/19; Fort Gwalior/Kalinjar, 1022; Temple de Somnath, 1025/26).[163]

Moreover, it appears that Maḥmūd actually took a northern route from Ghazna to Kanauj, via Peshawar and Lahore. Al-ʿUtbī recorded that the army of the sultan crossed the Jhelum and Chand (Chenab?) Rivers, and went through the city of Iskandar (Taxila, near Peshawar).[164] One of the roads starting from Kanauj, and described by al-Bīrūnī, leads directly to Ghazna via Lahore, Peshawar and Kabul (PLATE VI).[165] A parallel can be thus

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[161] Grover 2006: 44; Verdon 2015: 38-40.
[162] Elliot/Dowson 2008[1869]: II: 30-31; Nazim 1931: 88-89. The road passing from Kabul to the Gangetic Valley via Peshawar has been used by earlier invaders of India, such as Alexander the Great.
[163] Nazim 1931: 86-122. Minoru Inaba provides a table grounded in several primary sources and listing Maḥmūd's conquests toward Central Asia and India (2013: 77-79, table 1), as well as a map representing the territory of the Ghaznavids at Maḥmūd's death (2013: 76, fig. 1).
[164] Al-ʿUtbī 1858: 451.
[165] Al-Bīrūnī 1958: 155-170; Sachau 1888b: I: 196-212. The fact that al-Bīrūnī makes Kanauj the starting point of the itineraries he describes has to be connected to the prestige this city benefited from in the Guptas' period. See Thapar (2003[2002]: 405-407) and Elverskog (2010: 45). Similar itineraries have been reconstructed in Schwartzberg (1978: 33), Deloche (1968: planche VII), and Inaba (2013: 76; 80-85). Grover also describes

drawn between Maḥmūd's territorial conquests and al-Bīrūnī's intellectual explorations with regard to Pakistani Punjab and the Khyber Pakhtunkhwa state.

Further, the Ghaznavids attempted to establish their authority in Lahore, located in Pakistani Punjab, which finds expression in two historical events. First, bilingual silver coins bearing a legend in both Arabic (kufic script) and Sanskrit (*śāradā* script) were minted (PLATE VII). In the central legend of this coins, the Islamic declaration of faith (*šahāda*) is translated into Sanskrit:

Reverse in Arabic:

There is no god but Allah, Muhammed is the messenger of Allah. Maḥmūd, the right hand of the state, the guardian of the faith.

لا اله الا الله محمد رسول الله يمين الدوله وأمين الملة محمود

Obverse in Sanskrit:

The unmanifested is one, Maḥmūd is the king, the incarnation of Mohammed.
avyaktam ekaṃ muhammadāvatāranṛpatimahmūdaḥ[166]

The colloquial Sanskrit legend can be interpreted in different ways. Yet, I adopt here Chatterji's suggestion for reading this sentence.[167] Although the Sanskrit legend on the obverse is in no case a literal translation of the *šahāda*, Chatterji's interpretation of it on the reverse parallels the Arabic legend, which holds Allah as the unique God and Mohammed as his messenger. On the margins of the legend, one can read the dates written in both Arabic and Sanskrit. Two coins (numbers 11-12) have been minted in 412 of Hegira, or 1021/22 CE, while the two others (numbers 13-14) were minted in 419 of Hegira, or 1028 CE. The

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routes passing through Punjab (2006: 46-48) and Verdon provides an account of the routes described by al-Bīrūnī (2015: 40-43). Indian cities are also mentioned by al-Bīrūnī in the *Tafhīm* (Wright 1934: 143-144, no 241).

[166] From: *abyaktam ekamuhammadavataranṛpatimahmūda*. Thomas first described one of these coins in 1847 (number XLII). Thomas 1847: 269-270; 323-324. After the finding of new exemplars of this type of coins, Thomas revised his reading (numbers 11 to 14). Thomas 1859: 22-24. See also Chatterji (1951: 96-97; 99-100), Said/Khan (1981: 88), Khan (2001: 62-63), Flood (2009: 41-42), and Cappelletti (2015).

[167] Chatterji 1951: 96-99. An alternative could be: "King Maḥmūd, the unmanifested, the unique, the incarnation of Mohammed" (*avyaktam ekamuhammadāvatāranṛpatimahmūdaḥ*).

marginal legend also indicates the name of the place where these coins were minted, i.e., Maḥmūdpur, which may be the Arabic name given to the capital of the region of Lahore (Lawhūr in al-Bīrūnī) in Punjab.[168]

These coins were intended to legitimize Ghaznavid power in the region. The Arabic phrase is a declaration of faith, whereas the Sanskrit version appears more focused on glorifying Maḥmūd, as he is identified as an incarnation of Mohammed, the Prophet. The fact that the common Islamic *šahāda* was transmitted as a Sanskrit legend likely served as a means for Maḥmūd to enhance his authority by appropriating Indian concepts, such as *avyakta* (unmanifested) and *avatāra* (descent of a deity upon earth). The Sanskrit legend is directed to a non-Muslim Indian audience. Maḥmūd expected that illiterate Muslims would at least recognize the *šahāda* as a symbol. As there exists no such a thing as the *šahāda* in Sanskrit tradition, illiterate local inhabitants of the region of Lahore would not be able to read or even recognize the Sanskrit legend. Despite the ruler's attempt to integrate local traditions via these coins, the legend probably had less impact on the population than assumed by those who minted the coins.[169] The use of the Sanskrit term *avyakta* (unmanifested), which is a key-term of the Sāṃkhya system of Indian philosophy, is discussed in section 2.5.2. The example of these coins, first, reveals that intercultural exchanges took place in Punjab at the beginning of the 11th century between Maḥmūd's administration and local communities, and, second, shows the ruler's concern with integrating local concepts for the sake of establishing his authority in this region.

Second, Lahore became the eastern capital of the Ghaznavid Empire after Maḥmūd's death, as well as the outpost for the administration of the subjugated provinces. Near the end of the sultan's life, military command remained in the hands of Turkish *ġulām* generals based

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[168] According to Thomas's reading: *maḥmūdsar*. Thomas 1859: 23-24. See Khan (1979: 221-226) and footnote 157.
[169] This was inspired by a discussion with Sara Cappelletti. She published a thorough and up-to-date study of the bilingual coins minted near Lahore (2015).

in Lahore, with a civil administration under a Persian official, Qāḍī Būʾl-ḥasan Shīrāzī, at their sides.[170] The cases of the Sufi Ali Huǧwīri (d. 1071/72) and the poet Masʿūd-i Saʿd-i Salmān (1046/9-1121/2), who were both of Persian origin, indicate that Perso-Muslim communities were established in Lahore relatively early. The former was born in Ghazna and dwelt in Lahore during the second part of his life, while the latter was born in Lahore, as his father came to the region from Hamadan and became an official at the court in Lahore.[171] In addition to the attempt to control Lahore, literary sources reveal that the Ghaznavids posted some governors in locales of Pakistan, such as Nagarkot[172] and Nandana,[173] and that they had people teaching the principles of Islam in Bhātinda.[174] There is no account of similar endeavors in locales situated in present-day northwestern India, such as Taneshwar, Kanauj, or Somnath.

These elements indicate that the Ghaznavids not only had a particular interest in northern Pakistan, but also that they were able to establish their authority in this region. Similarly, it is likely that al-Bīrūnī had the opportunity to spend time in this specific area.

Furthermore, present-day northeastern Afghanistan, Khyber Pakhtunkhwa, and Pakistani Punjab constituted a zone relatively near to the center of the Ghaznavid Empire, as compared to other places further east. As has been established, the process of stabilization following the Muslim conquests often took time, especially in regions remote from the Abbasid Center. An entire century, for instance, was necessary for the official establishment of Islam in Khwarezm (from the early 8th to early 9th centuries), while approximately three centuries were required in Kabul (between the end of the 7th and the end of the 10th

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[170] In 1163, the Ghaznavids lost Ghazna and established their government in Lahore. Ibid.: 75-77; Andrews, EI (2nd), s.v. Lāhawr, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/lahawr-COM_0557 [last accessed in May 2014].

[171] Böwering, EIr, s.v. Hojviri, Abuʾl-Ḥasan ʿAli b. ʿOt̲mnān b. ʿAli al-Ḡaznavi al-Jollābi, http://www.iranicaonline.org/articles/hojviri-abul-hasan-ali [last accessed in March 2015]; Clinton, EI (1st), s.v. Masʿūd-i Saʿd-i Salmān, http://referenceworks.brillonline.com/entries/encyclopedie-de-l-islam/masud-i-sad-i-salman-SIM_5031 [last accessed in January 2015]. See infra p. 83.

[172] Nazim 1931: 90.

[173] Ibid.: 93.

[174] Ibid.: 101.

centuries).[175] It took Ibn Qāsim several years to reach Multan and the Indus River, via Debal, the ancient sea-port near to modern Karachi.[176] His arrival, dating to the year 712, is generally marked as the year the Muslims conquered Sindh. Reports dated to the 10th century, however, narrate that Indian kings were constantly fighting the Muslims of Multan,[177] suggesting that Muslim authority was precarious in Multan, although Muslims had been present in the region for three centuries. The Ghaznavids often had to repeat attacks on other sites as well, including Laghman,[178] Udabhāṇḍapura,[179] Nandana,[180] Kanauj,[181] and Fort Lahūr,[182] in order to establish and maintain control.

However, there were also cases of collaboration between Indian rulers and Muslim invaders. Ānandapāla, for instance, offered his military support to Maḥmūd:

> We must say that, in all their grandeur, they [i.e., the Indian Šāhis] never slackened in the ardent desire of doing that which is good and right, that they were men of noble sentiment and noble bearing. I admire the following passage in a letter of {Anandabāla}, which he wrote to the prince {Maḥmūd}, when the relations between them were already strained to the utmost:

> "I have learned that the Turks have rebelled against you and are spreading in {Ḫurāsān}. If you wish, I shall come to you with 5000 horsemen, 10,000 foot-soldiers, and 100 elephants, or, if you wish, I shall send you my son with double the number. In acting thus, I do not speculate on the impression which this will make on you. I have been conquered by you, and therefore I do not wish that another man should conquer you."

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[175] See supra pp. 23 and 27.
[176] Majumdar 1954: 169-172.
[177] Al-Masʿūdī records these facts, referred to by Mishra (1983: 21).
[178] Sebuktigīn and Maḥmūd launched several raids against the region. Nazim 1931: 29; 86.
[179] Ibid.: 87-91.
[180] Ibid.: 91-94.
[181] Ibid.: 94-96; 110-113.
[182] Ibid.: 104-110.

The same prince cherished the bitterest hatred against the Muhammadans from the time when his son was made a prisoner, whilst his son {Trūjanabāla} was the very opposite of his father. (Sachau 1888b: II: 13-14)[183]

Other instances of cooperation exist. For instance, the king of Nārayanapur surrendered, and spontaneously offered to pay tribute to the Ghaznavids. This truce seems to have lasted.[184] Moreover, in the *Rājataraṅginī*, no particular bitterness toward Maḥmūd appears. The situation was thus neither one of complete stability, nor of complete instability.

It remains difficult to measure precisely the level of stability in a specific region. However, on the basis of this brief review, it is possible to understand that establishing Ghaznavid authority in conquered regions took time and energy. Therefore, if, in the frontier zones of Punjab and Sindh, which were relatively geographically close to Ghazna, political troubles between the Ghaznavids and the local rulers existed, it is likely that even more often such tensions also occurred in regions farther east. The regions of Khwarezm and al-Hind were particularly far from Ghazna. Such remoteness prevented the Ghaznavids from holding these regions under their rule.[185] A greater distance between Ghazna and the assailed territories also implies a greater chance that Maḥmūd only led intermittent raids, rather than establishing his authority through a governor or other officials. The probability that al-Bīrūnī could visit those far-away places then appears small. A close and long term cooperation would have been needed to gather the information presented in his book on India, as well as to be able to translate works from Sanskrit into Arabic (and vice versa). The regions of northeastern Afghanistan and northern Pakistan were all attacked by Maḥmūd before the sultan brought al-Bīrūnī from Khwarezm to his court in 1017. It appears thus more probable that al-Bīrūnī travelled in some regions of al-Hind after Maḥmūd's raids and once some stability, at least amongst the governmental centers, had been enforced in the conquered

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[183] Al-Bīrūnī 1958: 351.3-10.
[184] Nazim 1931: 102.
[185] Bosworth 1963 : 73.

regions.

The aforementioned absence of documentation about northern Pakistan in Perso-Muslim accounts preceding al-Bīrūnī's work perhaps has to do with the fact that this region did not benefit from sufficient political stability. However, the region gradually became stable after the repeated military campaigns by the Ghaznavids, enabling Arabic writers to collect such data. To summarize, the evidence provided by al-Bīrūnī on locales of northern Pakistan, Maḥmūd's interests in this area, and a likely firmer hold there by the Ghaznavids, all suggest that al-Bīrūnī only visited this region.

1.3.3. The Court during Maḥmūd's raids

Scholars largely accept the idea that al-Bīrūnī directly observed all of the regions he describes in the *Taḥqīq*, presuming that he necessarily accompanied Maḥmūd in his conquests, and thus visited every place attacked by the sultan. There are indeed hints that some members of his court accompanied the sultan when he travelled. For instance, Farruḵī, a poet at the Ghaznavid court, stated that he accompanied Maḥmūd on some of his conquests of al-Hind, to Somnath, Kathiawar, Bulandshar, Kanauj, and Taneshwar, as well as during his attacks of Trilocanapāla.[186] Bosworth notes that al-Bayhaqī and Gardīzī accompanied Maḥmūd during some of his campaigns.[187]

Al-Bayhaqī does inform us about how an official of the court should organize and equip the sultan's quarters, which includes, for instance, providing herds of sheep, so that the sultan is able to welcome guests wherever he is.[188] The fact that Maḥmūd was escorted by at least some of his specialized subjects during his travels appears thus more than probable. Indeed, Maḥmūd's army required the contribution of engineers, prospectors, blacksmiths, etc.

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[186] Bosworth 1991: 43.
[187] Bosworth 1963: 127.
[188] Quoted in ibid.: 65. See also Inaba on Masʿūd's resting places during his raids according to al-Bayhaqī (2013: 87-89).

These specialists enabled the army to proceed, by building walls or roads when needed. Further, elephants and specific military equipment were also part of Maḥmūd's raids.[189]

It is likely then that al-Bīrūnī travelled with Maḥmūd's court during some of the latter's military campaigns, as it is also probable that the sultan consulted al-Bīrūnī as an astronomer and interpreter to help him in his military campaigns and in his interactions with Indian rulers, such as the Indian Šāhis.

In order to better investigate whether al-Bīrūnī accompanied Maḥmūd in his military campaigns, it is pertinent to consider to the extent possible the general conditions of scholars in Maḥmūd's court. Al-ʿUtbī, Gardīzī, Farruḫī, and al-Bayhaqī are the chief literary sources enabling us to picture the Ghaznavid court in a relative accurate manner. They tended, however, to emphasize the greatness of Maḥmūd and his court, as their jobs were also dependent upon their being, in a sense, promoters of the sultan and his rule. According to al-Bayhaqī's account, the officials of the court, generally charged with handling the different *Dīwān*-s, occupied ambiguous positions.[190] Three *Dīwān*-s (Ar. office) were established as institutional bodies of the Ghaznavid Empire. The first, the *Dīwān-i Wazīr*, was concerned with the administrative and financial aspect. The second, the *Dīwān-i Rasāʾil*, was related to diplomatic relations. The third, the *Dīwān-i ʿArḍ*, dealt with military matters.[191] At the end of Maḥmūd's rule, one of the Ghaznavid officials, Abū Sahl, was appointed in the *Dīwān-i ʿArḍ*. However, other advisors of the court prevented him from assuming the position. Masʿūd, the son of Maḥmūd, however, reassigned him to the head of the *Dīwān-i Rasāʾil*.[192] The famous example of the poet Firdawsī also illustrates the precarity of positions for people surrounding Maḥmūd. The poet, having presented his Epics to the sultan, was not satisfied by Maḥmūd's reward and, as he expressed his discontent with regard to Maḥmūd appreciation of his work,

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[189] Bosworth 1963: 118.
[190] Quoted in Bosworth (1963: 64).
[191] Bosworth 1963: 42.
[192] Bosworth 1963: 61.

had to go into exile in order to stay alive.[193] The details of this story vary according to the authors who conveying it, and they may not all be historically true. However, such an anecdote provides information concerning Maḥmūd's reputation regarding his behavior toward scholars.

Al-Bīrūnī's condition was very likely precarious as well. In the postface of the *Kitāb Pātanǧal*, he states:

> As for the impossible (things referred to) in this book [i.e., the *Kitāb Pātanǧal*], they can be accounted for in two ways. (Pines/Gelblum 1989: 272)[194]

Al-Bīrūnī may have included this notification to protect himself against Maḥmūd's censorship, as he was dealing with an exotic and possibly unorthodox subject. He indeed appears to have been conscious of the necessity to have the sultan's support. In the following passage dawn from the *Taḥqīq mā li-l-Hind*, he states:

> I have found it very hard to work my way into the subject, although I have a great liking for it, in which respect I stand quite alone in my time […] What scholar, however, has the same favourable opportunities of studying this subject as I have? That would be only the case with one to whom the grace of God accords, what it did not accord to me, a perfectly free disposal of his own doings and goings; for it has never fallen to my lot in my own doings and goings to be perfectly independent, nor to be invested with sufficient power to dispose and to order as I thought best. However, I thank God for that which He has bestowed upon me, and which must be considered as sufficient for the purpose. (Sachau 1888b: I: 24)[195]

It appears that the scholar recognized his ambiguous position at Maḥmūd's court. On the one hand, he could benefit from the sultan's support to pursue his research, but on the other hand, he appears to have been subordinated to his ruler's will. This passage does not however reveal

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[193] Huart/Masset, EI (2nd), s.v. Firdawsī, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/firdawsi-SIM_2376 [last accessed in March 2015].
[194] Ritter 1956: 199.7.
[195] Al-Bīrūnī 1958: 18.5-7.

the extent to which al-Bīrūnī was dependent upon or independent from Maḥmūd's court. Al-ʿUtbī explained that Maḥmūd held many captives from his military campaign in Khwarezm, without specifying their identities nor their social ranks. Although he never mentions al-Bīrūnī's name, it is possible that the scholar was one of the captives. Al-ʿUtbī further comments that these men were retained in Ghazna and later sent to regions of al-Hind.[196] If al-ʿUtbī's account is acknowledged, al-Bīrūnī could be counted among these men, who were to some extent held captive between Ghazna and al-Hind. Modern scholars' opinions are divided regarding al-Bīrūnī's freedom and position during Maḥmūd's reign.[197] However, al-Bīrūnī stayed for approximately thirty years (from 1017 to 1050) at the Ghaznavid court, thirteen of which (from 1017 to 1030) were under Maḥmūd's patronage. Therefore, whatever problems there may have been between the scholar and the sultan, the two did collaborate during a certain period of time.

Further, although the scholar may have accompanied Maḥmūd in order to help him, it is difficult to know exactly when. For instance, al-Bīrūnī visited Laghman and Peshawar after 1017, more than fifteen years after Maḥmūd's first raids in these locales, in 1000 and 1001 respectively.[198] The raids during which al-Bīrūnī could have travelled with the sultan's court are those of Kanauj (1018/19), Gwalior/Kalinjar (1022), and Somnath (1025/26). As there is little possibility that al-Bīrūnī visited these cities, it is unlikely that al-Bīrūnī actually accompanied Maḥmūd in his attacks of India. It is rather more probable that al-Bīrūnī stayed in some regions of early medieval India, such as Laghman, Peshawar, Fort Nandana, Fort Lahūr, or Fort Rājagirī, while the sultan pursued his military endeavor eastward.[199]

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[196] Al-ʾUtbī 1858: 448.
[197] Sachau 1888b: I: ix-xvi; Shamsi 1979: 270; Said/Khan 1981: 70-82.
[198] See supra p. 45.
[199] This was suggested by Said and Khan (1981: 84-86).

1.3.4. Various origins of al-Bīrūnī's information

Al-Bīrūnī's description of numerous places of India in the *Taḥqīq mā li-l-Hind* led scholars to believe that al-Bīrūnī personally visited many regions of al-Hind. Yet many of his descriptions actually appear to be based on oral and written sources. For instance, in the following passage, al-Bīrūnī explains that he was not personally in the regions of Kashmir and Varanasi:

> This is the reason,[200] too, why Hindu sciences have retired far away from those parts of the country conquered by us, and have fled to places which our hand cannot yet reach,[201] to {Kašmīr}, {Bānārasī} and other places. (Sachau 1888b: I: 22)[202]

In this quotation al-Bīrūnī understood Kashmir as being the Kashmir Valley, as he describes this region surrounded by mountains. According to this passage, thus, the Kashmir Valley, Varanasi and other places of al-Hind were inaccessible to Maḥmūd. One of al-ʿUtbī's comments parallels al-Bīrūnī's account, stating that Maḥmūd had to stop at the mountains of Kashmir, as the roads were closed because of the snow.[203] The question of whether al-Bīrūnī went to Kashmir or Varanasi independent of Maḥmūd's army may arise. However, al-Bīrūnī's aforementioned statement indicates that he did not go beyond the cities of which he calculated the latitudes, and which are all located in northeastern Afghanistan and northern Pakistan. In my opinion, thus, the Kashmir Valley was unreachable to al-Bīrūnī as well, at least prior to the compilation of the *Taḥqīq*.[204]

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[200] Al-Bīrūnī refers to the invasions of Maḥmūd and the hate of Indians against Muslims due to these invasions.
[201] *lā-yaṣilu ʾilay-hi al-yadu*.
[202] Al-Bīrūnī 1958: 16.17-18.
[203] Al-ʿUtbī 1958: 389.
[204] In the *Pharmacology* (*Kitāb al-Ṣaydana fī l-Ṭibb*), compiled at the end of his life, approximately 1050 (Hermelink 1977; Kennedy 1970: 151), al-Bīrūnī asserts that he has seen apples in Kashmir. This statement appears contradictory with that made in the *Taḥqīq*. It is however possible that he could access Kashmir later on in his life, or that in this case the term Kashmir signify the land on the hillfort of the Kashmir Valley. (Al-Bīrūnī 1973: 91, under the entry *tuffaḥ*, number 20).

Despite this fact, the scholar abundantly refers to the region. He describes geographical, ethnic and social features at length, names cities and mountains, lists itineraries leading to the Kashmir Valley, mentions Kashmiri customs,[205] knows which alphabets and scripts were in use,[206] and presents detailed accounts of religious practices and astronomy.[207] Kashmir Valley is described in more minute details in the entire *Taḥqīq mā li-l-Hind* than any other regions discussed. This suggests that there were many other means of knowledge transmission that al-Bīrūnī used in order to write his monograph on India.

For instance, he states that he met people from Kanauj, Multan, and Somnath.[208] Such meetings appear to have enabled al-Bīrūnī to provide a short historical survey of Kanauj, describe some of its festivals, and explain the local weather conditions there. As for Somnath, al-Bīrūnī gave the year Maḥmūd attacked its temple (416 AH, or 1025/26 CE),[209] provided a detailed account of its idol, and reported some myths associated with regard to this temple. On the other hand, description of places such as Lahore, Mathura, and Taneshwar are rarely mentioned in the *Taḥqīq*. For instance, he calculates the latitude of Lahore, provides mythological information concerning Mathura, and describes an idol found in the temple of Taneshwar. He sparsely refers to some regions of Gujarat, Prayāga (Allahabad), Kannara region, Varanasi, and of the present-day northeastern India. It is evident that these various references and descriptions do not necessarily lead to the conclusion that al-Bīrūnī actually travelled to all these places.

The description he makes of the itineraries starting from Kanauj suggests that this information was orally transmitted to him. In linking many cities or regions of India he could not possibly have seen firsthand, this also indicates that the scholar garnered much information through oral interaction. His account includes territory of the eastern coasts (West

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[205] Sachau 1888b: I: 206-8.
[206] Sachau 1888b: I: 173-174.
[207] Sachau 1888b: I: 393; I: 116; 117; II: 178.
[208] Al-Bīrūnī 1958: 125.5-6; 129.3-4; 170.4-5; 347.15-8; 451.4-5; Sachau 1888b: I: 161; 165; 211; II: 9; 129.
[209] Al-Bīrūnī 1958: 347.20-348.2; Sachau 1888b: II: 9.

Bengal), the North (Nepal, Kashmir), the North-East (Assam), the center (Bihar, Madhya Pradesh, Uttar Pradesh), and the South-West (Sindh, Gujarat, Kannara).

Al-Bīrūnī refers to a traveler who taught him about the area northeast of Varanasi and the realm of Nepal.[210] It is further possible to deduce from the *Taḥqīq* that information was also transmitted via pilgrims.[211] The historical chronicle he provides about the two Indian dynasties living in Kabul perhaps originates from an oral account. He states: "I have been told that the pedigree of this royal family, written on silk, exists in the fortress Nagarkot."[212] The people, who informed him of the existence of the text in Nagarkot recording this history, may be the same who shared it with him. Moreover, Fort Nagarkot, situated in present-day northwestern India, appears to have been a place in which knowledge was stored, and, although al-Bīrūnī did not have access to the Fort, he had access to information about it. He also provided the titles of several grammar books he was aware of on the basis of oral account.[213] It thus is likely that he met people, such as merchants, ascetics, and pilgrims, from various parts of India.[214]

Further, he interacted with Indian scholars, Brahmins, astronomers, and possibly philosophers, who in all likelihood belonged to the court of the Indian Šāhis.[215] Other instances that indicate al-Bīrūnī drew on oral sources concern the custom of eating cow meat, and the status of people of low castes in comparison to that of Brahmins.[216] He devoted a chapter of the *Taḥqīq* to describing Brahmin life and the land in which they can dwell.[217] As seen in section 2.3, al-Bīrūnī's key information stemmed from Brahmins.

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[210] Al-Bīrūnī 1958: 160.5-6; Sachau 1888b: I: 201.
[211] Al-Bīrūnī 1958: 466.5-6; Sachau 1888b: II: 148.
[212] See the entire excerpt from the *Taḥqīq mā li-l-Hind* supra pp. 29-30.
[213] Al-Bīrūnī 1958: 104.14-105-1; Sachau 1888b: I: 135.
[214] In the *Taḥdīd*, al-Bīrūnī bases some of his information of distances between cities on travellers' accounts, as well. Ali 1967: 14.
[215] Al-Bīrūnī 1958: 17.16-18.5; 456.12; 475.14; Sachau 1888b: I: 23-24; II: 134; 163. On his interactions with Indian scholars, see section 2.3.
[216] Al-Bīrūnī 1958: 458.2-7; Sachau 1888b: II: 152-3.
[217] Al-Bīrūnī 1958: 452.5-457.7; Sachau 1888b : II: 130-135.

In addition, he had access to numerous Indian books,[218] the origin of most of his written sources is unknown, but there are at least four regions from which Indian authors originated: Utpala and Syāvapala from Kashmir, Vitteśvara from Nāgarapura, Durlabha from Multan, and Vijayanandin (*Karaṇatilaka*) from Varanasi.[219] He wrote that Brahmagupta, the author of the *Brāhmasphuṭasiddhānta* is from Bhillamāla.[220] Their books in one way or another reached al-Bīrūnī, who was aware of their authors and their native lands.

Al-Bīrūnī also composed two works that suggest he exchanged letters with Indian thinkers. His bibliography provides the titles of *Answers to the questions of the astronomers of al-Hind* (الجوابات عن المسائل الواردة من منجمى الهند)[221] and *Answers to the ten Kashmiri questions* (الجوابات عن المسائل العشر الكشميرية).[222] These works are no longer extant, but their titles indicate al-Bīrūnī interacted with Indian astronomers and Kashmiris. Further, Chatterji observes various different spellings in al-Bīrūnī's Arabic transliteration of Sanskrit words. He notices that these transcriptions do not reflect pronunciation of northern Punjab, or the Ganges Valley. These linguistic observations lead Chatterji to suggest that al-Bīrūnī interacted with people from different regions of India.[223]

The above demonstrates that his knowledge of cities or regions was not contingent upon his presence in these places. So far, it is therefore not possible to ascertain the presence of al-Bīrūnī in cities like Taneshwar, Kanauj, Somnath, or Mathura, which, however, Maḥmūd had plundered or conquered.[224]

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[218] Al-Bīrūnī 1958: 105.1-6; 121.10-11; 328.9-10; 347.11-12; 512.18-19; Sachau 1888b: I: 135-136; 157; 391; II: 8; 208. See the list of al-Bīrūnī's literary sources in Sachau (1888b: I: xxxix-xl) and Shastri (1975). See also Mishra (1985: 35-43).

[219] Al-Bīrūnī 1958: 121.6-13; 250.2; 281.19; 304.15; 309.2; 348.6; 388.11; Sachau 1888b: I: 156-157; 298; 334; 361; 367; II: 9; 54. See also the related section in Said/Khan (1981: 83-92).

[220] Al-Bīrūnī 1958: 118.18-9; Sachau 1888b: I: 153.

[221] Boilot 1955: 199, no 71.

[222] Boilot 1955 200, no 72.

[223] Chatterji 1951: 89. See also Sachau (1888a: 5-6; 10-41).

[224] See also in Verdon (2015: 43-45).

1.4. Socio-historical context in northern Pakistan in al-Bīrūnī's time

As it appears that al-Bīrūnī's visits to al-Hind were confined to a relatively limited territory, this section focuses on the socio-historical context of this territory, i.e., the five aforementioned locales in which al-Bīrūnī's presence was ascertained. It appears, in fact, that all of these sites belonged to the kingdom of the Indian Šāhi dynasty. It has been already mentioned that the Ghaznavids encountered this dynasty in several of their raids eastward. In 977, Sebuktigīn, Maḥmūd's father, attacked the regions of Laghman and Peshawar, and fought against King Jayapāla of the Indian Šāhis.[225] Maḥmūd carried on his father's enterprise and defeated four kings of this dynasty: Jayapāla,[226] Ānandapāla,[227] Trilocanapāla,[228] and Bhīmapāla.[229] After Maḥmūd took Kabul, these kings made Udabhāṇḍapura their chief city,[230] and later moved on to Nandana in the Salt Range. They ultimately took shelter in Kashmir.

1.4.1 Five locales

Thanks to archaeological data and literary sources, it is possible to fathom elements regarding the society living in the locales al-Bīrūnī visited in northern Afghanistan and Pakistan. In the *Taḥdīd al-Amākin* al-Bīrūnī mentions a solar eclipse he saw in the region of Laghman:

> Again, though [the Ḫurāsānian calculators] had not discussed the solar eclipse that
> took place in Dhū al-Qaʿda, year four hundred nine of the Hijra,[231] the reserved
> amongst them said that it would occur below the horizon of Ghazna, and that it

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[225] Al-ʿUtbī 1858: 34-36.
[226] Ibid.: 469.
[227] Rehman 1979b: 4, note 17; 2003: 3-4; al-ʿUtbī 1858: 327-328.
[228] The *Rājataraṅgiṇī* describes a fight between Maḥmūd and Trilocanapāla. Ānandapāla and Trilocanapāla would have been allies of the king Bhoja. Majumdar 1979[1957]: 67. See also Rehman (1979b: 4, note 18).
[229] Nazim 1931: 86-121. Several Indian dynasties, ruling in other parts of early medieval northwestern India, and which Maḥmūd had fought against, are enumerated in Mishra (1983: 69-70). Al-ʿUtbī also records the attack against Kanauj (1858: 449-462).
[230] Rehman 1979b: 4.
[231] *Ca.* 1019 (http://www.oriold.uzh.ch/static/hegira.html). A 97%-solar eclipse occurred on the 8th April 1019 in this region.

would not be seen there. However, it happened that we were near Lamghān,[232] between Qandahār [233] and Kābul, in a valley surrounded by mountains, where the sun could not be seen unless it was at an appreciable altitude above the horizon. (Ali 1967: 261).[234]

There have been no archaeological excavations in this region, making it difficult to investigate what type of society lived there. However, the head of a statue, probably from the second half of the 1st millenary CE, was found by accident in 1960 in this region. According to Klaus Fischer, who examined it, the head may be affiliated to the Turkish Šāhi dynasty, or to its succeeding dynasty, the Indian Šāhis.[235] It appears to be a representation of a female goddess, Durgā Mahiṣāsuramardinī, or Pārvatī. According to mythology, Durgā Mahiṣāsuramardinī killed a demon and saved the gods using her *śakti*, or active energy.[236] In this story, different manifestations of Durgā, such as Kālī, Bhagavatī, and Pārvatī, each play a role. Durgā and Pārvatī are both known to be consorts of Śiva.[237]

Although archaeological data referencing Laghman is sparse, literary sources indicate that the city was important at the time. The report of Xuanzang, who visited Laghman in the 7th century CE, bears witness to the importance and the prosperity of the region located on a trade road.[238] In 982 CE, the *Ḥudūd al-ʿĀlam* describes Laghman as "an emporium of Hindūstān and a residence of merchants […] [which] possesses idol-temples" (Bosworth 1970[1937]: 92). Similarly, al-ʿUtbī portrays the region of Laghman as one of the most prosperous of the time, and as belonging to the land of Jayapāla, i.e., an Indian Šāhi king.[239]

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[232] Lamghān is found beside Laghman.
[233] The primary sources distinguished between Qandahār in Sind and Qandahār in Hind. The first referred to a region now located in southeastern Afghanistan, while the second to Gandhara in Peshawar region. Here al-Bīrūnī refers to Qandahār in Hind.
[234] Al-Bīrūnī 1992: 292.
[235] Fischer 1964: 38.
[236] According to the text known as the *Devīmāhātmya* (*The Greatness of the Goddess*) or *Durgāsaptaśatī* (*The Seven Hundreds [Verses] for Durgā*). See Coburn (1985; 1991) and Michaels (1996).
[237] Fischer 1964: 37-38. Whereas Durgā can be honored by herself, Pārvatī is almost only worshipped as the spouse of Śiva.
[238] Watters 1904: I: 181-182.
[239] Al-ʿUtbī 1858: 35-40. See also Pāṇḍeya (1973: 35).

Al-Bīrūnī must have been there between the years 1017 and 1025, as he compiled the *Taḥdīd* this latter date. In the *Taḥqīq mā li-l-Hind* as well, the scholar mentions the city of Laghman. He gives its latitude[240] and locates it on the River Sāwa.[241] When he observes different calendars of ancient India, he remarks that the people of Laghman start the year with the month Mārgaśīrṣa (November-December).[242] This last piece of information indicates that the people living in the region were following a calendar in use among Brahmanical communities. In the two last cases, he provides an alternative name for this city: *Lanbaga.*

Al-Bīrūnī also witnesses ritual practices in the region of Peshawar, as he writes:

> After {seven and a half *gharī* have} elapsed, they beat the drum and blow a winding shell called {*šaṅga*}, in Persian {*spīd muhra*}. I have seen this in the town of {*Puršūr*}. (Sachau 1888b: I: 338)[243]

The city of Peshawar lies in northern Pakistan, east of Laghman. [244] In the time of Xuanzang, the population and the wealth of the city, designated then as Puruṣapura, were declining.[245] Except for al-Bīrūnī's account, the literary sources mentioning this city are rare. However, the city of Wayhind (Udabhāṇḍapura), near Peshawar, was the capital of the Indian Šāhis. As Rehman states, it is possible that the importance of Peshawar waned when facing the new status of Udabhāṇḍapura.[246] Furthermore, al-ʿUtbī explains how Maḥmūd directs himself toward Peshawar, which is then described as being "in the midst of the land of Hindustan" (Al-ʿUtbī 1858: 280). Al-ʿUtbī considered Jayapāla's army to be infidels.[247]

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[240] Al-Bīrūnī 1958: 270.9; Sachau 1888b: I: 317.
[241] Al-Bīrūnī 1958: 215.3-4; Sachau 1888b: I: 259; Rehman 1979b: 13.
[242] Al-Bīrūnī 1958: 347.12-15; Sachau 1888b: II: 8-9.
[243] Al-Bīrūnī 1958: 285.2- 4.
[244] Dey 1927: 162; Bhattacharyya 1999[1991]: 256.
[245] Wriggings 2004: 60.
[246] Rehman 1979b: 16-7.
[247] Al-ʿUtbī 1858: 281.

Al-Bīrūnī visited this city between 1017 and 1030, as he described the aforementioned ritual taking place in Peshawar in the *Taḥqīq mā li-l-Hind*. The description regarding the way Indians stroke hours suggests at Brahmanical or Buddhist rituals. The shell, *śaṅkha* in Sanskrit, is also one of the attributes that Viṣṇu generally holds in one of his hands. However, as it is a significant element in different Indian religious currents, without other contextual information, it does not constitute an absolute indication of the type of Indian religion that was followed. In addition to this passage, al-Bīrūnī mentions the city several times. He explains that it lies opposite of the River Ghorvand.[248] He provides its latitude,[249] and recalls that Kaniṣka had a *vihāra* built there.[250]

In another passage of the *Taḥqīq mā li-l-Hind*, al-Bīrūnī describes two forts, as strongholds,[251] situated to the south of the Kashmir Valley:

> {Fort Rāğakirī} lies south of it [i.e., the mountain Kulārjak], and {Fort Lahūr} west of it, the two strongest places I have ever seen. {The town of Rājāwūri} is three {*farsakhs*} distant from the peak [i.e., a mountain of Kashmir]. This is the farthest place to which our merchants trade, and beyond which they never pass. (Sachau 1888b: I: 208)[252]

Maḥmūd attempted to seize the fortress Lohkot (i.e., Lahūr), which would have facilitated access to Kashmir.[253] The sultan, however, was never able to take it. According to the *Rājataraṅgiṇī*, the province of Lohara was dependent on Kashmir,[254] and their rulers were affiliated to the Šāhi kings.[255] With regard to Rāja Girā's castle, or Fort Rājagirī, it appears to

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[248] Al-Bīrūnī 1958: 215.5-6; Sachau 1888b: I: 260.
[249] Al-Bīrūnī 1958: 270.9; Sachau 1888b: I: 317.
[250] Al-Bīrūnī 1958: 349.8-9; Sachau 1888b: II: 11. See supra p. 30.
[251] This passage corresponds to one of the above passages providing information with regard to the frontiers of al-Hind. See supra, pp. 37-38.
[252] Al-Bīrūnī 1958: 167.5-7. The geographical locations of Fort Lahūr and Fort Rājagirī are not determined with confidence. See supra, p. 43.
[253] Nazim 1931: 104-105.
[254] *Rājataraṅgiṇī* IV.177. Kalhaṇa 2009[1892]: III: 50; Ibid.: I: 138.
[255] Siṃharāja, the ruler of Lohara, was the son-in-law of Bhīmapāla, one of the Indian Šāhis kings enumerated by al-Bīrūnī. On the relation between Kashmiri kings and the Indian Šāhis, see pp. 101-102. *Rājataraṅgiṇī* VI.176-178. Ibid.: III: 97; Ibid.: I: 249.

have been inhabited by Buddhist communities approximately between the 1st and 4th centuries CE. Findings also indicate that the site was occupied between the 8th and 10th centuries CE, in all likelihood by the Šāhis (Turkish or Indian). The Islamic phase of the site began in the early 11th century and terminated at the end of the 13th century CE.[256] Excavations have unearthed similar coins as in Barīkoṭ, another Indian Šāhi site.[257] Fort Rājagirī also seems to have belonged to the Indian Šāhi territory at the same time as Barīkoṭ. Beyond these few elements, literary sources and archaeology do not furnish more data.

Al-Bīrūnī mentions these locales a few times in the *Taḥqīq mā li-l-Hind*. Fort Rājagirī is described as being situated on the road from Kanauj to the Kashmir Valley, via Taneshwar.[258] Quoting Jīvaśarman, al-Bīrūnī reported that Swat country is opposite to the district of Girī, which is possibly the same district to which Fort Rājagirī belonged.[259] He probably visited these regions between the years 1017 and 1030, yet he does not describe anything related to these forts that could indicate specific religious traditions held in this region.

Farther east lies Fort Nandana, where al-Bīrūnī calculated the circumference of the earth. He states:

> When I happened to be living in the fort of Nandana in the land of India, I observed
> from an adjacent high mountain standing west of the fort, a large plain lying south
> of the mountain. (Ali 1967: 188)[260]

The remains of two temples were found there in a relatively impaired state, which prevents proper archaeological interpretations. However, these two edifices belong to a group of temples also located in the Salt Range (PLATE VIII). Thanks to the discovery of different

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[256] Gullini 1962: I: 208-233; 271-319; 325-327; Bagnera 2010: 8-9. The ruins of another fort, known as Rāja, are lying at around 8 km north-east of the modern Taxila.
[257] An inscription found here and naming Jayapāla shows this affiliation. Rehman 1979b: 267.
[258] Al-Bīrūnī 1958: 165.1; Sachau 1888b: I: 205.
[259] Al-Bīrūnī 1958: 390.1-2; Sachau 1888b: II: 182.
[260] Al-Bīrūnī 1992: 222.10-11.

coins, it has been possible to date this group of ritual structures in the Salt Range between the 6th CE and 11th centuries CE.[261] Nandana was also the capital of the Indian Šāhis shortly before they were attacked by Maḥmūd. The two temples found there can thus be ascribed with some confidence to the Indian Šāhis.

Al-Bīrūnī is one of the few early medieval Arabic sources to mention Nandana, perhaps because this site is located much farther to the east than the four others. Al-Bīrūnī would have spent time in Fort Nandana between 1017 and 1025.

There are other sites in al-Hind al-Bīrūnī may have visited, including Mandahūkūr (modern Lahore), Wayhind (Udabhāṇḍapura), and Multan, but this cannot be ascertained with certainty.[262] The references to other locales of which al-Bīrūnī calculated the latitudes are generally too scanty to be dealt with here.

1.4.2.   The society of the Indian Šāhis

Before the Indian Šāhis were pushed eastward by the Ghaznavids, their kingdom extended from Kabul and Udabhāṇḍapura in the Northwest to the Salt Range and Lahore in the Northeast.[263] Moreover, a society following Brahmanical precepts was apparently occupying these places, at the time of the early encounter between Muslims and Indians. In order to better encompass the question of whether the society encountered and described by al-Bīrūnī is that of the Indian Šāhis, this section aims to examine the kind of religion these rulers followed.

Al-Bīrūnī himself identified Kallara, the first of these rulers, as a Brahmin. Second, with the exceptions of Kallara and Kamalū, all kings' names are typically Sanskrit: Sāmanta, Bhīma, Jayapāla, Ānandapāla, Trilocanapāla, and Bhīmapāla.[264] Inscriptions and coinage

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[261] Ibid.: 266-267; 273-274. See also Meister (2010).
[262] On the significance of these locales for al-Bīrūnī's encounter with India see pp. 86-87.
[263] Pāṇḍeya 1973: 89-90.
[264] See al-Bīrūnī's account of these kings, pp. 29-30.

related to these kings show that the literary language in use was Sanskrit, and the script was *śāradā*.[265] According to Walter Slaje's study, the territory where *śāradā* script was used around the 10th century included present-day Kashmir, Jammu, Punjab, Ladakh, Chamba, Kangra, and Haryana.[266] A mathematical treatise on a Sanskrit manuscript written in *śāradā* possibly dated to the 10th century CE,[267] was unearthed north-east of Peshawar, which was part of the Indian Šāhis' kingdom before Maḥmūd's arrival in 1000. Using Sanskrit as an official language on coins and inscriptions, as well as for the rulers' names does not constitute definitive evidence that these rulers were following a form of Brahmanism, as Sanskrit was also used by Buddhist communities.[268] However, data drawn from archaeological findings indicates that the Indian Šāhis adhered to a form of Brahmanism.

According to Rehman, they were more specifically worshippers of Śiva.[269] A stone was found at the site of Udabhāṇḍapura (Wayhind) bearing a *śāradā* votive inscription that could be dated to the year 1002, during the reign of Jayapāla.[270] The transliteration and translation of this inscription is found in Rehman's work.[271] The inscription, mostly written in *śloka*-s, begins with a formula of praise to Bhūtanātha (litt. lord of beings), and Śarva, all epithets of Śiva. In the rest of the text, Śiva is again referred to as Pinākin (litt. armed with the bow or spear *pināka*, i.e., the bow of Rudra-Śiva, or the trident) and Śaṅkara. Umā, who is also praised in this inscription, is either the daughter of Śiva, or his consort. In addition, the

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[265] Rehman 1979b: 32-33; 194-210; 241-248; on Indian Šāhi coinage see Thomas (1846).

[266] Slaje 1993: 15-16. Al-Bīrūnī does not mention *śāradā* as one of the script of al-Hind. His silence on this type of script confirms Walter Slaje's remark that this name was not used before the 11th century CE. Al-Bīrūnī however explains that the script *siddhamātṛkā* (Ar. *siddamātrika;* سدَّ ماتْرك) is in use in the regions extending from Kashmir to Kanauj (Al-Bīrūnī 1958: 135.3-16; Sachau 1888b: I: 173). For al-Bīrūnī, Śāradā is the name of a Kashmiri idol, which is in all likelihood Sarasvatī (Al-Bīrūnī 1958: 89.12-3; Sachau 1888b: I: 117). On *śāradā* script see the discussion in Rehman (1979b: 237-241).

[267] Pāṇḍeya 1973: 171; Rehman 1979b: 248-258; Hayashi 1995.

[268] On Sanskrit, some of its uses, and its connection to Brahmanism or Buddhism see Bronkhorst (2011a: 46-51; 122-130).

[269] Rehman 1979b: 33-34. Pāṇḍeya is of the same opinion (1973: 187).

[270] See Pāṇḍeya (1973: 135-137) and Rehman (1979a; 1979b: 246-247; 308-318).

[271] Rehman 1979b: 310-313.

inscription honors the Indus River, and refers to the mythological Mount Meru,[272] as being the home of the gods and other supernatural beings.

At this point, a specific passage is interesting to look at in details:

xi. The king of that (country) is (now) Jayapāladeva, who, through his body, origin and birth, has become the sole hero, whose very pure fame, having left heaven, has attained the eternal abode of Brahman.

xii. In the kingdom of that Śrī Jayapāladeva, Caṅgulavarman, son of Paṅgula, has made an abode of Śaṅkara (= Śiva).

xi. *tasyāsti rājā jayapāla-devo*

dehodbhavāj-janma-vṛtaika[273]-vīraḥ

hitvā divaṃ yasya yaśas suśuddhaṃ

brahmāspadaṃ nityam iti prapannaṃ

xii. *tasya śrī-jayapāl<a>sya rājye paṅgula-sūnunā*

śaṅkarasya pratiṣṭheyaṃ kṛtā caṅgulavarmaṇā

(Translation and transliteration by Rehman 1979b: 311)

In this passage, Brahmā is described as hosting Jayapāladeva.[274] The last sentence indicates that this votive inscription was made for the founding of a temple devoted to Śiva (*śaṅkarasya pratiṣṭheya*). All extant epigraphic data belonging to Indian Šāhis sites is generally damaged or indecipherable except for this inscription.[275] However, mention of such deities in this inscription make it clear that some inhabitants of Udabhāṇḍapura in 1002 under the rule of Jayapāla were following a form of Brahmanism.

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[272] Mount Meru is a mythological mountain presented as being the center of the earth in the cosmological maps of India.

[273] Rehman offers to emend the original *vṛteka*. Rehman 1979b: 311, note 14.

[274] The first member of the compound *brahmāspadaṃ* can also be interpreted as standing for the universal Spirit (nt.).

[275] Rehman 1979b: 218; 242-248.

There are two common types of coins connected with the Indian Šāhi rulers. One type portrays a bull and a horseman (gold, billon, and silver), as it was common in India to stamp coins with figures of bulls. In a religious context, the bull usually represents Nandin, the vehicle of Śiva. In Rehman's opinion, this stands as an indication of the connection between the kings' beliefs and a form of Śaivism. The figure of the horseman, which is connected with a solar divinity, however, is rarely depicted on early Indian coins. The combination of these two images appears atypical.[276]

The second common type of coin linked with the dynasty depicts an elephant and a lion (copper).[277] Both motifs on coins are recurrent not only on early Indian coinage, but also in Hindu iconography. The elephant is a symbol of power and prosperity, while the lion embodies strength and bravery. The latter is also the mount the goddess Durgā usually rides, but can also represent *Narasiṃha*, the 4th avatar of Viṣṇu. However, given the great popularity of this icon in India, Rehman avoids linking the Indian Šāhis with any specific religious denomination on this basis.[278]

In addition, king Sāmantadeva's coins, probably the Sāmanda mentioned by al-Bīrūnī,[279] made of gold and billon, represent a trident (Skt. *triśūla*) and a star-shaped pendant as a decorative feature on the horse.[280] A golden coin, issued by Bhīmadeva, likely to be Bhīma in al-Bīrūnī's report, bears an interesting representation. On the obverse, a king seated on a throne and a woman are depicted, displaying clothing and hairstyles of the time. More importantly, above their head, appears a trident and a diamond shaped object. On the reverse, a king, whose representation resembles the obverse, is found beside Lakṣmī, the goddess of wealth and prosperity. According to Rehman, the representation of Lakṣmī is uncommon in

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[276] Ibid.: 214.
[277] Ibid.: 196-207.
[278] Ibid.: 212-217.
[279] See supra p. 30.
[280] Rehman 1979b: 198-199.

Indian Šāhi coinage.[281]

As for the architecture, several temples belonging to the territory of the Indian Šāhis show similarity with religious structures found in Kashmir and in North-western India during the early medieval period. They present, for instance, the conical *nāgara* roof type, a category of *śikhara* construction.[282] With regard to sculpture, only a few effigies were found, such as that of Viṣṇu, Śiva, Kārttikeya, and Durgā, all Brahmanical deities. However, there is no information regarding the dates or regions to which these statues belong.[283] Marble sculptures representing some form of Śiva or Viṣṇu, or their respective feminine consorts, have also been found in the Swat Valley.[284]

The question of whether the Indian Šāhis were adherent to Śaivism or Vaiṣṇavism appears complicated to answer, as archaeological data and literary sources do not point to the same religious leaning. The distinction between these two religious inclinations may have not been clearly defined at the time. Alternatively, it is also possible that Jayapāla was a devotee of Śiva, whereas Bhīma (one of his successor) was more inclined to Viṣṇu. Nevertheless, the use of Sanskrit, connected with other evidence that are the contents of the inscription of Udabhāṇḍapura, the iconography on coinage, and the architectural style of the temples, indicate that the Indian Šāhis belonged to a Brahmanical tradition.

1.5. Concluding remarks

Chapter 1 highlights the importance of socio-historical contexts to al-Bīrūnī's life. Concrete evidence, which has never been examined from this perspective, made it possible to understand al-Bīrūnī's journeys in relation to these socio-historical contexts.

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[281] Ibid.: 205-206.
[282] Ibid.: 281-284; Meister 2010.
[283] Rehman 1979b: 285.
[284] In Pāṇḍeya (1973: 233-236).

Further, this chapter foregrounds that al-Bīrūnī spent his life in three different cultural and geographical zones. He was born and raised in regions indebted to Persian and Zoroastrian traditions, where he stayed until he was middled-aged. Later in his life, he dwelt in Kabul, Ghazna, and in some parts of northwestern Pakistan. These regions, far from being isolated or sterile areas, were at the center of different types of exchanges between the West and East. Located at the frontier of the abode of Islam, these regions also witnessed important cultural changes.

As al-Bīrūnī crossed this cultural frontier, he discovered Indian religion, science, and literature in northern Pakistan, rather than in other parts of early medieval India. It is likely that this is where he met the Indian Šāhis, who, during the early years of the 11th century CE, ruled a large part of present-day northern Pakistan. This chapter attempts to shed light on this society in particular, revealing that the Indian Šāhis adhered to a form of Brahmanism.

Finally, this chapter illustrates that each city al-Bīrūnī resided in was prosperous in terms of economic and intellectual development. Thanks to the rulers' patronage, he was able to benefit from auspicious conditions to develop his knowledge in different fields.

Chapter 2: The intellectual context

2.1. Building up theoretical knowledge: *Al-Āṯār al-Bāqiya*

In the year 1000, al-Bīrūnī dedicated *Al-Āṯār al-Bāqiya* (*The Chronology of Ancient Nations*), a treatise that included information regarding India, especially Indian astronomy, to Prince Qābūs of Jūrjān.[285] The work essentially focused on describing astronomical calendars of different civilizations, explaining various manners to calculate days and nights, months, and years, as well as longer eras. It also enumerates festivals linked to different calendars. In addition, the scholar covers some historical elements. The main civilizations considered in this book are those of Persians, Sogdians, Khwarizmians, Greeks, Jews, Syrians, Christians (Nestorians and Melkites), Zoroastrians (or Magians), Sabians, Arabs before Islam, Muslims, and, sporadically, Indians. Al-Bīrūnī's analysis in different passages of *Al-Āṯār* outlines the extent of his knowledge of India before he visited northern Pakistan.

All excerpts from *Al-Āṯār* presented below show that al-Bīrūnī was relatively, and accurately, acquainted with Indian astronomy. For instance, as displayed in the three subsequent tables, he was able to provide the transliterated Sanskrit names of the months, seven planets, and the zodiacal signs in Arabic:

Arabic	Corresponding Sanskrit
baišāk	*vaiśākha* (April-May)
zyašt	*jyaiṣṭha* (May-June)
āsār	*āṣāḍha* (June-July)

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[285] Al-Bīrūnī 1963[1923]; 2001; Sachau 1879.

srāwān	*śrāvaṇa* (July-August)
bhadrabad	*bhādrapada* (August-September)
aswiğ	*āśvina* (September-October)
kārṯ	*kārttika* (October-November)
mankis	*mārgaśīrṣa*, also *mārga* (November-December)
bawš[286]	*pauṣa* (December-January)
māk	*māgha* (January-February)
bākr	*phālguna* (February-March)
ğaitra	*caitra* (March-April)

Table 1: Months in Sanskrit, as transliterated into Arabic by al-Bīrūnī in Al-Āṯār al-Bāqiya.[287]

Arabic	**Corresponding Sanskrit**
sanasğar	*śanaiścara* (Saturn)
brhasbatī	*bṛhaspati* (Jupiter)
mankal	*maṅgala* (Mars)
adīda[288]	*āditya* (Sun)
šurk[289]	*śukra* (Venus)
bud	*buddha* (Mercury)
sūm	*soma* (Moon)

Table 2: Seven planets in Sanskrit, as transliterated into Arabic in Al-Āṯār al-Bāqiya.[290]

Arabic	**Corresponding Sanskrit**
miš	*meṣa* (Aries)
brša[291]	*vṛṣa* (Taurus)
maṯūn	*mithuna* (Gemini)
karkar	*karkaṭa* (Cancer)
sink	*siṃha* (Leo)

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[286] In Azkaei's edition (al-Bīrūnī 2001) the reading is *pawšn*.
[287] Al-Bīrūnī 1963[1923]: 71; 2001: 80; Sachau 1879: 83.
[288] Azkaei's edition: *adiṯah*.
[289] Azkaei's edition: *šūk*.
[290] Al-Bīrūnī 1963[1923]: 192; 2001: 221; Sachau 1879: 172. The number of seven planets, or *grahas*, appears to represent a specific phase in the history of the Indian concept. Yano 2003; Yano 2004: 331-332; 335-337.
[291] Azkaei's edition: *bršā*.

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kan	*kaṇyā* (Virgo)
tul	*tulā* (Libra)
wšǧika	*vṛścika* (Scorpion)
dhan	*dhanus* (Sagittarius)
makar	*makara* (Capricorn)
kum	*kumbha* (Aquarius)
mīn	*mīna* (Pisces)

Table 3: Zodiac signs in Sanskrit, as transliterated into Arabic by al-Bīrūnī in Al-Āṯār al-Bāqiya.[292]

Although al-Bīrūnī warns his readership that some of his data may be incomplete,[293] he provides Arabic transliterations of months, planets, and zodiac signs that correspond well to their Sanskrit counterparts. Two transcriptions differ from the original Sanskrit, i.e., *mankis* (Ar.) for *mārgaśīrṣa* (Skt.) and *bākr* (Ar.) for *phālguna* (Skt.). These tables also hint at the likelihood that the Indian language with which al-Bīrūnī dealt was Sanskrit, although he himself never used the term Sanskrit.[294] In the subsequent passages, al-Bīrūnī discussed Indian astronomical methods to divide the globe:

> [We say that] the {Indians} divide the globe, in conformity with their 27 Lunar Stations, into 27 parts, each Station occupying nearly 13¼ degrees of the ecliptic. From the {planets} entering these Stations (*ribāṭāt*), which are called {ǧufūr},[295] they derived their astrological dogmas as required for every subject and circumstance in particular. The description {of these} would entail a long explication of things, foreign to our purpose, all of which may be found in – and learned from – the books of {the astrological predictions known by this [name]} […]
>
> The Arabs used the Lunar Stations in another way than the {Indians}, as it was their object to learn thereby all meteorological changes {and phenomena} in the seasons of the year. But the Arabs, being illiterate people, {are unable to [have]

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[292] Al-Bīrūnī 1963[1923]: 193; 2001: 222; Sachau 1879: 173; Yano 2003: 384-385.
[293] Sachau 1879: 81.
[294] More generally, the term Sanskrit was not used by Arabic and Persian writers.
[295] On my treatment of Sachau's translations, see the author's note.

knowledge, except for visible things.} (Sachau 1879: 335-336)[296]

Now, this is a testimony of {Ābū Maʿšar},[297] showing that through this method you obtain correct results. {If examined by way of the *ribāṭāt* of the Indians, and of their *ǧufūr*, the matter would approach the correct result.} (Sachau 1879: 342)[298]

Al-Bīrūnī's interest in Indian astronomy finds expression in these two excerpts drawn from *Al-Āṯār*. In the first extract, al-Bīrūnī acknowledges the mathematical value of an Indian method called *ǧufūr* (?) used to calculate lunar stations. In the second portion of text dealing with the rising and setting of lunar stations, al-Bīrūnī obtains a relatively accurate result with the help of the Indian methods of *ribāṭāt*, here referring to lunar stations, and *ǧufūr*. Astronomical and medical treatises were translated in the second half of the 8th century at the Abbasid court, as Kevin Van Bladel demonstrates.[299] Indian astronomy was not only known to Muslim thinkers for at least two centuries before al-Bīrūnī composed *Al-Āṯār al-Bāqiya* in the year 1000, but also benefited from some notoriety. Al-Bīrūnī followed this tradition, so much as holding heathen Indians in higher esteem regarding astronomy than pre-Islamic Arabs. These two passages confirm that al-Bīrūnī knew Indian astronomical methods, or concepts, before writing the *Taḥqīq mā li-l-Hind*, and indicate that he recognized their value.

Several Indian *Siddhānta* texts, referred to in the general term *Sindhind*, were translated into Arabic during the Abbasid caliphate.[300] Some of these works were known to him, as the following excerpts highlight:

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[296] Al-Bīrūnī 1963[1923]: 336.12-15; 21-22; 2001: 432.1-5; 9-11.

[297] Abū Maʿšar was an astrologer native of Balkh and living in the 8th or the 9th century CE. He played an important role in the transmission of Indo-Iranian astrology to the Muslims (Sachau 1879: 375; Pingree 1963: 243-245).

[298] Al-Bīrūnī 1963[1923]: 341.6-7; 2001: 437.13-14.

[299] On the Barmakids at the Abbasid court see Elverskog (2010: 59-61) and Van Bladel (2011); see supra p. 10.

[300] Translated Indian astronomical works of the time include *Zīǧ al-Arkand* (Anonymous), *Zīǧ Kandakātik* (based on Brāhmagupta's *Khaṇḍakhādyaka*), *Zīǧ Karanatilaka* (Vijayanandin), *Zīǧ Karanasara* (Vitteśvara), *Kitāb al-Adwār wa l-Qirānāt* (Kanaka) (Ahmed 2001: 161-165). See also Pingree (1963) and Said/Khan (1981: 45).

According to Ptolemy {the revolutions [of the sun]} are equal, because he did not find that the apogee of the sun moves; whilst they are unequal according to the authors of {*al-Sindhind*} and the modern astronomers, because their observations led them to think that the apogee of the sun moves. In each case, however, whether they be equal or different, these revolutions include the four seasons and their nature. (Sachau 1879: 11)[301]

But they (the cycles) [of stars determined by Ābū Maʿšar] differ from the cycles, which have been based upon the observations of the Indians, known as the "*cycles of {al-Sindhind}*," and likewise they differ from *The Days of* {*Arğabhaza*} and *The Days of* {*Arkand*}. (Sachau 1879: 29)[302]

The discrepancy of the cycles [of the stars], not the discrepancy of the observations, is a sufficient argument for – and a powerful help towards – repudiating the follies committed by {Abū Maʿšar}, and relied upon by foolish people, who abuse all religions, who make the cycles of {*al-Sindhind*}, and others, the mean by which to revile those who warn them that the hour of judgment is coming, and who tell them that, on the day of resurrection there will be reward and punishment in yonder world. (Sachau 1879: 31)[303]

The day of the [vernal] equinox, as calculated by the {Indians} according to their {*Zīğ*}, – of which {they say with ignorance that it is eternally ancient}, whilst all the other {*Zīğ*-s} are derived therefrom, – is their {Nowrūz}, a great feast among them. In the first hour of the day they worship the sun and pray for happiness and bliss to the spirit (of the deceased). In the middle of the day they worship the <sun again>, and pray for {the life to come and the beyond}. At the end of the day, they worship the <sun again>, and pray for {their bodies and health}. {During that [day], they worship every object of value and [every] living creature}. They maintain that the winds blowing on that day are spiritual beings of great use for mankind. And the people in heaven and hell look at each other {with affection}, and light and darkness are equal to each other. In the hour of the equinox they light fires in sacred places. (Sachau 1879: 249-250)[304]

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[301] Al-Bīrūnī 1963[1923]: 9.15-18; 2001: 13.6-9.
[302] Al-Bīrūnī 1963[1923]: 25.12-13; 2001: 31.11-12.
[303] Al-Bīrūnī 1963[1923]: 27.17-20; 2001: 32.15-18.
[304] Al-Bīrūnī 1963[1923]: 259.2-8; 2001: 323.1-7.

> This second equinox is, according to the {*Zīǧ al-Sindhind*}, a great festival {for} the {Indians}, like {Mihrǧān for} the Persians. People make each other presents of all sorts of valuable objects and of precious stones. They assemble in their temples and places of worship until noon. Then they go out to their {parks, bow to their [god of] Time, and do obedience to Allah[305] – respected and exalted be him.} (Sachau 1879: 266)[306]

The above excerpts reveal that al-Bīrūnī's knowledge of India at the time of the *Al-Āṯār*'s compilation was based on literary sources. He indeed made reference to several works on subjects such as the astronomical revolution of the sun, star cycles, vernal equinox and its celebration, autumnal equinox, or rituals. The Arabic term *Zīǧ* was used as a generic appellation for a type of handbook regrouping astronomical tables. The *Zīǧ al-Sindhind* is the title of al-Ḫwarizmī's work on Indian astronomy. The *Zīǧ al-Arǧabhat* (*The Days of Arǧabhaza*, i.e., Āryabhaṭa) and the *Zīǧ al-Arkand* (*The Days of Ahargaṇa*) are Arabic works based on Sanskrit astronomical work.[307] These treatises were thus available to al-Bīrūnī, who could have drawn from them on Indian astronomy. Medical treatises were also amongst the Sanskrit works that were translated during the 8th century in the Abbasid court. Some passages of the *Taḥqīq mā li-l-Hind* indicate that al-Bīrūnī was indeed acquainted with Indian medicine via Arabic translations, notably of the Sanskrit *Carakasaṃhitā*, referred to several times by al-Bīrūnī as the *Kitāb Charaka* (چَرَك كتاب). He states that he only had access to a bad translation of the original Sanskrit work, which had been translated for the house of the Barmakids.[308]

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[305] The original term *allāh* is kept here, as it is difficult to know which Indian specific deity al-Bīrūnī is referring to.

[306] Al-Bīrūnī 1963[1923]: 274.13-16; 2001: 339.15-18.

[307] Pingree, EI (2nd), s.v. ʿIlm al-Hayʾa, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/ilm-al-haya-COM_0365 [last access in January 2015].

[308] Al-Bīrūnī 1958: 123.3-9; 126.4-7; 321.16-17; Sachau 1888b: I: 159; 162; 382.

Arabic sources also played a part in al-Bīrūnī's knowledge of India, as the three subsequent passages illustrate:

I have heard that the Indians use the appearance of the new-moon in their months, that they intercalate one lunar month in every 976 days […].

{Abū Muḥammad al-Nāʾib al-Āmulī} relates[309] in his {Kitāb al-Ġurra}, on the authority of {Yaʿqūb Ibn Ṭāriq}, that the Indians use four different kinds of spaces of time:

I. One revolution of the sun, starting from a point of the ecliptic and returning to it. This is the solar year.

II. 360 rising of the sun. This is called the middle-year, because it is longer than the lunar year and shorter than the solar year.

III. 12 revolutions of the moon, starting from the start {al-Šaraṭān} (*i.e.* the head of Aries), and returning to it. This is their lunar year, which consists of 327 days and nearly 7 2/3 hours.

IV. 12 lunations. This is the lunar year, which they use. (Sachau 1879: 15)[310]

The author of the {Kitāb Maʾḫaḏ al-Mawāqīt} (methods for the deduction of certain times and dates) thinks that the Greeks[311] and other nations, who are in the habit of intercalating the *day-quarter*, had fixed the sun's entering Aries upon the beginning of April, which corresponds to the Syrian {Naysān}, as the beginning of their era. […]. Further on he says, speaking of the Greeks, that, "they, on perceiving that the beginning of their year had changed its place, had recourse to the years of the Indians; that they intercalated into their year the difference between the two years […]". (Sachau 1879: 60)[312]

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[309] This is an example of the use of the verb *ḥakā* (litt. to report, to relate) used in the context of a reference to a written document.
[310] Al-Bīrūnī 1963[1923]: 12.19-13.10; 2001: 16.21-17.11.
[311] The term *al-rūm* is employed to refer to the people of the Eastern Roman Empire, including Greeks, in contrast to *al-yūnāniyya*, which refers to the ancient Greeks.
[312] Al-Bīrūnī 1963[1923]: 51.1-6; 2001: 59.5-11.

{Al-Ǧayhānnī} relates that in the Indian Ocean there are roots of a tree which spread along the sea-coast in the sand, that the leaf is rolled up and gets separated from {its root}, and that it then changes into a {male-bee} and flies away. (Sachau 1879: 214)[313]

These three extracts point to some of al-Bīrūnī's Arabic sources.[314] He quotes Abū Muḥammad al-Nāʾib al-Āmulī (*Kitāb al-Ġurra*), who refers to Yaʿqūb Ibn Ṭāriq,[315] in order to describe four different types of astronomical years in use amongst Indians. In the next passage, al-Bīrūnī refers to the *Kitāb Maʾhaḏ al-Mawāqīt*,[316] for which he does not provide an author. He uses this reference to highlight different manners of calculating days and years. In the last excerpt provided above, al-Bīrūnī quotes al-Ǧayhānnī[317] to depict a tree found on the coast of Indian Ocean that has a fantastic quality. The first of these excerpts also suggests that information was transmitted orally, according to the expression "I have heard that the Indians [...]" (سمعت أنّ الهند).[318]

In conclusion, al-Bīrūnī not only had information regarding Indian astronomy at his disposal, but he also expresses his respect for it, so much so that he devotes portions of *Al-Āṯār* to Indian astronomy. Al-Bīrūnī mainly based his short account of India in *Al-Āṯār al-Bāqiya* on writings that had been available to him in Khwarezm, Ray, or Jūrjān, before he travelled eastward and approached an Indian society in northern Pakistan. It has been mentioned that his interest in astronomy was inherited from an earlier tradition. Al-Bīrūnī was educated first as an astronomer and mathematician, and only later on began studying other

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[313] Al-Bīrūnī 1963[1923]: 228.2-3; 2001: 283.9-11.
[314] In the *Taḥqīq mā li-l-Hind*, al-Bīrūnī makes mention of Arabic writers acquainted with India. Al-Bīrūnī 1958: 351.3; Sachau 1888b: II: 18.
[315] On this astronomer see Pingree (1968).
[316] This work is unknown.
[317] Al-Ǧayhānnī was probably a vizier of the Samanid dynasty (*ca.* 10th century CE). Sachau 1879: 424; Pellat, EI (2nd), s.v. al-Ḏjayhānī, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/al-djayhani-SIM_8505 [last accessed in January 2015]. Al-Bīrūnī perhaps makes reference to the same person in the *Taḥdīd*, when he writes: Once, I had the intention to glean the information provided by the method of Ptolemy, in his book, the Geography, and by the method of al-Jaihānī (*sic*) and others, in their books on al-Masālik [i.e., roads], for the following purposes: the collection of data, the clarification of obscurities, and the perfection of the art. (Translation by Ali 1967: 14). If it is the same person, then al-Ǧayhānnī is the author of a book of '*masālik*' type, just like Ibn Ḫurdāḏbah or Iṣṭaḫrī. See supra pp. 34-35.
[318] Al-Bīrūnī 1963[1923]: 13.19; 2001: 16.21.

subjects, including history, culture, gemology, and pharmacology. Therefore, it is not surprising that al-Bīrūnī had knowledge of Indian astronomy, for the most part based on written sources.

2.2. Al-Bīrūnī's learning of Sanskrit

In *Al-Āṯār*, al-Bīrūnī's knowledge of texts of Indian origin was essentially confined to the astronomical field. In contrast, in the *Taḥqīq*, the scholar quotes several other texts, such as some *Purāṇa*-s, the *Kitāb Gītā*, two texts related to Sāṃkhya and Yoga philosophies, and to a lesser extent the *Veda*-s. This dissertation subsequently explores how, in the span of the thirty years that separated the two works, al-Bīrūnī gathered this additional knowledge.

Al-Bīrūnī never explicitly mentioned Sanskrit as such, even in the *Taḥqīq mā li-l-Hind*. He employed the word *al-hind* (الهند) as a collective to designate *India* or *Indians*, or as an adjective derived from it, *al-hindī* (الهندي) meaning *Indian*. He also sometimes used the expression *fī l-luġa al-hindiyya* (في اللغة الهندية), which literally means *in the Indian language*. However, the many instances of his Arabic transliterations in *al-Āṯār* as well as in the *Taḥqīq* leave little doubt that the language he was dealing with was Sanskrit.[319]

2.2.1. Intercultural and intellectual exchanges in early medieval Islam

Although it is difficult to retrace the exact way al-Bīrūnī learned Sanskrit to eventually translate two works related to Sāṃkhya and Yoga philosophies, a few socio-historical elements may help us get a clearer picture of his process. Chapter 1 surveys the historical contexts of the cities in which al-Bīrūnī lived. In the territory considered outside of al-Hind by the scholar, the cities were all prosperous, strategically situated, and propitious for commercial and intellectual interactions. These conditions constitute a significant common

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[319] See tables 1, 2, 3, and 4.

point between these locales that enabled al-Bīrūnī to meet different scholars, possibly including Indians. Indeed, as there were Indians in the court of the Abbasid in the 8th century CE, chances are that contact also existed later. However, there is no evidence that Indian scholars were taking part in the intellectual activities of the Maʾmūn Academy in Khwarezm, the observatory of Ray, or the court of Prince Qābūs in Jūrjān.[320]

The situations in Kabul and Ghazna were thus more conducive for al-Bīrūnī to learn Sanskrit and Indian science, religion, and philosophies, as their locations made it possible for them to witness different cultural influences in artistic, architectural, and administrative domains. In addition, other elements of culture, such as literary and scientific works, as well as religious traditions, probably circulated across Central Asia, as suggested by Said and Khan.[321] The gradual influence of administration and art of Indian origin on the Ghaznavids, especially during Maḥmūd's governorship, suggests that there was contact between this dynasty and Indians. Moreover, the presence of the Indian Šāhis, described as Brahmins by al-Bīrūnī, in the region of Kabul and northern Pakistan shows that Indian (or Brahmanical) culture was not foreign to him.

Moreover, the time spent in the milieu of the Ghaznavids' court helped him learn Sanskrit, whether in Ghazna or in al-Hind. Maḥmūd is indeed known to have sought to gather scientific writings in Ghazna, for instance, from Ray and Isfahan in Iran,[322] and to have requested a considerable number of scholars and poets to come to his court.[323]

Numerous people accompanied the sultan during his campaigns: soldiers, workers, officials, poets, secretaries, interpreters, etc. In 417 or 418 of Hegira (1026 or 1027 CE), ambassadors from Chinese Kitan visited Maḥmūd's court. Al-Bīrūnī records in his book on gemology, *Al-Ǧamāhir fī l-Ǧawāhir* (*The Collection of Gemstones*), that the encounter with

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[320] See section 1.1.
[321] Said/Khan 1981: 83.
[322] Nazim 1931: 158.
[323] Bosworth 1963: 132.

these ambassadors provided him information on the Far East.[324] Farruḵī's poems also provide information about the life of the sultan, who received delegates and military leaders from foreign states.[325] It is thus possible that there may have been members of the Indian elite amongst these delegates, such as royal advisors, astronomers, or officials, who were likely educated Brahmins. Access to different kinds of resources, written documents and direct contacts could have thus been facilitated for the scholars at Maḥmūd's court.

Although al-Bīrūnī's work on India remains isolated for this period, it is likely that he collaborated with other thinkers. There are many examples of intellectual exchanges. Marie-Geneviève Balty-Guesdon provides several names of thinkers who had worked in the *Bayt al-Ḥikma* of Baghdad occupying different posts, including translator, secretary, monk, copyist, librarian, and astronomer.[326] Travis Zadeh also quotes Ḥunayn bin Isḥāq (b. 808) explaining how he translated Galen's *De motu muscolorum* into Syriac, and how he was then requested to revise the Arabic translation of his Syriac translation. As Zadeh notes, Ḥunayn's explanation shows the "professional process of translation" (Zadeh 2011: 60), as well as displays the need for teamwork in this process.

The Marvels of India (عجايب الهند), authored by Buzurg Ibn Šahriyār in the mid-10th century CE, gathers 134 stories about sailors' travels.[327] Beyond the fact that many anecdotes are tinted by fanciful elements, the book not only attests to the circulation of information from different regions linked by the Arabic Sea, the Indian Ocean, and the Mediterranean Sea, but also to the use of multiple languages between these sailors and travelers. A story recounts, for instance, how an Indian king in a region located in Kashmir wanted to have the laws of Islam translated and requested a person from Iraq who lived in India and knew several of its

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[324] Boilot 1955: 230, no 156. This episode is referred to by Minorsky (1951: 233-234), Shamsi (1979: 271), and Said/Khan (1981: 80; 82; 222, note 178). For the complete English translation of this work see Mohammed Hakim Said (2001).
[325] Bosworth 1991: 47.
[326] Balty-Guesdon 1992: 141-146.
[327] Fück, EI (2nd), s.v. Buzurg b. S̲h̲ahriyār, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/buzurg-b-shahriyar-SIM_1575 [last accessed in March 2015].

languages to come to his court. The same Indian king asked Buzurg Ibn Šahriyār to translate the *Quran* into his Indian language.[328] Another story tells of a person from Siraf, in present-day South Iran, travelling with an Indian guide. According to this story, they are able to converse, although no information regarding the language they used was provided.[329] While the historical reliability of these stories is uncertain, they at least indicate that they were polyglots in the mid-10th century able to interpret between Arabic (and Persian?) and Indian languages.[330]

In a context closer to al-Bīrūnī, al-ʿUtbī described Maḥmūd's army as composed of many tribes, including Indian ones.[331] He also mentions an Indian who was chief of the sultan's army.[332] In this period, it was common to hire foreign slaves, or freedmen, referred to as *ġulām* (Ar. slave, servant, young man) in the royal courts.[333] Indian *ġulām*-s were, for instance, regularly brought from military campaigns and appear to have held relatively satisfying ranks in the Ghaznavid court. Take, for instance, the case of Tilak, an Indian *ġulām*, who became military leader, after having been an official interpreter of the administration of Masʿūd, Maḥmūd's son.[334] This example indicates that different ethnic groups were part of the Ghaznavid army, and, more importantly, that some of the foreign captives were appointed to higher positions in the army as well as in the administration. In addition, it provides the valuable clue that the Ghaznavids needed Indian interpreters to help govern and communicate in the newly conquered territory.[335]

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[328] Devic 1878: 2-3.
[329] Devic 1878: 90-91.
[330] Finbarr Barry Flood also remarks that "[b]ilingualism and/or polyglossia may in fact have been relatively common phenomena of the South Asian borderlands" (2009: 42).
[331] Al-ʿUtbī 1858: 335-336.
[332] Al-ʿUtbī 1858: 311.
[333] Sourdel/Bosworth,/Hardy/İnalcık/Halil, EI (2nd), s.v. G̲h̲ulām, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/ghulam-COM_0237 [last accessed in March 2015].
[334] Bosworth 1963: 101; Flood 2009: 4; 78. On slavery under the Ghaznavid see Bosworth (1963: 99-106).
[335] Said/Khan 1981: 89.

Further, al-ʿUtbī mentions a messenger whose task was to travel from one army to another during the negotiations the ruler Sebüktigīn undertook with foreign states. Al-ʿUtbī does not provide the details of the specific regions he visited or the language which was spoken during these negotiations. However, these messengers must have spoken several languages, and could have thus also played a role as interpreters in the cross-cultural interactions of the time. Al-Bīrūnī himself mentions a "linguist" in the *Taḥdīd*, without giving more information.[336] Later, in his introduction of the *Pharmacology* (*Kitāb al-Ṣaydana fī l-Ṭibb*), al-Bīrūnī refers to an Indian physician who travelled in the region of Gardez, between Ghazna and the Pakistani Punjab.[337]

It appears as though al-Bīrūnī learned Sanskrit for several reasons. In addition to his early interest in Indian science, the scholar may have been encouraged by Maḥmūd to learn Sanskrit. The latter, conquering al-Hind, needed somebody to help him to communicate with Indians, improve the administration of al-Hind, and establish control over the trade roads to enforce greater stability.

Rehman calls attention to an epigraph dated to 1011 CE inscribed on a foundation tomb found in Zalamkot in the lower Swat. This epigraph bears a bilingual inscription in Persian (seven lines) and in Sanskrit (three lines in *śāradā* script), indicating an early interest in writing official records in two official languages. It is also noteworthy that, in contrast to the bilingual coins minted in the region of Lahore, Persian, rather than Arabic, was used in this epigraph. Two observations can be made based on the epigraph. Either two people, each knowing one of the two languages, cooperated through an intermediary language, or the person(s) involved in the elaboration of the text of this inscription was acquainted with both Persian and Sanskrit.[338]

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[336] Ali 1967: 8.
[337] Al-Bīrūnī 1973: 6.
[338] Rehman 1998.

Chapter 1 provides two examples of early Persian writers who lived in Lahore.[339] Ali Huǧwīri, who was born in Ghazna and died in Lahore in 1071/72, composed an early Persian Sufi treatise,[340] while Masʿūd-i Saʿd-i Salmān (1046/9-1121/2), was a poet of Persian origin living in Lahore. The latter is said to have composed his poems in Persian, Arabic, and Indic languages, although there is no extant poem of his in any Indian language or in Arabic.[341] The fact that he was remembered as a poet writing in several languages at least serves as evidence that the existence of such linguistic skills was conceivable. Thus, the context in which al-Bīrūnī evolved in Maḥmūd's court enabled the scholar to improve the initial basic knowledge of Sanskrit he had prior to dwelling in the region of northeastern Afghanistan and northern Pakistan.

2.2.2. Al-Bīrūnī's knowledge of Sanskrit when compiling the *Taḥqīq*

By the time the *Taḥqīq* had been compiled, al-Bīrūnī's knowledge of Sanskrit had considerably increased. David Pingree, however, believes that al-Bīrūnī was not very conversant in Sanskrit and that his translation of the Sanskrit *Brāhmasphuṭasiddhānta* relied, for the most part, upon the Indian pandits he met.[342] Jan Gonda expounds numerous examples of variations in the transliterations of Sanskrit proper names into Arabic as transmitted in al-Bīrūnī's quotations of the *Purāṇa*-s. For him, however, these variations are not all due to al-Bīrūnī's inexactitude. He adds that some of al-Bīrūnī's readings might be valuable for scholars interested in *paurāṇic* studies.[343]

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[339] See supra p. 48.
[340] Böwering EIr, s.v. Hojviri, Abu'l-Ḥasan 'Ali b. 'Oṯmān b. 'Ali al-Ġaznavi al-Jollābi; http://www.iranicaonline.org/articles/hojviri-abul-hasan-ali, [last accessed in March 2015].
[341] Grover 2006: 61; Clinton, EI (1st), s.v. Masʿūd-i Saʿd-i Salmān, http://referenceworks.brillonline.com/entries/encyclopedie-de-l-islam/masud-i-sad-i-salman-SIM_5031 [last accessed in January 2015].
[342] Pingree 1983: 353.
[343] Gonda 1951: 118. On al-Bīrūnī's knowledge of Sanskrit see also Chatterji (1951: 86-87; 95).

There are indeed several elements indicating that al-Bīrūnī's knowledge of Sanskrit was relatively good. For instance, his different transliterations, in *Al-Āṯār al-Bāqiya* as well as in the *Taḥqīq mā li-l-Hind*, generally indicate a faithful transfer of Sanskrit terms into Arabic. The following table displays some transliterated terms from Sanskrit into Arabic drawn from the index of the *Taḥqīq mā li-l-Hind*:

Arabic	Sanskrit	Arabic	Sanskrit
bīḏa	*veda*	*nārāyan*	*nārāyaṇa*
purānā	*purāṇāḥ* (pl.)	*bāsudīwa*	*vāsudeva*
mīru	*meru*	*bhārata*	*bhārata*
dībā	*dvīpāḥ* (pl.)	*akšauhinī*	*akṣauhiṇī*
lanka	*laṅkā* (f.)	*adimāsah*	*adhimāsa*
māna	*māna*	*ūnarātra*	*ūnarātra*
brāhma	*brahmā*	*aharkana*	*ahargaṇa*
sand	*sandhi*[344]	*parba*	*parvan*
kalpa	*kalpa*	*sanbajjara*	*saṃvatsara*
catur jūga	*caturyuga*	*šadabda*	*ṣaṣṭyabda*
mannatara	*manvantara*	*karanā*	*karaṇāḥ* (pl.)

Table 4: Transliterations from Sanskrit to Arabic by al-Bīrūnī in the Taḥqīq mā li-l-Hind.

It is first interesting to notice how meticulous the transliterations were.[345] The long vowels, *ā* in this table, are generally faithfully transposed. The *ṇ* (retroflex) and *ṅ* (guttural) are generally reproduced by the same Arabic letter *nun*, as no other type of this nasal exists in Arabic. The letters *bā, fā*, or *wāw* were each employed at different times to transliterate the

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[344] The period which exists between each *yuga*, i.e., Indian era, is meant here.
[345] With regard to the transliteration of the short vowels, when the Arabic script does not specify them, I attributed to them the same quality as the short vowels of the corresponding Sanskrit. Similarly, the diphthongs have been inferred from the original Sanskrit term.

Sanskrit sound *v*, which does not exist in Arabic. In other cases, Persian characters, such as *ch* and *p*, are used to complement the Arabic alphabet, since the latter does not count them among its letters. The sound *e* is generally rendered by the long *ī*. In this table, most of the Sanskrit long vowels are rendered with long vowels in Arabic as well. Although there are discrepancies between the Sanskrit original words and the Arabic transliterated ones, al-Bīrūnī generally remains relatively close to the pronunciation of the Sanskrit term. It is possible to infer that he was well-informed about Sanskrit, either due to the Brahmins who helped him or to the texts he consulted.

Al-Bīrūnī's degree of proficiency in Sanskrit is also possible to appreciate by virtue of the translations he made – or took part in – from Arabic into Sanskrit, that are from Euclid's *Elements* and Ptolemy's *Almagest*. These works, found in his bibliography, are not extant today.[346] His bibliography also listed several translations from Sanskrit into Arabic.[347] As is seen in chapters 4, 5, and 6, his choices of interpretations in the *Kitāb Pātanğal* and the *Kitāb Sānk* were rather pertinent and clever, generally displaying a good understanding of their original Sanskrit works.

When the scholar went to present-day northern Pakistan and prepared the *Taḥqīq mā li-l-Hind* and these two translations, he had to collaborate with thinkers not only well-versed in Sanskrit, but also at least acquainted with Arabic or Persian. They may have worked through the intermediary of a vernacular language.

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[346] Al-Bīrūnī 1958: 102.5.7; Sachau 1888b: I: 137; Boilot 1955: 238-239, nos 175; 176.
[347] Boilot 1955: 189, no 40. A series of lost translated works into Arabic is listed in Boilot. Some of these translations are based on Sanskrit works (1955: 202-206, no 79-92); possibly the book entitled *Translation of a general book on the sentient and rational beings* (Boilot 1955: 208, no 97).

2.3. Al-Bīrūnī's encounter with Indian scholars

As previously discussed, the intellectual context of Maḥmūd's court was favorable for al-Bīrūnī to learn Sanskrit. Several locales in al-Hind constitute sites where al-Bīrūnī could have met Indian thinkers and interacted with them so as to produce his monograph and translations.

The lack of data available concerning Laghman, Peshawar, Fort Rājagirī, and Fort Lahūr prevent us from determining their significance in al-Bīrūnī's learning of Sanskrit. As for Nandana, it has been established that al-Bīrūnī spent sufficient time in this fort to experiment with his method of calculating the circumference of the earth.[348] Ruins of two temples are present at this site, which could have housed Indian Brahmins along with Sanskrit literature. Indeed, a number of important temples emerged during the 1st millennium. It appears that traditional education and learning were also sometimes provided by the priests' temple attendants, which were surrounded by schools designated by the Sanskrit terms *ghaṭika*-s or *maṭha*-s.[349] It is likely that after Maḥmūd plundered the temples of Nandana in the Salt Range (1014) he later appointed al-Bīrūnī to stay there for some time between the years 1017 and 1030. In this temple, priests of the temples may have assisted him in learning about Sanskrit and about India.[350]

Udabhāṇḍapura and Lahore were certainly important sites of the Indian Šāhis, as they were successively the capital cities of their kingdoms.[351] Indian scholars likely dwelt in these cities, and it thus possible, though not ascertainable, that al-Bīrūnī encountered Indians in these locales.

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[348] Ali 1967: 188-189. Said/Khan 1981: 84.
[349] Scharfe 2002: 169.
[350] On the possible stay of al-Bīrūnī in Nandana, see Said/Khan (1981: 77-78).
[351] See Dar (1994; 2001: 53-60).

Multan was an equally important city of al-Hind, as al-Bīrūnī's many references to it indicate. He explains that different appellations were given to this city, describing it as a place of pilgrimage on account of its pond, and its Sun idol. According to his report, however, the Sun idol was destroyed.[352] Al-Bīrūnī communicated with people from Multan and consulted books by authors from this city.

When Maḥmūd attacked the region, the Ismāʿīlīs, a branch of the Islamic community, ruled the city. As the sultan disapproved of this Islamic sect, he attempted to establish his authority, returning to Multan several times.[353] It is not certain that this city ever became politically stable enough so that the scholar could work there on India and Indian philosophy.[354]

Wherever al-Bīrūnī learned Sanskrit and studied Indian culture, it is clear that he had to collaborate with Indian scholars in order to do so. A further look at al-Bīrūnī's *Taḥqīq* provides more information about his informants, revealing that Brahmins were an important part of his interlocutors.

There are indeed at least two passages in the *Taḥqīq* showing that al-Bīrūnī met Brahmins:

> I have seen Brahmans who allowed their relatives to eat with them from the same plate, but most of them disapprove of this. (Sachau 1888b: II: 134)[355]

> I have been repeatedly told that when {Indian} slaves (in Muslim countries) escape and return to their country and religion, the {Indians} order that they should fast by way of expiation, then they bury them in the dung, stale, and milk of cows for a certain number of days, till they get into a state of fermentation. Then they drag them out of the dirt and give them similar dirt to eat, and more of the like. I have

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[352] Sachau 1888b: I: 116; 298; II: 145; 148. This pond is still existing today, though in an impaired condition. It is located at approximately seven kms south from the present-day Multan, and referred to as Suraj Kund or Sūrya Mandir.
[353] Nazim 1931: 96-99; Elverskog, 2010: 51.
[354] Said/Khan 1981: 79.
[355] Al-Bīrūnī 1958: 456.12-13.

asked the Brahmans if this is true, but they deny it, and maintain that there is no expiation possible for such an individual, and that he is never allowed to return into those conditions of life in which he was before he was carried off as a prisoner. And how should that be possible? If a Brahman eats in the house of a {*Šūdra*} for sundry days, he is expelled from his caste and can never regain it. (Sachau 1888b: II: 163)[356]

These passages explicitly indicate that al-Bīrūnī spoke to Brahmins. The law of purity and impurity, that is, the pollution by contact with other castes, or with foreigners (Skt. *mleccha*), seems to have been followed, or at least was acknowledged by the social group al-Bīrūnī met. Other customs that al-Bīrūnī describes, such as those observed in Peshawar, as well as the calendar system used by the people of Laghman,[357] strongly suggests that the society presented by al-Bīrūnī followed a form of Brahmanism. As mentioned, al-Bīrūnī devotes an entire chapter to the life and practices of the Brahmins, whereas he portrays all of the other classes together in only one chapter.[358] The Brahmins were the literate class of the population, who generally accompanied the rulers in their courts. Therefore, it is likely that al-Bīrūnī came into direct contact with them, rather than with other layers of the population, such as soldiers or peasants.

The *Taḥqīq mā li-l-Hind* also stands as evidence of the prevalence of the caste system in the society al-Bīrūnī encountered.[359] The scholar describes the four main *varṇa*-s (colors and castes) in a chapter entitled "On the classes, called 'colors', and those which are lower" (في ذكر الطبقات التي يسمّونها ألوانا و ما دونها),[360] providing an account of the classes that are outside of the caste system. His informants then conveyed to him a picture of a society in which the caste system not only existed, but was also followed. This is again symptomatic of a Brahmanized society.

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[356] Al-Bīrūnī 1958: 475.11-17.
[357] Supra pp. 60-61.
[358] Al-Bīrūnī 1958: 452-458; Sachau 1888b: II: 130-139.
[359] Mishra 1983: 103.
[360] Al-Bīrūnī 1958: 75.11-80.1; Sachau 1888b: I: 99-104.

Another passage of the *Taḥqīq mā lī-l-Hind* is instructive about al-Bīrūnī's informants and the type of society they described:

> The main and most essential point of the <Hindu> world of thought is that which the Brahmans think and believe, for they are specially trained for preserving and maintaining their religion. And this it is which we shall explain, viz. the belief of the Brahmans. (Sachau 1888b: I: 39)[361]

This passage is located in a chapter entitled "On their belief in the existent, both *intelligibilia* and *sensibilia* " (في ذكر اعتقادهم في الموجودات العقليّة و الحسيّة),[362] which gives an account of various conceptualizations of God and the metaphysical world. This extract presents Brahmins as the custodians and representatives of Indian beliefs. Thus, if the conceptualization of God and of the metaphysical world provided by al-Bīrūnī was that of the Brahmins, it is likely that the general perspective that al-Bīrūnī transmitted in the *Taḥqīq* was that of Brahmins as well.

Al-Bīrūnī's interest in astronomy is validated in his account of Indian astronomy in *Al-Āṯār* as well as in the second half of the *Taḥqīq*. Thus, it is not surprising that some Brahmins he met were specialized in astronomy, as the next excerpt illustrates:

> At first I stood to their astronomers in the relation of a pupil to his master, being {foreign to their discussions} and not acquainted with their {conventions}.[363] On having made some progress, I began to show them the elements on which this science rests, to point out to them some rules of logical deduction and the scientific methods of all mathematics, and then they flocked together round me from all parts, wondering, and most eager to learn from me, asking me at the same time from what {Indian} master I had learnt those things. (Sachau 1888b: I: 23-24)[364]

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[361] Al-Bīrūnī 1958: 29.19-30.1.
[362] Al-Bīrūnī 1958: 24.4-34.4; Sachau 1888b: I: 33-45.
[363] In this passage, Sachau greatly interprets the Arabic originals, which can be in my opinion translated in a more literal way.
[364] Al-Bīrūnī, 1958: 17.16-18.2.

This passage suggests that these astronomers became interested in al-Bīrūnī's skills. If they were initially compelled to assist him, the situation may have changed after interacting with him. Although astronomers counted amongst al-Bīrūnī's informants partly due to his own interest, one cannot discard the possibility that he met Indian thinkers who were experts in other domains. In the *Taḥqīq mā li-l-Hind*, al-Bīrūnī constantly distinguishes between the views of educated and uneducated people, or the elites (الخاصّ) and the masses (العامّ). He generally approves of the intellectual and religious attitudes of the elites, who, in al-Bīrūnī's view, are, for instance, able to consider abstract notions and whose conceptualization of the divine can be compared to the monotheism of Islam. He described the masses to the contrary, as idolatrous people. Al-Bīrūnī interacted with the elite, as his comments in the preface to the *Kitāb Pātanğal* confirms:

> I turned to books on wisdom[365] preserved by their elite,[366] and with respect to which the ascetics compete with a view to progressing upon the way to worship. When they were read to me letter by letter, and when I grasped their content, my mind could not forgo letting those who wish to study them share (in my knowledge). (Pines/Gelblum 1966: 309)[367]

In another excerpt, exposing several *Purāṇa*-s' views regarding the names of the different planets, drawn from the *Taḥqīq*, al-Bīrūnī commented on those who assisted him in understanding the works as follows:

> For those men who explained and translated the text to me were well versed in the language, and were not known as persons who would commit a wanton fraud. (Sachau 1888b: I: 229)[368]

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[365] فى الحكمة.
[366] خواصّهم.
[367] Ritter 1956: 167.9-11.
[368] Al-Bīrūnī 1958: 186.11-12.

These two passages indicate that some educated and reliable people (philosophers?) helped al-Bīrūnī when he studied philosophical and *paurāṇic* Sanskrit literature.

Further evidence in the *Taḥqīq mā li-l-Hind* shows that al-Bīrūnī accessed a large number of texts. The Sanskrit texts known to him were, for instance, the *Veda*-s, the *Ādityapurāṇa*, the *Matsyapurāṇa*, the *Viṣṇupurāṇa,* the *Vāyupurāṇa*, the *Bhagavadgītā,* the *Mahābhārata*, the sources of the *Kitāb Sānk* (Sāṃkhya philosophy) and the *Kitāb Pātanğal* (Yoga Philosophy*)*, the *Brāhmasphuṭasiddhānta,* the *Pauliśasiddhānta*, the *Bṛhatsaṃhitā*, and the *Laghujātaka*. Yet the *Veda*-s could not be directly consulted by al-Bīrūnī,[369] because, at least in theory, the Vedic knowledge could only be taught by Brahmins, and learned by Brahmins, Kshatriyas, and Vaishyas. Accordingly, other classes of the society, as well as foreigners (Skt. *mleccha*), were prevented from accessing this teaching. Second, Hartmut Scharfe explains that during the first millenium CE the *paurāṇic* teaching increased in importance as compared to the Vedic teachings and rituals.[370] The significant presence of *paurāṇic* literature in al-Bīrūnī's *Taḥqīq mā li-l-Hind* would substantiate Scharfe's theory regarding the development of Indian education. The abundance of this type of literature in the *Taḥqīq*, as well as the philosophical works, indicates that it constituted popular texts for the people al-Bīrūnī encountered.

Al-Bīrūnī thus not only met traders, or travelers who, for instance, informed him about the geography of different provinces of India, as seen in section 1.3.4., but also Brahmins, some of whom were well versed in religion, astronomy, *paurāṇic* literature, and philosophy, and who could thus guide him in understanding Indian religion, science, and literature. It is, however, difficult to ascertain whether these educated Indians were specialized in their particular fields or had expertise in several sciences. There is, however, no evidence in the *Taḥqīq* indicating that al-Bīrūnī ever spoke to the likes of princes, soldiers, or peasants.

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[369] There have been other sciences, which were not available to him, as he explains that a branch of Indian alchemy was concealed to him. Sachau 1888b: I: 188.

[370] Scharfe 2002: 169.

2.4. Description of living traditions

The elements considered above reveal that al-Bīrūnī described a highly brahmanized society. Thus, there was some concordance between the society of the Indian Šāhis who adhered to a form of Brahmanism and al-Bīrūnī's description in the *Taḥqīq mā li-l-Hind*. A large part of India was brahmanized at the time, and al-Bīrūnī's descriptions could apply to other regions of India as well. However, the fives locales where al-Bīrūnī's presence has been ascertained belonged to the kingdom of the Indian Šāhis.

Indian thinkers, astronomers and Brahmins were affiliated to the Indian Šāhis' courts. Al-ʿUtbī's account indicates that when the Ghaznavids defeated Jayapāla, they also captured some members of his family and court.[371] Thus, like the Ghaznavids, Indian rulers were also accompanied by advisers and officials. It is likely that the kings encouraged certain practices, such as educated Brahmins studying literature and science, linked to the elite education tradition. The role of kings as promoters of certain schools of thought was sometimes significant, as in the cases of Aśoka and Buddhism, and the Vijayanagara rulers.[372] As al-Bīrūnī mostly interacted with Brahmins, there must have been intellectual exchanges between the courts of the Ghaznavids and the Indian Šāhis, during which the scholar became gradually more familiar with Sanskrit literature. In all likelihood, some advisers of the Indian Šāhis were Brahmin astronomers and philosophers trained into Sāṃkhya and Yoga philosophies.

The preceding observations, i.e., the correspondence between the Brahmanical society that al-Bīrūnī presented and the Indian Šāhi dynasty as tending to Brahmanism, reveal that the *Taḥqīq mā li-l-Hind* actually displays religious traditions that were still current in al-Bīrūnī's time and in the areas he visited. The fact that the scholar visited regions in present-day eastern Afghanistan and central Pakistan that were part of the Indian Šāhis's kingdom shortly before

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[371] Al-ʿUtbī 1858: 282.
[372] Bronkhorst/Diaconescu/Kulkarni 2013: 96. Also pages 76-77.

the arrival of the Ghaznavids parallels this analysis.

An additional indication of the fact that al-Bīrūnī described living traditions lies in the absence of Buddhism in the *Taḥqīq mā li-l-Hind*.[373] Al-Bīrūnī himself explains why he did not take into account Buddhist communities, as he simply did not meet Buddhists:

> This is all I could find of {Indian} traditions regarding <Meru>; and as I have never found a Buddhistic [i.e., *al-šamaniyya*] book, and never knew a <Buddhist> from whom I might have learned their theories on this subject, all I relate of them I can only relate on the authority of {al- Īrānšahrī}. (Sachau 1888b: I: 249)[374]

This passage clearly reveals that the absence of Buddhism in the *Taḥqīq* is due to the fact that al-Bīrūnī did not have access to books related to Buddhism, and did not meet any Buddhists, and not to his own lack of interest. *Al-šamaniyya* is the actual Arabic term to name the Buddhist, and al-Bīrūnī did make use of this word. In the *Taḥqīq mā li-l-Hind*, he clearly differentiates the *al-šamaniyya*[375] from the Brahmins (*barāhima*), who appear to be named by the term *al-hind* or *al-hindiyya*, as the following passage illustrates:

> Another circumstance which increased the already existing antagonism between {Indians} and foreigners is that the so-called {al-Šamaniyya} [i.e., the Buddhists], though they cordially hate the Brahmans, still are nearer akin to {the Indians} than to others. In former times, {Hurāsān, Fāris, ʿIrāq, Mūṣul},[376] the country up to the frontier of Syria, {belonged to their religion until Zaradušt} went forth from {Āḏarbayǧān} and preached Magism in Balkh (Baktra). His doctrine came into favour with King {Kuštāsb}, and his son {Isfandiyār} spread the new faith both in east and west, both by force and by treaties. He founded fire-temples through his whole empire, from the frontiers of China to those of the Greek empire. The

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[373] Sachau 1888b: I: xlv.
[374] Al-Bīrūnī 1958: 206.3-5. Īrānšahrī was a Persian scholar from Nišāpur who lived in the second half of the 9th century CE. He inspired al-Bīrūnī's works, but also that of Moḥammad b. Zakariyyāʾ Rāzi (b. 865), the renowned physician and philosopher. Daryoush, EIr, s.v. Īrānšahri, Abuʾ l-ʿAbbās Moḥammad b. Moḥammad, http://www.iranicaonline.org/articles/iransahri-abul-abbas-mohammad-b-mohammad [last accessed in 25 January 2014].
[375] Early medieval Perso-Muslim authors generally distinguished the followers of Buddhist traditions and that of Brahmanical or Hindu traditions. *Al-šamaniyya* was the term in use. Maclean 1989: 5.
[376] Mūṣul was a city situated in northern Iraq.

succeeding kings made their religion (i.e. Zoroastrianism) the obligatory state-religion for {Fāris and ʿIrāq}. In consequence, the Buddhists were banished from those countries, and had to emigrate to the countries east of Balkh. There are some Magians up to the present time in India, where they are called {Maka}. From that time dates their aversion towards the countries of {Ḫurāsān}. (Sachau 1888b: I: 21)[377]

Buddhists and Brahmins are thus distinct people for al-Bīrūnī. Although historical events conveyed by al-Bīrūnī may be inaccurate, his text attempts to explain the decline of Buddhism from large parts of Central Asia due to the advent of Zoroastrianism. Indeed, Buddhist communities began flourishing from the middle of the 3rd century BC onward[378] as the Gandhara civilization, which was centered in present-day Peshawar and Taxila. In the 7th century, Xuanzang's account reported that Buddhism was declining in this region.[379]

This may have been due to the progress of Muslim conquests, or of Zoroastrianism, as al-Bīrūnī's account suggests. The rise of the Indian Šāhi dynasty, which was following a Brahmanical tradition in the middle of the 9th century CE, was probably favored by this decline, or vice versa. This also possibly suggests that Buddhists were no longer supported by ruling dynasties in the area. During the 8th (or 9th?) century CE, Buddhism nearly vanished from Central Asia, as well as from Sindh. Moreover, it appears that Buddhist traditions survived for a longer time in lower Sindh than in the upper Sindh.[380]

Al-Bīrūnī did not describe any well-known Buddhist sites, in the way he did for Hindu temples and idols, for instance, in Taneshwar, Multan, and Somnath. It is likely then that the significance of Buddhist sites as intellectual or cultural centers was waning, and their fame was no longer recognized.

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[377] Al-Bīrūnī 1958: 15.14-16.4.
[378] See the introduction in Salomon (1999: 5).
[379] Watters 1904: I: 202. In *Al-Āṯār al-Bāqiya*, al-Bīrūnī also mentions the decline of Buddhism in Central Asia (Sachau 1879: 188-189; quoted in Elverskog 2010: 51).
[380] Maclean 1989: 52-57.

Moreover, whereas al-Bīrūnī generously quoted from texts linked to the Sāṃkhya (*Kitāb Sānk*) and Yoga (*Kitāb Pātangal*) philosophies in the *Taḥqīq mā li-l-Hind*, he was silent in regard to other Indian systems of thought. For instance, he did not engage with the Nyāya-Vaiśeṣika systems, nor with the Mīmāṃsā-Vedānta, which are generally considered as having been predominant in India at the time. Why the Advaita-Vedānta philosophy, for example, was not presented in the *Taḥqīq mā li-l-Hind* is another relevant question to consider. Is it due to al-Bīrūnī's particular preferences, or because these systems were not influential in northern Pakistan during this period? It is likely that texts linked to the systems of thought of the Mīmāṃsā-Vedānta, or the Nyāya-Vaiśeṣika, were not studied in this area when al-Bīrūnī visited, nor supported by the rulers of the regions.

Al-Bīrūnī himself did not provide any hints explaining his lack of reference to other schools of thought in the *Taḥqīq*, as he did for Buddhism. In a single passage of the *Taḥqīq*, however, he mentions some other schools of thought:

> Besides, the {Indians} have books about the jurisprudence of their religion, on {theology}, on ascetics, on the process of becoming god and seeking {emancipation}[381] from the world, as, *e.g.* the {eponymous} book composed by {Gaura} the anchorite; the book {*Sānk*}, composed by Kapila, on divine subjects; the book of {*Pātangal*}, on the search for {emancipation} and for the union of the soul with the object of its meditation; the book {*Nāyayahaša*}[382] composed by Kapila, on the Veda and its interpretation, also showing that it has been created, and distinguishing within the Veda between such injunctions as are obligatory only in certain cases, and those which are obligatory in general; further, the book {*Mīmānsa*}, composed by {Chiyaman},[383] on the same subject; the book {*Lūkāyata*}, composed by Jupiter,[384] treating of the subject that in all investigations we must exclusively rely upon the apperception of the senses; the book

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[381] Al-Bīrūnī generally employs the Arabic term *ḫalāṣ* (الخلاص) to refer to the Sanskrit *mokṣa* or *kaivalya*. See for instance al-Bīrūnī's note on the Indian way to designate "emancipation" in the *Taḥqīq*. Al-Bīrūnī 1958: 53.8-9; Sachau 1888b: I: 70.

[382] In Sachau's edition (*zāy*) the reading is *nāyabhāša*.

[383] Sachau reads *ğaymin*.

[384] Bṛhaspati, who is considered as the founder of the Lokāyata school of thought, is associated with Jupiter.

{*Āgastamata*}, composed by Canopus,[385] treating of the subject that in all investigations we must use the apperception of the senses as well as tradition; and the book {*Bišnudaharma*}. The word {*dharma*} means reward, but in general it is used for religion; so that this title means *The religion of* {*Allah*}, who in this case is understood to be {Nārāyana}. Further, there are the books of the six pupils of {Byāsa, that are Dībula, [i.e., Devala], Šukira, [i.e., Śukra], Bhārgawa, Birhaspita, [i.e., Bṛhaspati], Ğānağibilka, [i.e., Yājnavalkya], and Manu. (Sachau 1888b: I: 131-132)[386]

The rest of the passage considers the *Kitāb Bhāraṭa* (i.e., *Mahābhāraṭa*), mentioning the fact that it was highly respected and enumerating its chapters. Although al-Bīrūnī lists a relatively large number of texts in this particular extract, his account is confused. The *Nyāyasūtra* is generally attributed to Gautama, and its commentary, the *Nyāyabhāṣya,* to Vātsyāyana rather than to Kapila. The subject of Nyāya philosophy is not the *Veda*-s, and therefore, al-Bīrūnī's description of the '*Nāyayahaša*' (*Nāyabhāša*) dealing with the Veda and its interpretation would actually better match the contents of the Mīmāṃsā philosophy. Furthermore, no book related to the Vaiśeṣika or the Vedānta systems is referred to in this enumeration. His imperfect knowledge of these systems suggests that al-Bīrūnī did not gain access to accurate information about these philosophical systems, probably due to the fact that his informants were not conversant with such systems of thought. In parallel with the example of the absence of Buddhism, it is possible, then, that al-Bīrūnī did not encounter erudite scholars of other philosophical systems.

Two other facts indicate that al-Bīrūnī's transmission of Indian texts was not due to his personal preferences, but rather to the fact that he actually conveyed the traditions that still had currency in the few locales he visited and amongst the people he met. The first concerns his criticisms of some of the literary texts quoted in the *Taḥqīq mā li-l-Hind*, while the second is his constant quest for knowledge and books. Each element supports this conclusion.

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[385] According to Indian astrology, Canopus has Agastya as regent star.
[386] Al-Bīrūnī 1958: 102.1-11.

Although he heavily quoted *paurāṇic* literature, specifically from the *Viṣṇudharma*, the *Viṣṇupurāṇa,* the *Matsyapurāṇa*, the *Vāyupurāṇa*, and the *Ādityapurāṇa*, he also criticized their content.[387] For instance, referring to a passage drawn from the *Viṣṇudharma*, he wrote:

> Further, the {*Bišnudaharma*} says: "If a man reads this [about the celestial pole] and knows it accurately, {Allah} pardons to him the sins of that day, and fourteen years will be added to his life, the length of which has been fixed beforehand." How simple those people are! Among us there are scholars who know between 1020 to 1030 stars. Should those men breathe and receive life from God only on account of their knowledge of stars? (Sachau 1888b: I: 242)[388]

Further, having quoted the *Viṣṇupurāṇa,* the *Matsyapurāṇa*, the *Vāyupurāṇa*, the *Ādityapurāṇa*, and the *Kitāb Pātanğal* regarding the size of Mount Meru, he remarked:

> The extravagant notions of the dimensions of Meru would be impossible if they had not the same extravagant notions regarding the earth, and if there is no limit fixed to guesswork, guesswork may without any hindrance develop into lying. (Sachau 1888b: I: 248)[389]

More generally, al-Bīrūnī noted:

> This sum, however, is more than thrice the sum which we have mentioned on the authority of {the commentator Pātanğal}, i.e., 150,000 *yojana*. But such is the custom of the copyists and scribes in every nation, and I cannot declare the students of the {*Purāna*-s} as to be free from it, for they are not men of exact learning. (Sachau 1888b: I: 238)[390]

> The authors of the {*Purāna*-s} represent heaven as a dome or cupola standing on earth and resting, and the stars as beings which wander individually from east to west. How could these men have any idea of the second motion? And if they really had such an idea, how could an opponent of the same class of men concede the

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[387] Al-Bīrūnī's *Viṣṇudharma* is to be identified with the Sanskrit *Viṣṇudharmottarapurāṇa*. Gonda 1951: 111.
[388] Al-Bīrūnī 1958: 200.3-6.
[389] Ibid.: 205.12-14.
[390] Ibid: 196.14-15.

possibility that one and the same thing individually moves in two different directions?

We shall here communicate what we know of their theories, although we are aware that the reader will not derive any profit from them, since they are simply useless. (Sachau 1888b: I: 284)[391]

On the author of the *Matsyapurāṇa*, he added:

That the sun rises over some people and sets over others, as he describes it, is true; but here, too, he is not free from his theological opinions. (Sachau 1888b: I: 285)[392]

Thus, despite his complaints regarding some ideas found in the *paurāṇic* literature, al-Bīrūnī still made mention of them. The transmission of such theories, which were blameworthy in al-Bīrūnī's opinion, was not due to his own personal inclinations.

Moreover, although he had composed the *Kitāb Pātanǧal*, al-Bīrūnī complained about the cosmographical presentation by the author of this book:

We on our part found it already troublesome to enumerate all the seven seas, together with the seven earths, and now this author thinks he can make the subject more easy and pleasant to us by inventing some more earths below those already enumerated by ourselves! (Sachau 1888b: I: 237)[393]

Furthermore, two passages indicate that he actively looked for different kinds of books. The first, was when he provided the aforementioned historical account of the Indian Šāhis:

I have been told that the pedigree of this royal family, written on silk, exists in the fortress Nagarkot, and I much desired to make myself acquainted with it, but the thing was impossible for various reasons. (Sachau 1888b: II: 11)[394]

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[391] Ibid.: 237.11-15.
[392] Ibid.: 239.7-8.
[393] Ibid.: 195.1-2.
[394] Ibid.: 349.6-8.

His constant search for written documents is also evident in the following extract:

> I have found it very hard to work my way into the subject, although I have a great liking for it, in which respect I stand quite alone in my time, and although I do not spare either trouble or money in collecting Sanskrit books from places where I supposed they were likely to be found, and in procuring for myself, even from very remote places, Hindu scholars who understand them and are able to teach me. (Sachau 1888b: I: 24)[395]

Thus, it appears that al-Bīrūnī's intellectual curiosity was not limited by the texts he may have been sympathetic to. It is likely that had he discovered books related to Buddhism, or to other schools of thought, he would have turned his attention to them as well and recorded them. His interest was indeed to communicate the facts and the culture he encountered, as he encountered them. His own statement in the preface of the *Taḥqīq* confirms this remark:

> My book is nothing but *a simple historic record of facts*. I shall place before the reader the theories of the {Indians} exactly as they are. (Sachau 1888b: I: 7)[396]

In light of these passages, it is likely that al-Bīrūnī described the society established in northern Pakistan as it was presented to him.

2.5. The significance of the *Kitāb Sānk* and the *Kitāb Pātanǧal* in the *Taḥqīq mā li-l-Hind*

In consideration of the above, al-Bīrūnī's *Kitāb Sānk* and *Kitāb Pātanǧal* must have been composed between 1017, when al-Bīrūnī accompanied Maḥmūd in his court, and 1030 prior to the compilation of the *Taḥqīq mā li-l-Hind*. If al-Bīrūnī did indeed begin to study Sanskrit

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[395] Ibid.: 18.5-7.
[396] Ibid.: 5.11-12.

literature in a thorough manner in Maḥmūd's court, it is likely that his learning process took a number of years and that he became skilled – to whatever extent he was – in interpreting Sanskrit texts and rendering them into Arabic, some time following 1017. It is therefore possible that al-Bīrūnī compiled the *Kitāb Pātanǧal* and the *Kitāb Sānk* between the years between 1020 and 1030.

The question of the context and circumstances in which al-Bīrūnī learned Sanskrit and translated these two works has been discussed in sections 2.2 and 2.3 of this dissertation. It is now pertinent to consider the reasons al-Bīrūnī translated these two works in particular. Did he find the books on Yoga and Sāṃkhya in the territories he travelled and among the Indian Šāhis? Several observations drawn from the *Taḥqīq mā li-l-Hind*, as well as from circumstantial evidence, show that classical Yoga and Sāṃkhya were popular philosophies amongst the Brahmins he encountered. Subsequently, in chapter 3, and then in chapters 4, 5, and 6, the philological and textual survey indicates that the *Kitāb Sānk* and *Pātanǧal* are translations of commentaries belonging to classical Sāṃkhya and Yoga.

2.5.1. The popularity of the *Kitāb Pātanǧal* and the *Kitāb Sānk* in northern Pakistan

In the case of astronomy, al-Bīrūnī's interest played a role in the information he transmitted in the *Taḥqīq mā li-l-Hind*, whereas in other cases, such as religion and philosophy, it appears as though the scholar primarily described what he found in the regions he visited and amongst the scholars he encountered.[397] As al-Bīrūnī drew much of his information from Sanskrit literature and oral accounts, the question equally arises as to whether the *Kitāb Pātanǧal* and the *Kitāb Sānk* stemmed from northern Pakistan itself or from other regions of al-Hind. At al-Bīrūnī's time, the Kashmir Valley, Kanauj, Multan, Somnath, and Varanasi constituted important regions or cities for commerce, religion, and sciences.

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[397] See section 2.4.

Intellectual exchanges took place between present-day northern Pakistan and the Kashmir Valley. The fact that al-Bīrūnī was well-informed about Kashmir, though it was an unreachable zone to him, is evidence of this.[398] Second, an extract drawn from the *Taḥqīq mā li-l-Hind* explicitly mentions such exchanges:

> I have been told that the last-mentioned author [i.e., Ugrabhūti, the grammarian] was the teacher and instructor of {Šāh Ānandapāla, son of Ǧiyapāla}, who ruled in our time. After having composed the book he sent it to {Kašmīr}, but the people there did not adopt it, being in such things haughtily conservative. [...] So he gave orders to send 200,000 *dirham* and presents of a similar value to {Kašmīr}, to be distributed among those who studied the book of his master. (Sachau 1888b: I: 135-136)[399]

The circulation of books between Ānandapāla, the Indian Šāhi ruler, and the kings of Kashmir illustrates the vigor of intellectual exchanges between the two regions at the time. Third, the bibliography, which al-Bīrūnī bequeathed upon us, suggests that the scholar corresponded with Kashmiris, as he entitled one of his works *Answers to the ten Kashmiri questions*.[400] In the 7th century CE, Xuanzang reported that different regions such as Taxila and the Salt Range (Siṁhapura) were kingdoms subject to Kashmir.[401] Further, Kalhaṇa stated in the *Rājataraṅginī* that the prince Siṃharāja, the ruler of Lohara (Fort Lahūr?), was dependent on the Kashmiris kings.[402] According to the same report, the queen Diddā (during the end of 10th century CE), who married the Kashmiri king Kṣemagupta, was the daughter of Siṃharāja. Her maternal grandfather was allegedly Bhīma the Šāhi (Skt. *śrībhīmaśāhi*),[403] in all

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[398] Supra pp. 55-56.
[399] Al-Bīrūnī 1958: 105.1-6.
[400] See supra p. 58. Boilot 1955: 200.
[401] Ray 1970[1969]: 1.
[402] *Rājataraṅginī* IV.177. Kalhaṇa 2009[1892]: III: 50; Ibid.: I: 138.
[403] *Rājataraṅginī* VI.176-78. Ibid.: III: 97; Ibid.: I: 249; Majumdar 1979[1957]: 65; Pāṇḍeya 1973: 94.

likelihood the king preceding Jayapāla in the list of the Šāhis kings provided by al-Bīrūnī.[404] These different elements indicate that the kings ruling in northern Pakistan, both the Šāhis and other local rulers, and the Kashmiri royalty maintained a relatively close relationship until the beginning of the 11th century CE.

Incidentally, Kashmir was flourishing at the time. Queen Diddā had a college (*maṭha*) built, where young Brahmins from Madhyadeśa (Madhya Pradesh), Hāṭa (or Karahāṭa, in Uttar Pradesh) and Saurāṣṭra (people from Surat, Gujarat) gathered.[405] Al-Bīrūnī later described Kashmir as a place to which Indian sciences have taken shelter.[406] The situation of Bilhaṇa, a Kashmiri minister and poet who lived in the 11th c CE, also demonstrates this dynamism and mobility, as he traveled from Kashmir to Mathura, Kanauj, Prayāga, Anahilwada, and Somnath.[407] Favorable conditions for scientific development and literature production thus existed in Kashmir at the time.

Abhinavagupta, who lived in Kashmir during the second half of the 10th century CE, extensively elaborated the ideas of what has been referred to as Kashmiri Śaivism. Both Kashmiri Śaivism and Śaiva Tantra made use of Sāṃkhya-Yoga concepts in their own philosophical elaborations.[408] However, reading the extracts of the *Kitāb Sānk* in the *Taḥqīq mā li-l-Hind* and the *Kitāb Pātanğal* makes it clear that the ideas developed in these books are related to classical Sāṃkhya and Yoga, and not drawn from other works such as Kashmiri Śaivism or Śaiva Tantra. This will become more clear in the three following chapters of this dissertation.

The *Kitāb Pātanğal*'s passage on the different means of knowledge perhaps confirms the hypothesis that these books were not brought from Kanauj. The following simile is offered regarding the means of knowledge referred to as *āgama*, or authoritative tradition:

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[404] See supra p. 30. Al-Bīrūnī 1958: 348.10-351.3; Sachau 1888b: II: 10-3.
[405] *Rājataraṅgiṇī*, VI.300. Kalhaṇa 2009[1892]: I: 260; Ibid.: III: 102; Gopal 1989: 91.
[406] Supra p. 55.
[407] Gopal 1989: 92.
[408] Torella 1999: 555-557.

[F]or instance our knowledge that the city of Kanauj is on the bank of the Gaṅgā river. For this (knowledge) is attained by means of information received and serves as a substitute for one's apprehension of this (fact) by eyesight. (Pines/Gelblum 1966: 315)[409]

The example provided in the *Kitāb Pātanǧal*, which is not present in the classical Sanskrit works on Yoga (the *Pātañjalayogaśāstra*, the *Vivaraṇa*, the *Tattvavaiśāradī*, and the *Rājamārtaṇḍa*), appears to have been an invention of al-Bīrūnī, or of his informants. The use of this illustration suggests that either al-Bīrūnī himself never went to Kanauj or that the *Kitāb Pātanǧal* does not come from Kanauj. It could also indicate that the scholars who helped al-Bīrūnī read the Sanskrit source of the *Kitāb Pātanǧal* had never been to Kanauj. The possibility thus remains that some Indian thinkers had learned Sāṃkhya and Yoga teachings, and that books related to these philosophical streams may have circulated to modern northern Pakistan by the beginning of the 11th century. However, there is no positive evidence of this so far.

On the other hand, there are several reasons to think that these two books came from the region al-Bīrūnī actually resided in. It is likely that the scholar only bothered to inform his reader about the origin of his information – oral and written – for the places he did not visit himself.

The reason behind al-Bīrūnī's failure to specify the origin of some texts, or of some of his informants, is perhaps due to the fact that neither al-Bīrūnī, nor his informants, deemed it necessary to state sources explicitly when these were local texts or works largely diffused in India, including present-day northern Pakistan.[410] This second possibility applied to texts like the *Veda*-s, some great *Purāṇa*-s (*Mahāpurāṇa*-s), such as the *Viṣṇupurāṇa*, the

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[409] Ritter 1956: 171.4-5.
[410] On the origin of al-Bīrūnī's sources and informants, see sections 1.3.4 and 2.3.

Ādityapurāṇa, the *Matsyapurāṇa*, the *Vāyupurāṇa*, as well as the Epics, that is the *Bhagavadgītā* and the *Mahābhārata*.

2.5.2. The *Kitāb Sānk* and the *Kitāb Pātanğal* as a part of oral tradition

Other elements drawn from his writings suggest that classical Sāṃkhya and Yoga were popular philosophical teachings in the region at the beginning of the 11th century, as al-Bīrūnī mentioned the *Kitāb Sānk* and the *Kitāb Pātanğal* in the preface of the *Taḥqīq mā li-l-Hind*. These books were described as containing "most of the elements {around which their faith revolves, barring the section on religious law}" (Sachau 1888b: I: 8).[411] His description of them, the fact that he pointed out the two translations at the very beginning of the *Taḥqīq mā li-l-Hind*, and frequent references to them throughout the *Taḥqīq*, particularly regarding aspects of Indian religion, show their importance for the Indian thinkers al-Bīrūnī encountered. [412] In one passage of the *Taḥqīq mā li-l-Hind*, al-Bīrūnī concluded a passage quoted from the *Kitāb Pātanğal*, stating: "thus, they [i.e., the Indians] express themselves in this very famous book" (Sachau 1888b: I: 29; فهذا كلامهم فى هذا الكتاب المشهور).[413]

The *Kitāb Pātanğal* and *Kitāb Sānk*, alongside the *Kitāb Gītā* and the *Purāṇa*-s, are quasi omnipresent in the parts of the *Taḥqīq mā li-l-Hind* not covering astronomy. Another clue that helps us to gauge the popularity of Sāṃkhya amongst the Indians with whom al-Bīrūnī interacted lies in the way al-Bīrūnī sometimes described classical Sāṃkhya concepts in the *Taḥqīq mā li-l-Hind* as though they were a part of the oral tradition, or a component of the common beliefs, of these Indians.

In a chapter entitled "On their belief in the existent, both *intelligibilia* and *sensibilia*" (فى ذكر اعتقادهم فى الموجودات العقليّة و الحسّيّة),[414] al-Bīrūnī exposed the opinion of those "who prefer

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[411] Al-Bīrūnī 1958: 6.3-4.
[412] On the relationship between these two books according to al-Bīrūnī, see section 3.4.2.
[413] Al-Bīrūnī 1958: 21.16-17.
[414] Al-Bīrūnī 1958: 24.4-34.4; Sachau 1888b: I: 33-45.

clear and accurate definitions to vague allusions" (فأمّا الّذين يعدلون عن الرموز إلى التحقيق)[415], and enumerated twenty-five *tattva*-s. Despite some confusion in the description of some of these twenty-five elements, his list corresponds relatively well to the classical Sāṃkhya doctrine of evolution (PLATE IX).[416] It begins with *pūriša* (پُورش), or *puruṣa* (passive self) in Sanskrit, which is defined as the soul, or *nafs* (النفس). According to al-Bīrūnī's report, *puruṣa* is only characterized by life, and presents a succession of knowledge and ignorance, as it is ignorant *in actuality* and intelligent *in potentiality*, the cause of action being its ignorance.[417]

His description of *puruṣa* to some extent reflects that of the "passive self" (Skt. *puruṣa*) in the *Sāṃkhyakārikā*. Indeed, according to classical Sāṃkhya, the "passive self" is inactive, indifferent, and is said to be a "knower" (Skt. *jña*).[418] Al-Bīrūnī stated that this item receives knowledge, whereas the notion of acquisition of knowledge is absent from the *Sāṃkhyakārikā*. Al-Bīrūnī did not however explain how exactly the "soul" can receive the knowledge.

The next element he enumerated is *abyakta* (أَبَيكَت), an Arabic transliteration of the Sanskrit *avyakta*, meaning "unmanifested", which al-Bīrūnī defined as "the absolute matter" (المادّة المطلقة) or the "pure primordial matter" (الهيولى المجرّدة), a philosophical term drawn from Aristotle and known to his readership. This matter is inanimate and possesses the "three forces" (قوى ثلاث) *in potentiality* but not *in actuality*.

The "three forces" are *sattu*, *raju*, and *tamu* (سَتُّ; رجُ; نَمُ) and correspond to the three "constituents" (Skt. *guṇa*), *sattva*, *rajas*, and *tamas*, which participate in the phenomenal world in classical Sāṃkhya. They are described as: 1) "rest and goodness", producing "existing and growing" (Sachau 1888b: I: 40-41), ascribed to the angels (الملائكة), i.e., the

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[415] Al-Bīrūnī 1958: 30.10; Sachau 1888b: I: 40. For the entire passage, see extract II in appendix 1 to this dissertation.
[416] See section 3.1.1.
[417] This definition recalls al-Bīrūnī's definition of the "knower" (العالم) in Q 36 and 37 of the *Kitāb Pātanǧal*. Ritter 1956: 181.9-17; Pines/Gelblum 1977: 525. A similar description of the "soul" (النفس) also occurs in the subsequent chapter of the *Taḥqīq mā li-l-Hind*. Al-Bīrūnī 1958: 34.7-9; Sachau 1888b: I: 45
[418] *Gauḍapādabhāṣya* on kās 2 and 20.

deities (Skt. *deva*), 2) "exertion and fatigue", producing "firmness and duration" (Sachau 1888b: I: 41), ascribed to the men, and 3) "languor and irresolution", producing "ruin and perishing" (Sachau 1888b: I: 41), ascribed to the animals. Al-Bīrūnī's account of these three elements appears confused. In order to illustrate the "three forces", he makes an analogy using the three Buddhist jewels, stating, "I have heard that *Buddhodana* (Buddha?) explained these [three forces] to his adherents, the Šamaniyya, [with the expressions] *buddha*, *dharma*, and *sanga*, as if they were intelligence, religion, and ignorance" (و سمعت أنّ عبارة "بُدّهودن" عنها لقومه

الشمنيّة "بُدّ دهرم سنگ" كأنّها العقل والدين والجهل).[419] The origin of this analogy is uncertain. However, it appears that he, or his informants, were confused with regard to the three Sāṃkhya-Yoga "constituents" and the three Buddhist jewels.

Further in his enumeration, he considered *byakta*, (بْيَكتَ) which is a transliteration of the Sanskrit *vyakta*, i.e., manifested. He qualifies it as the "shaped" (المتصوّرة) matter, having the "three forces", and "going out for action" (المادّة خارجة إلى الفعل). He described the union between *abyakta*, the "pure primordial matter", and *byakta*, the "shaped" matter as *parkirti* (پَرْكِرت), the Arabic rendering of the Sanskrit *prakṛti*, i.e., the "substrative cause".[420] He next enumerated *āhangāra* (آهَنگار), which he identified with the concept of "nature" (الطبيعة) in the same passage, but providing a confused explanation of this concept. The *mahābhūta*–s (مهابوت), which correspond to the five elements, are described as constituting all existents of this world. He referred to them using the Arabic phrasing commonly used to designate the four elements accepted by Islamic tradition, i.e., "the great natures" (كبار الطبائع). At this point of the passage, al-Bīrūnī quoted from the *Vāyupurāṇa*. He further discussed the *panğ mātar* (پَنج ماتَر), a transliteration for the five Sanskrit *tanmātra*-s, and interpreted this expression as signifying the "five mothers" (أمّهات خمسة), and as "simple" elements (بسائط). In parallel to the *Sāṃkhyakārikā*, al-Bīrūnī connected each of the five *tanmātra*-s to the *mahābhūta*-s: ether is

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[419] Al-Bīrūnī 1958: 30.16-18. See also Sachau's translation of this passage (1888b: I: 40).
[420] This expression has been systematically chosen to translate the Sāṃkhya concept of *prakṛti*, which refers to the original lower cause producing the world.

sound, *šabdu* (شَبدُ), wind is what is touched, *sayiras* (سَيرَس),[421] fire is the form, *rūp* (رُوپ),

water is what is tasted, *rasu* (رَسُ), and earth is what is smelled, *ganda* (گَنْد).[422] Attempting to

explain the seemingly strange connection between sound and ether, he invokes quotations

from Homer, Porphyrus, Diogenes, and Pythagoras.

The scholar described the five senses, i.e., *indryān* (اندْرْيان), corresponding to the

buddhīndriya–s of classical Sāṃkhya, which are hearing, seeing, smelling, tasting, and

touching. He further described *manu* (مَنُ), i.e., *manas*, or "mind", as being the "will, which

directs the senses in the exercice of their various functions, and which dwells in the heart"

(Sachau 1888I: 43-44; إرادة تصرّفها على ضروب المضارب محلُّها منه القلب). He explained the five

"senses of action" (الحواسّ بالفعل), which he called the *karma indriyān* (كَرْم اندريان), or

karmendriya in Sanskrit, as the "five necessities" (خمسة ضروريّة). At the end of the

explanation, al-Bīrūnī summarized by listing again each of the elements, including their

generic terms, *tatwa* (تَّتو), a transliteration of the Sanskrit *tattva*. There are also some

discrepancies between al-Bīrūnī's descriptions and the way in which the *Sāṃkhyakārikā* and

its commentaries conceived of these twenty-five elements.[423]

While this is not the space to analyze each of the discrepancies, some of al-Bīrūnī's

interpretations are worth noting. First, in several instances, he appears to interpret and explain

the Indian concepts on the basis of his intellectual background, for instance, by using the

Aristotelian terminology, as well as the concepts of *potentiality* and *actuality*, and by referring

to Greek authors.[424] As it becomes clear in the subsequent chapters of this dissertation (4, 5,

and 6), al-Bīrūnī attempted to "domesticate" the content of this passage for his readership.

Other discrepancies may be due to confusion for al-Bīrūnī or his informants. His

description of the union between *avyakta* and *vyakta* as being called *prakṛti* does not

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[421] Here the reading is probably *sapiras* (سَپِرَس), as the corresponding Sanskrit is *sparśa*, i.e., the quality of tangibility.
[422] For the related account by classical Sāṃkhya see the commentaries on *kārikā* 10.
[423] See the description of the 25 *tattva*-s according to classical Sāṃkhya in section 3.1.1.
[424] See p. 105.

correspond to that of the Sanskrit commentaries on the *Sāṃkhyakārikā*, which define *avyakta* and *prakṛti* as synonyms.[425] Moreover, instead of using *avyakta* and *vyakta* as generic designations for some of the twenty-five elements, as the *Sāṃkhyakārikā* does, al-Bīrūnī understood them as being elements themselves. It is interesting to note that al-Bīrūnī made no mention of *mahat* or *buddhi*, which normally originate from *prakṛti*, or *avyakta*. In al-Bīrūnī's scheme, the element coming from *avyakta* is *vyakta*. In my opinion, these confusions, whether due to al-Bīrūnī's misunderstanding or to problems in his informants' explanations, suggest that this account was orally transmitted to him.

With regard to the five "gross elements" (Skt. *mahābhūta*) and the five "subtle elements" (Skt. *tanmātra*),[426] al-Bīrūnī inverted the order in which these two groups were conceived by classical Sāṃkhya: whereas the *Sāṃkhyakārikā* and its commentaries derive the five "gross elements" from the five "subtle elements", al-Bīrūnī listed the five "subtle elements" after the five "gross elements". In this context, it is worth recalling that, according to the accounts of the *tattva*-s provided in the *Buddhacarita* and the *Mahābhārata*, five qualities (Skt. *viśeṣa*) follow the five "gross elements" (Skt. *mahābhūta*), but no *tanmātra*-s are listed. The five *tanmātra*-s of the *Sāṃkhyakārikā* are actually considered to have replaced these five qualities.[427] The *tanmātra*-s were thus not always considered elements by texts expounding pre-classical Sāṃkhya ideas. Moreover, according to the *Buddhacarita* and the *Mahābhārata*, the five qualities follow the gross elements, in the same way as the *tanmātra*-s follow the gross elements in al-Bīrūnī's account, in contrast to the exposition of the *Sāṃkhyakārikā,* which make the gross elements the last of all *tattva*-s.

In light of this discussion, the question may arise whether al-Bīrūnī knew a Sāṃkhya text that presented a different evolution theory than the *Sāṃkhyakārikā*. Al-Bīrūnī however

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[425] See for instance the *Gauḍapādabhāṣya* introducing *kārikā* 22, or commenting upon *kārikā* 42.
[426] On the *tanmātra*-s see for instance kā 22; 24; 25; 38.
[427] See Frauwallner (2008[1973]: 271-273) and Bronkhorst (1994: 311-312). Chakravarti gives an account of Sāṃkhya ideas as found in the Carakasaṃhitā and the Buddhacarita (1975[1951]: 99-110).

never mentions in this portion of the *Taḥqīq* a concept which could correspond to the qualities, whereas he explicitly refers to the *tanmātra*-s. The Sāṃkhya account provided by him in the *Taḥqīq* may be a summary of what al-Bīrūnī heard orally or of a passage of the *Kitāb Sānk*. This latter work, however, in many instances, closely resembles the *Suvarṇasaptati* and the *Sāṃkhyavṛtti,* which are commentaries on the *Sāṃkhyakārikā*, as is seen in chapter 6. It is thus more likely that al-Bīrūnī's confusion in transmitting the concept of *tanmātra*-s is indicative of the fact that this element was particularly subject to change. Similarly, al-Bīrūnī's erroneous definition of these *tanmātra*-s as the "five mothers" also suggests confusion regarding the way this concept has been transmited to him.

Despite these discrepancies, al-Bīrūnī's description did correspond relatively well to the evolutionary theory developed by classical Sāṃkhya. It does not agree with other accounts of Sāṃkhya ideas, which preceded the compilation of Īśvarakṛṣṇa's *Sāṃkhyakārikā*. The word *kṣetrajña* (knower of the field) is used to refer to the *puruṣa*, in the *Mahābhārata* and the *Carakasaṃhitā*, both probably compiled in around the 1st century CE.[428] This Sanskrit term never occurs in the *Taḥqīq mā li-l-Hind*.

The fact that al-Bīrūnī does not assign this view to the *Kitāb Sānk* can lead to several hypotheses. First, he summarized some content of the *Kitāb Sānk,* though this summary in the *Taḥqīq mā li-l-Hind* did not deem it necessary to explain the provenance of this account. Second, as already suggested, this information came from the oral accounts of al-Bīrūnī's educated informants, whose common viewpoint on metaphysics generally agreed with that of classical Sāṃkhya.

Another hint suggesting that Sāṃkhya constituted popular philosophy in northern Pakistan at the beginning of 11th century lies in the legend of the bilingual coins of Lahore

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[428] On *kṣetrajña* see the descriptions in Frauwallner (2008[1973]: 228-230; 234-235). On Sāṃkhya ideas in the *Carakasaṃhitā* and in the *Buddhacarita* see Chakravarti (1975[1951]: 99-110) and Motegi (2013).

described in section 1.3.2.[429] The use of the technical Sāṃkhya term *avyakta*, i.e., unmanifested, in the Sanskrit version of the bilingual legend is intriguing. The concept of *avyakta*, i.e., the "substrative cause" (Skt. *prakṛti*) is indeed employed to refer to "God" (Allah) in the Arabic *šahāda*. Yet, in Sāṃkhya there is no notion such as a creator God. The "substrative cause" (Skt. *prakṛti*), also referred to as the "unmanifested" (Skt. *avyakta*) and the "primary source" (Skt. *pradhāna*), is the active origin of the phenomenal world, whereas the Sāṃkhya "God" (Skt. *īśvara*) does not play the active role of creating existents.[430]

Thus, *avyakta* is the Sāṃkhya concept that best renders the concept of the creator Islamic God. It is likely that the Sanskrit legend of Maḥmūd's bilingual coins indicates that principles of Sāṃkhya lie behind it, in my opinion, constituting an additional hint that classical Sāṃkhya philosophy was more important in present-day northern Pakistan at the time of Maḥmūd's conquests than other Indian philosophies.[431]

2.6. Concluding remarks

This chapter surveyed the intellectual framework in which al-Bīrūnī encountered Indian society, science, and literature. Although it remains problematic to understand the exact circumstances of this encounter, it is possible to observe that al-Bīrūnī gradually familiarized himself with Indian language, literature, and science. He met Brahmins who belonged to the Indian Šāhis' society, most likely who were in the context of royal court. Some of them were versed in astronomy, while others engaged in religious and philosophical discussions.

The observations made in this chapter support the fact that oral tradition played an important role in informing al-Bīrūnī's knowledge on India and indicate that al-Bīrūnī's translations were the result of collaborative work between himself and his Indian informants.

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[429] See pp. 46-47.
[430] See section 6.3.2.
[431] I am grateful to Bronkhorst's comments with regard to the interpretation of this Sanskrit legend.

Further, the above revealed that the *Kitāb Pātanǧal* and the *Kitāb Sānk* were read by Indian scholars residing in modern Pakistani Punjab. Indeed, data drawn from al-Bīrūnī's writings and from archaeological studies, if considered from a circumstantial perspective, indicates that these two books were popular readings and teachings in northern Pakistan and amongst the society of the Indian Šāhis. If this is correct, the teaching of Sāṃkhya-Yoga philosophies was financially supported by the Indian kings.

To conclude this chapter, the fact that al-Bīrūnī found texts linked to Sāṃkhya and Yoga philosophies in a specific geographical territory at a specific time is particularly interesting, as there is scant information regarding the location of geographical foyers of development of the systems of Sāṃkhya-Yoga of this period.

Chapter 3: Classical Sāṃkhya and Yoga in light of al-Bīrūnī's evidence

3.1. The classical systems of thought of Sāṃkhya and Yoga

3.1.1. The philosophical tenets of classical Sāmkhya and Yoga

Two aphoristic works, the *Sāṃkhyakārikā* and the *Pātañjalayogaśāstra*, are generally accepted as being the founding texts of classical Sāṃkhya and Yoga.[432] The metaphysics of Sāṃkhya have been developed in the authoritative *Sāṃkhyakārikā*, a fifth-century treatise attributed to Īśvarakṛṣṇa.[433] The *Pātañjalayogaśāstra* itself was probably composed around 325-425 CE.[434]

   Due to the fact that al-Bīrūnī translated two works related to classical Sāṃkhya and Yoga philosophies, this section provides a general and brief outline of the teachings of these two systems as they are elaborated in their respective foundational texts. This outline discusses tenets of each philosophy's doctrine, a crucial starting point in order to apprehend the analysis of the relationship between al-Bīrūnī's Arabic translations and their possible sources in chapters 4, 5, and 6.[435]

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[432] The terms *yoga* and *sāṃkhya* occur in other Sanskrit works, notably in several *Upaniṣad*-s and the *Mahābhārata*. However, before being connected to the two classical Indian philosophical systems, these words were used to refer to different notions which bore no association with them.

[433] See section 3.1.2. Frauwallner 2008[1973]: I: 225-226.

[434] See section 3.1.2. Maas 2006: xvi-xix; 2013: 55-66.

[435] For a more developed exposition of these philosophical systems, the reader is referred to the extensive secondary literature on the topic. A general description of the metaphysics of Sāṃkhya is provided in *kārikā* 3 and its related commentaries. See also Chakravarti (1975[1951]: 171-325), Frauwallner (2008[1973]: I: 274-282), Larson (1969), and Torella (2011: 76-77). A special edition of the periodical *Asiatische Studien/Études Asiatiques*, published in 1999, is devoted to Sāṃkhya. On Yoga see for instance Feuerstein (1979), Weiss (1986), and Larson/Bhattacharya (2008). Mass' publications on the subject have also significantly added to our knowledge about Yoga.

The first assumption of classical Sāṃkhya consists in accepting the necessary existence of "three [types of] suffering" (Skt. *duḥkhatraya*) in this world. The aim of Sāṃkhya is to provide a theoretical teaching in order to eliminate these three types of suffering.[436] It considers twenty-five fundamental "elements" (Skt. *tattva*) that play a part in the creation of the world. I translate one of these elements, *puruṣa*, as "passive self" in this dissertation.[437] Every being possesses a "passive self". It is defined as inactive, pure consciousness, and is unchanging, its role being to observe the world. The world originates from the "substrative cause" (Skt. *mūlaprakṛti*, also referred to as *pradhāna*, the "primary source"),[438] which is conversely active, unconscious, and subject to change.

According to the *Sāṃkhyakārikā*, the "substrative cause" is one and undetectable to the organs of perception. It constitutes the only creative source of the world, seeing as it gives birth to, or produces, twenty-three other "elements" that will shape the material and phenomenal world. In the same way as all "elements" emanate from the "substrative cause" at the beginning of creation, they are also dissolved back into it at its demise. Among these elements, the "substrative cause" only produces, not being produced by anything else. According to classical Sāṃkhya, each "element" that is produced is the "effect" (Skt. *kārya*) of that which produces it, which is deemed its "cause" (Skt. *kāraṇa*). Seven "elements" originating from the "substrative cause" are however at the same time "producers" (Skt. *prakṛti*) and "products" (Skt. *vikṛti*). First comes "cognition" (Skt. *buddhi*, also *mahat*,

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[436] *Sāṃkhyakārikā* 1.

[437] The Sanskrit term *puruṣa* literally signifies "man" or "soul". As a technical word in the context of Sāṃkhya and Yoga philosophies, the English translation "passive self" renders the idea of inactivity in the world, which is attributed to *puruṣa*. For references to the concept of *puruṣa*, see *Sāṃkhyakārikā* 2; 3; 11; 17; 18; 19; 20; 21; 31; 55; 57; 61; 62; 65; 66, and its commentaries.

[438] For the descriptions of *prakṛti* and its derivatives see *Sāṃkhyakārikā* 3, 8, 10, 11, 22, 37, 42, 58-59, 60-64, and 66, as well as its commentaries. See *Pātañjalayogaśāstra* I. 3, II. 6, II.21, and IV.23.

meaning "great"),[439] which is the cause of "individualization" (Skt. *ahaṃkāra*).[440] *Ahaṃkāra* in turn causes the creation of eleven organs of perception, i.e., five "sense-organs" (Skt. *buddhīndriya*), five "organs of actions" (Skt. *karmendriya*), and finally the "mind" (Skt. *manas*). It also produces five "subtle elements" (Skt. *tanmātra*). From the "subtle elements" originate five "gross elements" (Skt. *mahābhūta*). Sixteen of the "elements" are described as being only produced (Skt. *vikṛti*), not producers. These are the five "sense-organs" (Skt. *buddhīndriya*), the five "organs of actions" (Skt. *karmendriya*), the "mind" (Skt. *manas*), and the five "gross elements" (Skt. *mahābhūta*). These sixteen "elements" taken together are also qualified as "transformation" (Skt. *vikāra*).[441]

The "passive self" (Skt. *puruṣa*) and the "substrative cause" (Skt. *prakṛti*) share among other things the quality of not being produced, and of being permanent and omnipresent. The "passive self" and the "substrative cause" however also differ from each other. Whereas the "passive self" is inactive, the "substrative cause" produces other elements.[442] The Sāṃkhya philosophy thus offers a worldview that is fundamentally dualist: the world is constituted of twenty-four active "elements", while the twenty-fifth element, the "passive self" is inactive. The notion that the "passive self" is actively involved in the world and is connected to the "substrative cause" is, according to Sāṃkhya, erroneous.

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[439] Some commentaries on *Sāṃkhyakārikā* 46 provide synonyms of *buddhi*. In the *Yuktidīpikā*: *pratyaya* (consciousness, understanding, intelligence, intellect), *niścaya* (ascertainment, fixed opinion), *adhyavasāya* (determining; mental effort, apprehension) (Wezler/Motegi 1998: 238). The *Gauḍapādabhāṣya* defines *buddhi* with the following terms: *pratyaya* (consciousness, understanding, intelligence, intellect), *adhyavasāya* (determining; mental effort, apprehension), *dharma* (virtue), and *jñāna* (knowledge) (Sharma 1933: 46). See *Pātañjalayogaśāstra* I.11, II. 6, and II.21.

[440] See *Sāṃkhyakārikā* 22, 24, 25, and 35, and *Pātañjalayogaśāstra* I.45 and III.48 on this concept. In the *Pātañjalayogaśāstra*, the concept of *asmitā*, or "individuality", overlaps with that of *ahaṃkāra*. On these specific concepts in classical Sāṃkhya and Yoga, see Hulin (1978: 72-90).

[441] See the schema in Larson/Bhattacharya (1987: 52) and plate IX of appendix 2.

[442] Some characteristics of the "substrative cause" in comparison to that of the "passive self" are for instance exposed in the *Gauḍapādabhāṣya* on *kārikā* 11.

The relationship between the "passive self" and the "substrative cause" is likened at the end of the *Sāṃkhyakārikā* to that between an audience and a female dancer (also possibly an actress).[443] The "substrative cause", which produces the world, reveals itself to the "passive self", in just the same way as a female dancer does in front of an audience. Once the dancer has been seen by the spectators, she stops to produce anything and does not come back in front of the audience, which is then separated from the dancer. In the same way, when the "substrative cause" disappears from the sight of the "passive self", the latter becomes aware that it is detached from the "substrative cause". This state is called *kaivalya*, as the "passive self" is isolated (Skt. *kevala*). In this dissertation, this Sanskrit term has been translated as "emancipation". [444]

In the metaphysics developed in the Sāṃkhya philosophy, three other important components have a role to play: the three "constituents" (Skt. *guṇa*). These are: *sattva*, which is characterized by the properties of good and enlightenment, *rajas*, defined by the properties of passion and movement, and *tamas*, associated with apathy or immobility. These "constituents" exist in every "element" of the world from the non-manifest, subtle "substrative cause" (Skt. *prakṛti*), to the manifest "gross elements" (Skt. *mahābhūta*). Each "element" contains a unique proportion and combination of these three "constituents". In the "substrative cause", for instance, only good and enlightenment, i.e., *sattva*, appear. The proportion of the two other "constituents", namely *rajas* and *tamas*, increases in the other "elements" which are effects of the "substrative cause". The multiplicity of the phenomenal world thus exists by virtue of the different combination of the three "constituents" (Skt. *guṇa*) in each "element".[445]

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[443] This analogy is referred to in *Sāṃkhyakārikā* 42, 59, 61, 65, 66.
[444] The term "emancipation" denotes the idea of delivering oneself from intellectual, moral, and spiritual fetters, which fits with the Sanskrit *kaivalya* and al-Bīrūnī's translation of this term, the Arabic *ḫalāṣ* (الخلاص). For the relation between *puruṣa* (passive self) and *kaivalya* (emancipation), see *Pātañjalayogaśāstra* I.24; I.41; I.51; II.18; II.21; II.27; III.50; III.55; IV.24; IV.33; IV.34 (Āgāśe 1940; Woods 1914).
[445] See for instance *kārikā* 27.

The knowledge of the twenty-five "elements", as well as that of the distinction between the "substrative cause" (Skt. *prakṛti*), active and unmanifested, and the "passive self" (Skt. *puruṣa*), inactive and isolated, consists in the correct "discriminative knowledge" (Skt. *vivekakhyāti*). It leads one to eliminate the "three [types of] suffering" and thus to reach a state of "emancipation" (Skt. *kaivalya*), which enables one to escape from karmic retribution and the cycle of rebirths.

As the "substrative cause" is "unmanifested" (Skt. *avyakta*), that is to say imperceptible to the senses, one needs a method to conceive it. Sāṃkhya accepts the existence of three means of gaining "valid knowledge" (Skt. *pramāṇa*): "direct perception" (Skt. *pratyakṣa*), "authoritative tradition" (Skt. *āgama*), and "inference" (Skt. *anumāna*). It is through "inference" that one may grasp the entirety of the metaphysical concepts developed in Sāṃkhya.[446]

As already mentioned, there exists a causal link between the twenty-five "elements". Thanks to this link, it is possible to infer the existence of an "element" even if it is not possible to grasp it through direct perception. Sāṃkhya elaborates the theory that the effect pre-exists in its cause. The well-known example of the pot and the clay in Indian philosophy explains this causal link. Classical Sāṃkhya maintains that the pot exists in its cause, the clay, before its production. The clay's existence can therefore be inferred on the basis of the observation of its effect, the pot. The quality of the cause has changed or evolved, through the combination of the "constituents", while the substance remains. This theory is called *satkāryavāda*, which signifies "the doctrine of the effect [pre-]existing [in the cause]" (Bronkhorst 2011b: 50).

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[446] *Sāṃkhyakārikā* 2.

Classical Yoga grounds its teachings on the metaphysics elaborated in classical Sāṃkhya. It acknowledges the existence of three types of suffering,[447] accepts the same twenty-five "elements", the three "constituents", and the three ways to reach "valid knowledge". It however sometimes uses a different terminology than Sāṃkhya in order to convey these concepts. For instance, the mind, referred to as *manas* in *Sāṃkhyakārikā*, is usually rendered as *citta* in the *Pātañjalayogaśāstra*. Classical Yoga parallels Sāṃkhya in its conception of the relationship between the "passive self" and the "substrative cause", further accepting the theory of causality developed in *satkāryavāda*. It also advocates being aware of the distinction between "passive self" and "substrative cause", and use the same terminology as Sāṃkhya by calling this state *kaivalya* – or "emancipation".[448]

It however differs from Sāṃkhya in the psychological domain. Yoga considers that the "mind" consists in an uninterrupted flow of "activities" (Skt. *vṛtti*). Different practices and meditations are then described and prescribed in order to put a complete stop to these activities (Skt. *cittavṛttinirodha*), thus enabling one to approach "emancipation" (Skt. *kaivalya*). The term *yoga* is defined as a synonym of *samādhi*, a sort of meditative state, which can be rendered in English as "absorption".[449] There are two different types of "absorption". The first one is called "absorption centered around an object" (Skt. *saṃprajñāta samādhi*), while the second type is defined as "absorption not centered around an object" (Skt. *asaṃprajñāta samādhi*). The latter is a meditative state in which the "mind" has not only ceased its activities but further lacks an anchor for its meditation. It is this second type which leads to "emancipation" (Skt. *kaivalya*).

Classical Yoga develops the theory of the "eight ancillaries" (Skt. *aṣṭāṅga*). The ancillaries refer to eight successive practices that include a set of specific ethical behaviors, the control of one's breath, and three meditative techniques. These have to be followed in

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[447] *Pātañjalayogaśāstra* I.31.
[448] Other aspects on which Sāṃkhya and Yoga converge are discussed in section 3.4.1.
[449] *Pātañjalayogaśāstra* I.1-2.

order to reach the eighth and last ancillary level, which is "absorption" (Skt. *samādhi*). The

eight ancillaries are: "commitment" (Skt. *yama*), "requirement" (Skt. *niyama*), "pose" (Skt.

āsana), "breath control" (Skt. *prāṇāyāma*), "withdrawal [from the senses]" (Skt. *pratyāhāra*),

"visualization of several objects" (Skt. *dhāraṇā*), "visualization of one object" (Skt. *dhyāna*),

and eventually the aforementioned twofold "absorption" (Skt. *samādhi*).[450]

According to the *Pātañjalayogaśāstra*, the consequences (ripening) of karma that lead

to the cycle of rebirths are rooted in five "afflictions" (Skt. *kleśa*). These "afflictions" exist in

the "mind" (Skt. *citta*), but are actually attributed to the "passive self", as it experiences the

consequence of them.[451] Therefore, in order to free the "passive self" from the "afflictions"

and thus from the cycle of rebirths, these "afflictions" need to be weakened. The last

"ancillary", "absorption", lessens these "afflictions". [452]

Finally, while in Sāṃkhya knowledge leads to "emancipation", in Yoga it is reached

through "practice" (Skt. *abhyāsa*), "lack of desire" (Skt. *vairāgya*), and "profound meditation

on God" (Skt. *īśvarapraṇidhāna*).[453]

3.1.2. Literature and dating

As already noted, the classical period in the development of Sāṃkhya and Yoga is

characterized by the codification of each philosophy's system in the *Sāṃkhyakārikā* and in the

Pātañjalayogaśāstra, respectively. It is possible to determine the *terminus ante quem* for the

Sāṃkhyakārikā, thanks to an extant Chinese translation of it and of one of its commentaries

prepared by Paramārtha *circa* 560 CE.[454] The *Yuktidīpikā*, an important commentary on the

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[450] The "eight ancillaries" are described in *Pātañjalayogaśāstra* II.29-55 and III.1-8. Āgāśe 1904a: 101-122; Woods 1914: 177-208.
[451] See also Maas' description of the interconnectedness between the "mind" and the "passive self" (2009: 266).
[452] On the concept of afflictions, see *Pātañjalayogaśāstra* II.2-12.
[453] Frauwallner provides a reliable summary of the important features of the classical Sāṃkhya and of the *Pātañjalayogaśāstra* (2008[1973]: I: 274-300; 321-335). See also Maas (2009: 265-267). On several discrepancies between the Sāṃkhya and Yoga systems, see for instance Larson (1999: 728-731) Larson/Bhattacharya (2008: 45-52), and Rukmani (1999).
[454] Frauwallner 2008[1973]: 225.

Sāṃkhyakārikā, has been dated to the mid-6ᵗʰ century CE.[455] Erich Frauwallner situates the compilation of the *Sāṃkhyakārikā* before 500 CE on this basis.[456] On the other hand, Pulinbihari Chakravarti tentatively dates the *Sāṃkhyakārikā* to the end of the 4ᵗʰ century CE, while the authors of the *Encyclopedia of Indian Philosophy* argue for a date between 350 and 450 CE.[457] This aphoristic work was commented upon by several Indian authors to the 6ᵗʰ century to the second half of the 10ᵗʰ century CE (from Paramārtha and the author of the *Yuktidīpikā* in the sixth century, to Vācaspatimiśra in the tenth); this demonstrates the popularity of this work during these centuries.

The *Yuktidīpikā* appears among the earliest commentaries on the *Sāṃkhyakārikā*. The *terminus post quem* for its composition can be established through its incorporation of quotations from the *Pramāṇasamuccaya* by Dignāga's (480-540?). Evidence for the work's *terminus ante quem* is twofold. First, it is provided by Jayantabhaṭṭa (*ca.* 850-910) and Vācaspatimiśra (*ca.* 950-1000 CE), who both reference this text under the title *Rājavārttika*. Second, it is hinted at by the absence in the *Yuktidīpikā* of any reference to Dharmakīrti's works (600-660).[458] Albrecht Wezler and Shujun Motegi moreover state that one quotation from the *Kāśikāvṛtti* (680-700) occurs in the *Yuktidīpikā*, and therefore place the compilation of this work between the end of the 7ᵗʰ and the beginning of the 8ᵗʰ century.[459] According to Bronkhorst, however, this quotation may belong to "any commentary of the Pāṇinian tradition" (Bronkhorst 2003: 247), and not necessarily to the *Kāśikāvṛtti*. If Bronkhorst's argument is to be accepted, the *Yuktidīpikā* would then have been composed between the mid-6ᵗʰ and mid-7ᵗʰ century CE.

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[455] See the discussion below on dating this commentary.
[456] Frauwallner 2008[1973]: 225-226.
[457] Chakravarti 1975[1951]: 158; Larson/Bhattacharya 1987: 149.
[458] Wezler/Motegi 1998: xxv-xxviii; Bronkhorst 2003: 246. I adopt Eltschinger's dates for Dignāga and Dharmakīrti (Eltschinger 2010: 45; 400).
[459] Wezler/Motegi 1998: xxvii-xxviii.

The originality and significance of the *Yuktidīpikā*, as compared with other commentaries on the *Sāṃkhyakārikā*, is worth noting: its structure, distributed across eleven sections (Skt. *āhnika*); its detailed development; its large number of quotations or references to Sāṃkhya teachers, all constitute elements which point to the unique character of the *Yuktidīpikā*. More importantly for the history of Indian philosophy, its author fully engages with arguments arising from different schools of thought in his discussions, thus strongly pointing to the vitality of this system at the time of his writing.

Between the years 557 and 569, Paramārtha translated into Chinese a commentary on the *Sāṃkhyakārikā* called the *Suvarṇasaptati*.[460] The identification of the source for his translation has been the focus of much scholarly debate, although no agreement has yet been reached.[461]

The date generally agreed upon for the composition of the *Gauḍapādabhāṣya* is the 6th century CE. The identification of the author of the *Gauḍapādabhāṣya* with the Vedāntic Gauḍapāda (*Māṇḍūkyakārikā*) is doubtful.[462]

The *Sāṃkhyavṛtti* and the *Sāṃkhyasaptativṛtti* are two commentaries on the *Sāṃkhyakārikā*. Two MSS have recently been found in the Jaina Grantha Baṇḍāra of Jaisalmer and edited by Esther A. Solomon (1973).[463] The MS of the *Sāṃkhyasaptativṛtti* bears an indication of date, namely that it was "copied in about the first half of the 12th cent. V.S." (Solomon 1973a: 5). The leaf on which the name of the author is written is however damaged.[464] As for the *Sāṃkhyavṛtti*, a note in the Catalogue of the Palm-Leaf Manuscripts of the Jaina Grantha Baṇḍāra of Jaisalmer, indicates that it was copied in *saṃvat* 1176, while it

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[460] Takakusu 1904a; 1904b; Chakravarti 1975[1951]: 159.
[461] Takakusu 1904a: 2-4; 25; 35; Belvalkar 1917: 172-173; Garbe 1917[1894]: 91-93; Keith 1924: 551; Larson/Bhattacharya 1987: 167-168.
[462] Frauwallner 2008[1973]: 226; Larson/Bhattacharya 1987: 209. Garbe and Takakusu identify the author of the *Gauḍapādabhāṣya* with Gauḍapāda, the Advaita Vedāntin who lived in the 8th century CE (Garbe 1917[1894]: 87; Takakusu 1904a: 4).
[463] Solomon 1973a; 1973b. See also Larson/Bhattacharya (1987: 178- 208).
[464] Solomon 1973a: 5-6.

does not ascribe an author to this text.[465] The compilation dates of both these commentaries are not yet securely established.

The next commentary considered here is the *Māṭharavṛtti*. Whereas Frauwallner situates its compilation in the early 6th century, the authors of the *EncInPhil* consider it as belonging to the 9th century CE.[466]

The compilation date of the *Jayamaṅgalā* is generally placed between that of the *Yuktidīpikā* and of the *Tattvakaumudī*, namely between the 7th and the 9th century CE.[467] However, it has so far been impossible to date it with more certainty or to ascribe it to a particular author.

Vācaspatimiśra, the author of both the *Tattvakaumudī* on the *Sāṃkhyakārikā* and the *Tattvavaiśāradī* on the *Pātañjalayogaśāstra*, was a Maithili Brahmin. Frauwallner posits that the author was active in the mid-9th century.[468] However, subsequent research tends to indicate that Vācaspatimiśra was writing during the second half of the 10th century CE.[469]

The *Pātañjalayogaśāstra* has a relatively early date of composition. Woods interpreted *sūtra*-s IV.15-16 as constituting an attack against the Vijñānavāda doctrine of Vasubandhu.[470] Vasubandhu probably lived in the mid-4th century CE.[471] Philipp André Maas considers that the Vijñānavāda doctrine might have pre-existed Vasubandhu, and thus dates the compilation of the *Pātañjalayogaśāstra* between 325 and 425 CE.[472]

As for the *Pātañjalayogaśāstravivaraṇa* (*Vivaraṇa*), several researchers have sought to demonstrate that it constitutes a relatively late text.[473] The main argument for this, as presented by Rukmani, for instance, is that its author explicitly refers to the *Tattvavaiśāradī*,

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[465] Solomon 1973b: 5.
[466] Frauwallner 2008[1973]: 226 Larson/Bhattacharya 1987: 291-299.
[467] Larson/Bhattacharya 1987: 271.
[468] Frauwallner 2008[1973]: 226.
[469] Srinivasan 1967: 54-65; Larson/Bhattacharya 1987: 301-312; 2008: 218-240; Acharya 2006: xxviii; Maas 2006: xii, note 2; 2013: 78.
[470] Woods 1914: xvii-xviii.
[471] Maas 2013: 66, on the basis of Franco/Preisendanz (2010[1969]: xvi).
[472] Maas 2006: xviii-xix; Ibid. 2013: 65-66.
[473] Gelblum 1992: 87; Larson/Bhattacharya 2008: 240.

composed by Vācaspatimiśra *circa* 950 CE.[474] Nevertheless, Maas convincingly argues that the *Pātañjalayogaśāstravivaraṇa* makes no explicit mention of either the author or the title of this work. There is no literal quotation, nor is there any identifiable reference to an idea or a concept originally introduced by Vācaspatimiśra himself. These observations led Maas to refute Rukmani's statement.[475]

In 1983, Wilhelm Halbfass noticed that the most recent author the *Vivaraṇa* refers to is Kumārila (7th century CE).[476] In the same year, Albrecht Wezler pointed out that the *Vivaraṇa*, which comments upon the *Pātañjalayogaśāstra*, offers relative ancient readings of it.[477] He argues that the *Vivaraṇa* could have influenced the textual tradition Vācaspatimiśra had access to, and therefore must antedate Vācaspatimiśra's work.[478] Bronkhorst and Maas agree with the early dating of this text:[479] Bronkhorst states that the *Vivaraṇa* is "the most ancient commentary [on Yoga?] known to us" (Bronkhorst 1985: 203); Maas on his part remarks that the readings of the *Pātañjalayogaśāstra* found in the *Vivaraṇa* show discrepancies from the versions of the *Pātañjalayogaśāstra* commonly published today, therefore agreeing with Wezler about the *Vivaraṇa* author's use of a relatively early exemplar of the *Pātañjalayogaśāstra*.[480]

An early date for the *Vivaraṇa* compilation thus appears reasonable, and one can assume it was composed between the 7th century (Kumārila) and the mid-10th century CE (Vācaspatimiśra). An author named Śaṅkara compiled the commentary.[481] The work is

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[474] Rukmani 2001a: xxv-xxix.
[475] Maas 2013: 75. See also the comments by Kengo Harimoto on this question (2004: 179-180).
[476] Halbfass 1983: 120.
[477] Wezler 1983: 27.
[478] Wezler 1983: 34.
[479] Maas 2006: lxix; 2013: 77.
[480] Maas 2013: 78.
[481] The question of whether this Śaṅkara is actually Advaitin Śaṅkara remains a point of contention to this day. Addressing these questions however lies beyond the scope of the present dissertation, and the reader is refer to the secondary literature existing on this issue. Harimoto, for instance, discusses the question of the authorship of this text comprehensively (1999: 36-136; 2014: 11-13); Hacker 1968/1969; Oberhammer 1977: 135; Wezler 1983: 34-36; Halbfass 1991: 204-207; 224-228; Gelblum 1992: 76-77; Rukmani 1998; Rukmani 2001a: ix-xxxi; Larson/Bhattacharya 1987: 289; 2008: 239-240; Maas 2013: 73-74; On the title of this work see Harimoto (2014: 9).

alternatively referred to as the *Pātañjalayogaśāstravivaraṇa* or the *Vivaraṇa* in this dissertation. In parallel with *Yuktidīpikā*, which constitutes a crucial commentary on the *Sāṃkhyakārikā*, the *Vivaraṇa* often offers more extensive explanations to the *Pātañjalayogaśāstra* than other commentaries and includes much philosophical debates in its account.

The historical context from which the *Rājamārtaṇḍa* has emerged is relatively well-known in comparison with the other Sanskrit works under review. It was composed, or commissioned, by king Bhoja of the Paramāras' dynasty. This king held sway over the region of Mālava, located in present-day western Madhya Pradesh, and boasted the city of Dhār as his capital. Bhoja's reign can approximately be dated to the first half of the 11th century.[482] The *Rājamārtaṇḍa* was thus composed at the same period as al-Bīrūnī's works.[483] Bhoja's commentary is extremely concise and constitutes a simplified version of the *Pātañjalayogaśāstra* rather than a truly original exposition on classical Yoga.

Although the dating of several commentaries glossing upon the *Sāṃkhyakārikā* remains problematic, it may be noted that five of them, the *Suvarṇasaptati*, the *Sāṃkhyasaptativṛtti*, the *Sāṃkhyavṛtti*, the *Gauḍapādabhāṣya*, and the *Māṭharavṛtti*, display striking similarities. These have sometimes been considered as originating from an *Ur-*commentary.[484] However, they also differ from each other. The *Gauḍapādabhāṣya* is the most concise of these commentaries. While the *Sāṃkhyavṛtti* greatly resembles the *Suvarṇasaptati*, the *Sāṃkhyasaptativṛtti* is similar to the *Māṭharavṛtti* in many respects, as Solomon points out. [485] Chapter 6 of this dissertation confirms these observations.

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[482] Pingree 1981: 336.
[483] Frauwallner 2008[1973]: 475; Larson/Bhattacharya 1987: 4; 313; 2008: 266; Maas 2006: xvii; 2013: 73.
[484] Solomon 1974: 1; Larson/Bhattacharya 1987: 167. See also Keith (1924: 551-554) and Chakravarti (1975[1951]: 159-160).
[485] Solomon 1973b: 7; Solomon 1974: 100; 106.

3.2. Situating the *Kitāb Sānk* within the textual tradition in Sanskrit

Al-Bīrūnī's account of the twenty-five "elements" (Skt. *tattva*) thus mirrors the evolution and causality theories developed in classical Sāṃkhya.[486] Although the scholar does not connect his description with the *Kitāb Sānk*, the similarities between his account and that of Sāṃkhya are too important to be coincidental. In addition to this parallelism, other elements, which will be developed in this section, indicate that al-Bīrūnī's translations drew up on works written during the classical period in the development of Sāṃkhya and Yoga. Chapter 4, 5, and 6 further strengthen this position. The present section sheds light on al-Bīrūnī's understanding of the authorship and titles of the *Kitāb Sānk* and the *Kitāb Pātanǧal*. This level of awareness, I argue, reflects how ideas on these books circulated and were transmitted during the early years of the 11th century.

3.2.1.   Authorship and title of the *Sāṃkhyakārikā*

The tradition of the textual transmission of Sāṃkhya acknowledges different Sāṃkhya teachers that preceded the compilation of the *Sāṃkhyakārikā*.[487] At the end of the *Sāṃkhyakārikā*, several of these Sāṃkhya teachers are cited (kā 69-72):

> "This secret treatise, in which conservation, production, and dissolution of the beings are considered, was formulated by the supreme sage [Kapila] in order to provide a goal for mankind,[488] (kā 69). Moved by compassion, the sage bestowed upon Āsuri this excellent means of purifying oneself. Āsuri, on his part, [bestowed it] upon Pañcaśikha and he divulged this system further afield (kā 70). And this [system], having been transmitted by a succession of disciples, was summed up in [the verse form of] *āryā*-s by Īśvarakṛṣṇa, whose thoughts are noble, after he had correctly understood the doctrine (kā 71). In fact, the topics [developed] in the 70

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[486] See section 2.5.2.
[487] Frauwallner 2008[1973]: I: 221-225; Larson/Bhattacharya 1987: 107-148; 2008: 37-39.
[488] An alternative reading for *puruṣārthārtham* is *puruṣārthajñānam*, i.e., "the knowledge of mankind's goal".
See for instance Sharma (1933: 61) and Solomon (1973a: 78; 1973b: 66).

[strophes, i.e., the Sāṃkhyakārikā], are the [same] topics that are [tackled] in the entirety of the Ṣaṣṭitantra [i.e., the system of the 60], and deprived of short narratives and free from opponents' views (kā 72)."

puruṣārthārtham idaṃ śāstraṃ guhyaṃ paramarṣiṇā samākhyātam. sthityutpattipralayaś ca cintyante yatra bhūtānām (69). *etat pavitram agryaṃ munir āsuraye'nukampayā pradadau. āsurir api pañcaśikhāya tena ca bahudhā kṛtaṃ tantram* (70). *śiṣyaparamparayāgatam īśvarakṛṣṇena caitad āryābhiḥ. saṃkṣiptam āryamatinā samyag vijñāya siddhāntam* (71). *saptatyāṃ kila ye'rthās te'rthāḥ kṛtsnasya ṣaṣṭitantrasya. ākhyāyikāvirahitāḥ paravādavivarjitāś cāpi* (72). (*Yuktidīpikā*'s reading. Wezler/Motegi 1998: 285).

Kapila is considered the founder of the Sāṃkhya system. Kapila's name does not appear in the *Sāṃkhyakārikā* itself, only in its commentaries. He is said to have passed on his teachings to Āsuri who then went on to transmit them to Pañcaśikha. Kapila and Āsuri thus appear to be legendary figures related to the early dissemination of Sāṃkhya teachings, but no specific philosophical concepts can be attributed to them with certainty. With regard to Pañcaśikha, the *Mokṣadharma* and classical Sāṃkhya-Yoga literature refer to his points of view on several occasions; which are however not uniform.[489] Īśvarakṛṣṇa is said to have summed up in 70 strophes the doctrine transmitted via Āsuri and Pañcaśikha. This summary is actually to be identified with the *Sāṃkhyakārikā*. The last *kārikā* explains that the topics described in these 70 strophes are the same as those of the *Ṣaṣṭitantra*. We only know this work from its being mentioned in other sources, which attribute it to Kapila, Pañcaśikha, or Vārṣagaṇya.[490] While Vārṣagaṇya is not mentioned in the above *kārikā*-s, he seems the best candidate for the authorship of the *Ṣaṣṭitantra*.[491] At any rate, this *kārikā* informs us that a work entitled *Ṣaṣṭitantra* was considered as having laid the foundations of classical Sāṃkhya. The *Yuktidīpikā*, a commentary on the *Sāṃkhyakārikā*, further mentions a large number of Sāṃkhya-Yoga teachers, such as Paurika, Pañcādhikaraṇa, Patañjali, Vārṣagaṇya, and

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[489] See the list provided in Larson/Bhattacharya (1987: 118-123).
[490] Larson/Bhattacharya 1987: 117-118; 127.
[491] Oberhammer 1960; Bronkhorst 2008: 79.

Vindhyavāsin.[492]

The title *Sāṃkhyakārikā* perhaps postdates the composition of the work *per se*. Indeed, out of all the editions of the commentaries on this founding text available to me, only one, the *Gauḍapādabhāṣya* provides this title in its colophon. According to Junjiro Takakusu, the work commonly referred to as the *Suvarṇasaptati* also bears the title *Sāṃkhyaśāstra*, the result of a transliteration from Sanskrit to Chinese.[493] The *Yuktidīpikā*, the *Sāṃkhyavṛtti,* the *Sāṃkhyasaptativṛtti,* the *Māṭharavṛtti*, and the *Jayamaṅgalā* all read in their respective colophons *sāṃkhyasaptati*, which can be translated as "the seventy [strophes] of Sāṃkhya".[494] As for the *Tattvakaumudī*, it does not provide any specific title for the text it glosses. *Sāṃkhyakārikā* perhaps does not, therefore, reflect the original title of the text attributed to Īśvarakṛṣṇa.[495] It however appears to have been fostered by secondary literature for its designation. The word *sāṃkhya* means, etymologically, to be "related to number". It is however reasonable to follow Edgerton's translation and understand it as meaning "(the method of salvation) based on reckoning or calculation" (Edgerton 1924: 36-37), when it is used to refer to classical Sāṃkhya. The same definition for this term is offered in the *Amarakośa*,[496] a fact that confirms Edgerton's interpretation. In addition to this, the term *sāṃkhya* can also refer to the adherents of the philosophical system, rather than solely to the doctrine itself.

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[492] For further literature on the teachers of Sāṃkhya, see Frauwallner (2008[1973]: 222-225), Chakravarti (1975[1951]: 111-171), and Larson/Bhattacharya (1987: 129-130). On passages in the *Mahābhārata* dealing with Sāṃkhya and Yoga teachers, see also Brockington (1999). For the possible identification of Īśvarakṛṣṇa with Vārṣagaṇya and Vindhyavāsin, an hypothesis which is not discussed in this dissertation, see Takakusu (1904a: 37-60), Bronkhorst (1985: 205-210), and Larson/Bhattacharya (1987: 131-146; 149).

[493] Takakusu 1904a: 4.

[494] The *Yuktidīpikā* also has for some of its sections (Skt. *āhnika*) the reading *saptati* instead of *kārikā*.

[495] This reflection, which lies beyond the scope of the present dissertation, was suggested to me by Maas.

[496] I.5.2 and II.7.5. Quoted in Chakravarti (1975[1951]): 2, note 2.

3.2.2. Authorship and title of the *Kitāb Sānk*

In the *Taḥqīq mā li-l-Hind*, al-Bīrūnī ascribes the *Kitāb Sānk* to Kapila: it is the "Sānga that Kapila composed" ("سانگَ" عمله "كْپِل").[497] He conceives Kapila as the author of the original source for the *Kitāb Sānk* rather than as the founder of the Sāṃkhya system. He does not provide additional information on Kapila, and never refers to Īśvarakṛṣṇa or to the other teachers mentioned in the *kārikā*-s in connection to transmission of the Sāṃkhya system, such as Āsuri or Pañcaśikha. As already mentioned, Kapila's name only appear in the commentaries on the *Sāṃkhyakārikā*, being absent from the *kārikā*-s themselves. These observations lead to two possible hypotheses: either his informants supplemented his knowledge by attributing the *Kitāb Sānk* to Kapila, or al-Bīrūnī worked with a commentary which explicitly mentioned Kapila. As a matter of fact, chapter 6 demonstrates that al-Bīrūnī indeed had access to a commentary on the *kārikā*-s. His use of a commentary on the *kārikā*-s does not however preclude his being assisted by Indian thinkers in preparing the translation of this commentary. These Indians may have been instrumental in leading al-Bīrūnī to ascribe the *Kitāb Sānk* to Kapila.

Al-Bīrūnī entitles the work he is translating the *Kitāb Sānk*, literally, the *book Sānk*. The *Taḥqīq mā li-l-Hind* explicitly refers to it by name eleven times, that is fewer times than it mentions the *Kitāb Pātanğal*. The following table illustrates every occurrence of this term in the *Taḥqīq mā li-l-Hind*:

Nos	Transliteration	Translation	Type of instances
1	اسمُه "سانك"	its name is Sānk[498]	reference
2	فى كتاب "سانْك"	in the book Sānk[499]	quotation

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[497] Al-Bīrūnī 1958: 102.2-3; Sachau 1888b: I: 132.
[498] Al-Bīrūnī 1958: 6.2; Sachau 1888b: I: 8.
[499] Al-Bīrūnī 1958: 22.12; Sachau 1888b: I: 30.

3	فى كتاب "سانك"	in the book Sānk[500]	summary/paraphrase
4	صاحب كتاب "سَانْگ"	the author of the book Sāng[501]	summary/paraphrase
5	فى كتاب "سانگ"	in the book Sāng[502]	quotation
6	فى كتاب "سانك"	in the book Sānk[503]	quotation
7	فى كتاب "سانگ"	in the book Sāng[504]	quotation
8	قيل فى "سانگ"	[there is] a statement in [the book] Sāng[505]	quotation
9	فى كتاب "سانگ"	in the book Sāng[506]	quotation
10	عن "سانگ"	according to [the book] Sāng[507]	summary/paraphrase
11	سَانْگَ	[the book] Sānga[508]	reference

Table 1: List of the references to Sānk in the Taḥqīq mā li-l-Hind *(my translations).*

A clear correspondence can be established between al-Bīrūnī's use of *sānk* and the Sanskrit designation *sāṃkhya*, which is found in titles of works related to the Sāṃkhya philosophy (cf. *Sāṃkhyakārikā, Sāṃkhyasaptativṛtti*, or *Sāṃkhyavṛtti*). Al-Bīrūnī seems to employ the Arabic *sānk* when referring to the title of the work he has translated and to the theories elaborated in this text, but never when alluding to a person. The long *ā* is always respected, whereas the aspirated consonant *kh* in the original Sanskrit is either transcribed as *k* or as *g*. These differences are however minor. Only diacritic signs distinguish the Semitic letters *k* and *g*. Aspiration was not always rendered into the Arabic transliteration by al-Bīrūnī, at least according to the available editions of his text.[509] The term *sānk* thus constitutes a transliteration of the Sanskrit term *sāṃkhya*. Al-Bīrūnī does not however provide the Sanskrit meaning of this term. Al-Bīrūnī, it will become apparent in chapter 6, was in the habit to

[500] Al-Bīrūnī 1958: 36.15; Sachau 1888b: I: 48.
[501] Al-Bīrūnī 1958: 47.13; Sachau 1888b: I: 62.
[502] Al-Bīrūnī 1958: 48.16; Sachau 1888b: I: 64.
[503] Al-Bīrūnī 1958: 57.5; Sachau 1888b: I: 75.
[504] Al-Bīrūnī 1958: 62.1; Sachau 1888b: I: 81.
[505] Al-Bīrūnī 1958: 63.7; Sachau 1888b: I: 83.
[506] Al-Bīrūnī 1958: 67.11; Sachau 1888b: I: 89.
[507] Al-Bīrūnī 1958: 69.15-16; Sachau 1888b: I: 92.
[508] Al-Bīrūnī 1958: 102.1; Sachau 1888b: I: 132.
[509] See for instance the Arabic transliteration *sand* for *sandhi* and *adimāsa* for *adhimāsa* in table 4.

translate both aphorisms and their commentaries together, so that the *Kitāb Sānk* may well represent the translation of a work entitled *Sāṃkhya-vṛtti*, *Sāṃkhya-saptati-vṛtti*, or *Sāṃkhya-śāstra*.

3.3. Situating the *Kitāb Pātanğal* within the textual tradition in Sanskrit

3.3.1. Authorship and title of the *Pātañjalayogaśāstra*

In opposition to the last *kārikā*-s of the *Sāṃkhyakārikā* the *Pātañjalayogaśāstra* does not offer literary evidence for the history of its textual transmission. The name Hiraṇyagarbha is however connected to the transmission of Yoga. This figure is for instance honored in the laudatory strophes of the *Tattvavaiśāradī* and of the later Yoga work *Maṇiprabhā* upon PYŚ I.1.[510] The *Vivaraṇa*, glossing upon PYŚ III.39, also refers to Hiraṇyagarbha, stating that his text, or the method described in his work, taught in detail the means of controlling one's breath.[511] Thus, the role of Hiraṇyagarbha in the transmission of Yoga is not as clear as that of Kapila, who is traditionally identified as the founder of the Sāṃkhya philosophy.

Two different points of view co-exist among ancient and modern scholars regarding the authorship of the *Pātañjalayogaśāstra*, arising from the fact that this work is composed of two conflated layers of text. This is evidenced by the last Sanskrit term making up the title of the work: *śāstra*, or "treatise", encompasses both a series of "aphorisms" (Skt. *sūtra*), the first layer of text, and a relatively obscure and concise "commentary" (Skt. *bhāṣya*) which constitutes the second layer.

One opinion supports the idea that a different author composed each of the two layers of text, so that the *sūtra*-part, referred to as the *Yogasūtra*, is believed to have been compiled by Patañjali, while the *bhāṣya*-part, the so-called *Yogabhāṣya*, was penned by [Veda]vyāsa,

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[510] Āgāśe 1904a: 2; 31; Woods 1914: 5; 26; Śāstrī 2009: 2.
[511] Sastri/Sastri 1952: 294. The commentary in fact uses the adjective derived from this personal name, i.e., *hairaṇyagarbha*.

the legendary compiler of the *Mahābhārata*.[512] Another opinion conceives the *Pātañjalayogaśāstra* as a whole, having been composed by one single author generally identified with Patañjali. The following section summarizes the current state of research, so as to further situate the evidence provided by al-Bīrūnī within this debate.

Hermann Jacobi, followed by Bronkhorst, was the first to question the attribution of the alleged *Yogabhāṣya* to Vyāsa. Jacobi points out that Vyāsa is not mentioned in the chapter-colophon of the *Pātañjalayogaśāstra*. He further notes that, in the chapter-colophon appearing in several editions of this work, the derivative Sanskrit adjective *pātañjala* (of Patañjali) qualifies the expression *sāṃkhyapravacana yogaśāstra* (the treatise on *yoga*, expressive of Sāṃkhya).[513] In attempting to establish the oldest reading of these chapter-colophons, Maas further supports Jacobi and Bronkhorst's observations, as in his reconstruction Vyāsa is not involved in the composition of the *Pātañjalayogaśāstra*.[514]

Further, according to the chapter-colophon, it is not only the *sūtra*-part which is attributed to Patañjali, but the work as a whole. The adjective *pātañjala* (of Patañjali) indeed characterizes the compound *yogaśāstra* (the treatise on *yoga*). Thus, these chapter-colophons indicate that the author of the *Pātañjalayogaśāstra*, who is called here Patañjali, did not himself dissociate the two layers of texts. Another clue of the text as an integrated whole is the fact that the *sūtra*-s do not boast their own chapter-colophons, and were thus not considered as independent from the *bhāṣya*.[515] It is equally worth noting that "in the early classical period of Indian philosophy the terms *sūtra* and *bhāṣya* did not designate different literary genres but compositional elements of scholarly works (*śāstra*)" (Maas 2013: 65).

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[512] Müller 1899: 410; Garbe 1896: 40-41; Dasgupta 1920: i; 1922: I: 212; 1924: vii; 1941: 181; Radhakrishnan 2008[1923]: II: 313-314; Strauss 1925: 178; 191; Hiriyanna 1956[1932]: 269-270; Renou/Filliozat 1953: II: 46; Tucci 1957: 99; Frauwallner 2008[1973]: I: 322; 335 (Although Frauwallner conceives the *sūtra*-s and the *bhāṣya* as penned by two different authors, he interprets them as one); Angot 2008.

[513] Jacobi 1970[1929]: 683; 685; Bronkhorst 1985: 203. Maas thoroughly discusses the question in several of his publications (2006: xii-xix; 2009: 264; 2013: 57-59; 62-65). On the interpretation of the compound *sāṃkhyapravacana*, see infra footnote **Erreur ! Signet non défini.**569.

[514] Maas 2006: xx-xxi. The complete chapter-colophons of the *Pātañjalayogaśāstra* are provided in table 8, comparing them with the corresponding titles of the sections in the *Kitāb Pātanǧal*.

[515] Maas 2013: 58.

In addition to the internal evidence drawn from the *Pātañjalayogaśāstra*, other classical Indian thinkers have considered the "treatise" (Skt. *śāstra*) as having been compiled by one author whose name was not Vyāsa. Śaṅkara, the author of the *Vivaraṇa* on the *Pātañjalayogaśāstra*, seems to have considered it a single entity that combined two layers of text. The first edition of this commentary, in 1952, reflects this in its title, referring to the commentary as the *Pātañjalayoga**sūtrabhāṣya**vivaraṇa* (my emphasis), thus suggesting that the author of the *Vivaraṇa* considered the two separate layers of texts as constitutive of the *śāstra*.[516] Bronkhorst and Wezler have however drawn indologists' attention to the fact that this reading may not have been original.[517]

Harimoto's work on the *Vivaraṇa* confirms these preliminary observations, and offers another reading for the commentary's title, one already suggested by Bronkhorst and Wezler the *Pātañjalayoga**śāstra**vivaraṇa* (my emphasis).[518] This reading indicates that the author of this commentary considered Patañjali's work as an integral "treatise" (*śāstra*), and did not dissociate the *sūtra*-s from their *bhāṣya*. Accordingly, the *Vivaraṇa* comments on the *Pātañjalayogaśāstra* in its entirety. As it is one of the earliest extant works on the *Pātañjalayogaśāstra*, this commentary may be thus regarded as a faithful witness of the classical understanding of the *Pātañjalayogaśāstra*'s structure and authorship.

Further, as several scholars have already noted, other Indian sources, such as Śrīdhara's *Nyāyakandalī* (991 CE), a number of Abhinavagupta's works (Kashmir, second half of the 10th century CE), and Malliṣeṇa's *Syādvādamañjarī* (end of 13th century), also seem to accept Patañjali as the author of both layers of texts.[519]

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[516] Sastri/Sastri 1952: 1; 119; 232; 316; 370. Rukmani's edition follows this reading (2001a: 204; 377; 2001b: 125; 211).

[517] Wezler 1983: 17; 37, notes 1 and 2; Bronkhorst 1985 :203, note 12.

[518] Harimoto 1999: 36; 350, note 6; 2014: 9, note 3.

[519] For further references and detailed studies on these sources see Jacobi (1970[1929]: 685), Raghavan (1980: 78-87), Bronkhorst (1985: 203-207), and Maas (2006; xii-xv; 2013: 57).

The conception of the *Pātañjalayogaśāstra* as the work of two authors perhaps finds its origin in the *Tattvavaiśāradī*, written by Vācaspatimiśra in the mid-10th century CE. In this commentary on the *Pātañjalayogaśāstra*, the "author of the *bhāṣya*" (Skt. *bhāṣya kṛtā*) is called Vyāsa in both the "laudatory strophes" (Skt. *maṅgalaśloka*) and in the chapter-colophon. However, as Bronkhorst and Maas have pointed out, Vācaspatimiśra himself is ambiguous on this question, and his different works offer contradictory evidence: at least one passage of his *Nyāyavārttikatātparyaṭīkā* indicates that Vācaspatimiśra attributed one portion of the *bhāṣya* found in the *Pātañjalayogaśāstra* to Patañjali.[520]

The *Rājamārtaṇḍa*, in contrast with the other two commentaries on the *Pātañjalayogaśāstra*, comments upon the *sūtra*-s only, to the exclusion of the *bhāṣya*. Therefore, the *Rājamārtaṇḍa* may also have influenced the textual tradition of the *Yogaśāstra*'s authorship. Other later commentaries, such as Vijñānabhikṣu's *Sāṃkhyapravacana* (mid-16th century CE),[521] Rāmānanda Sarasvatī's *Maṇiprabhā* (late 16th century CE),[522] or Nageśa (or Nagojī) Bhaṭṭa's *Vṛtti* (early 18th century CE),[523] also seem to have considered the *sūtra*- and the *bhāṣya*-parts of the *Pātañjalayogaśāstra* as two separate entities.[524]

The term *vyāsa*, supposedly referring to the alleged author of the *bhāṣya* [Veda]vyāsa, is only found in some chapter-colophons of late manuscripts of the *Pātañjalayogaśāstra*. The only mention of Vyāsa in the *Vivaraṇa* actually consists of a quotation drawn from the *Mahābhārata*, and does not refer to the author of the *bhāṣya* at all.[525] Maas offers an alternative interpretation of this *vyāsa* as it occurs in the more recent manuscripts of the *Pātañjalayogaśāstra* and in the commentary by Vācaspatimiśra. The term may be understood

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[520] Bronkhorst 1985: 204-207; Maas 2006: xiii-xiv; 2013: 68.
[521] Ibid. 2006: xiii.
[522] Larson/Bhattacharya 2008: 54; 282-283.
[523] Ibid.: 355-356.
[524] Jacobi 1970[1929]: 685.
[525] Maas 2006: xv; 2013: 58-59.

as a derivative of the verbal form *vi-as* (to dispose; to arrange) using the *uṇ-ādi* suffix,[526] and thus may simply mean "compiler". This interpretation implies that the Sanskrit term *vyāsa* may have originally been a generic designation, and not a proper name. If this is correct, it is possible that Vācaspatimiśra interpreted the term differently from what it originally meant and therefore ascribed the work to [Veda]vyāsa.[527]

Three different attitudes therefore emerge regarding the authorship of the *Pātañjalayogaśāstra* in the Indian textual tradition. There are texts and authors who 1) considered Patañjali as the author of both the *sūtra*-s and the *bhāṣya*, 2) regarded Patañjali as the author of the *Yogasūtra* and [Veda]vyāsa as the author of the *Yogabhāṣya*, and 3) displayed confusion as to who had written what. This disparity of opinion among Indian scholars is probably at the root of the division which exists in modern scholarship on Indology. The fact that a large number of sources, notably early works on Yoga, supports the position that the *Pātañjalayogaśāstra* was written down as a single entity by one author, suggests that this was the case originally, and that the confusion arose later in the textual transmission.

3.3.2. Authorship and title of the *Kitāb Pātanğal*

According to the *Kitāb Pātanğal*, Hiraṇyagarbha played a role in the transmission of the philosophical system elaborated in its Sanskrit source. The laudatory introduction to al-Bīrūnī's translation indeed explains that this book follows the "method of Hiraṇyagarbha" (Pines/Gelblum 1966: 310).[528] Barring this figure, al-Bīrūnī does not explicitly specify any personal name for the authorship of the *Kitāb Pātanğal*. However, there is good reason for thinking that the Arabic term *Pātanğal* refers to the author of the book at the same time as it is the work's title.

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[526] Tubb/Boose 2006: 49.
[527] Maas 2013: 68.
[528] See section 5.4.

To begin with, al-Bīrūnī is unaware of the tradition that holds Vyāsa as the author of a work related to Yoga: his name never appears in the *Kitāb Pātanǧal*. The manuscript's reading in Q 46 of the *Kitāb Pātanǧal* is corrupt, bearing the meaningless letters لارناص (*lā-r-nā-ṣ*). Ritter emends it for لؤياصَ (*li-wyāṣa*), so as to render the transliteration of the Sanskrit word *vyāsa*, thus artificially associating the name Vyāsa with the *Kitāb Pātanǧal*. Pines and Gelblum on their part propose the reading الأراضي (*al-ʾārāḍī*; earths). This suits better the context of this section of Q 46, as it deals with cosmography. Vyāsa is however mentioned in the *Taḥqīq*, in his quality as the son of Parāśara (بياس بن پراشر) and the author of the *Kitāb Bhāraṯa* (كتاب بهارث). Here and there, a role in the transmission of the *Veda*-s is attributed to him.[529] Notwithstanding this, Pines and Gelblum notice that al-Bīrūnī refers to him with وياس or بياس (*wyāsa* or *byāsa*) by using the voiceless plain sibilant س (*s*) instead of the voiceless emphatic sibilant ص (*ṣ*).[530] Further, this name is never associated with the *Kitāb Pātanǧal* in the *Taḥqīq mā li-l-Hind*, just as the name Vyāsa is never explicitly connected to the composition of the *bhāṣya* in the *Pātañjalayogaśāstra*, or in the *Vivaraṇa*.

The full title of the *Kitāb Pātanǧal* is: *The Book by Pātanǧal the Indian, on the emancipation from the burdens, [being] a translation into Arabic by Abu l-Rayḥān Muḥammad bin Aḥmad al-Bīrūnī* (كتاب باتنجل الهندى فى الخلاص من الاثقال نقل ابى الريحان محمد بن احمد البيرونى الى العربى). It strongly suggests that al-Bīrūnī regarded Pātanǧal as the author of the book.[531]

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[529] For the term Vyāsa in the *Taḥqīq mā li-l-Hind*: Al-Bīrūnī 1958: 34.2; 78.14; 82.10; 97.8; 101; 102.10; 102.15; 104.4; 134.5; 196.7; 286.15; 296.16; 310.9; 331; 334.4; 334.10; Sachau 1888b: I: 44; 104; 107; 126; 131; 132; 134; 171; 238; 340; 341; 352; 369; 394; 397; 398.

[530] Ritter 1956: 185, note 6; Pines/Gelblum 1966: 304; 1983: 275, note 88; Maas 2013: 59; Maas/Verdon forthcoming 2016: note 45. On the specific passage discussed here, see pp. 200-207; on Q 46 of the *Kitāb Pātanǧal,* see table 9.

[531] Ritter's edition has "metaphors" or "images" (الامثال) instead of "burdens" (الاثقال), which is the proposed reading in Pines and Gelblum (Ritter 1956: 167.1-2; Pines/Gelblum 1966: 308, note 51). Massignon (1954[1922]: 97) and Hauer (1930: 276) agree with Ritter's reading. However, Pines and Gelblum's reading, i.e., "burdens", appears appropriate, as al-Bīrūnī uses this term to translate the concept of "afflictions" (Skt. *kleśa*). According to the *Pātañjalayogaśāstra*, mental "absorption" not only weakens these "afflictions" but also brings about "emancipation" (Skt. *kaivalya*) of the "passive self" (Skt. *puruṣa*). The title of al-Bīrūnī's translation refers to this specific idea. For the relationship between *puruṣa* (passive self) and *kaivalya* (emancipation), see *Pātañjalayogaśāstra* I.24; I.41; I.51; II.18; II.21; II.27; III.50; III.55; IV.24; IV.33; IV.34.

In order to delve further into this question, the numerous references to Pātanǧal in the

Taḥqīq mā li-l-Hind are provided in the table below:

Nos	Transliteration	Translation	Type of instances
1	يُعْرَفُ "بپاتنجل"	[the book] is known as Pātanǧal.[532]	reference
2	في كتاب "پاتنجل"	in the book Pātanǧal[533]	quotation
3	في كتاب "پاتنجل"	in the book Pātanǧal[534]	quotation
4	قال صاحب كتاب "پاتنجل"	the author of the book Pātanǧal[535]	quotation
5	فهذا ما قال "پاتنجل"	and this is what [the book] Pātanǧal said[536]	quotation
6	في كتاب "پاتنجل"	in the book Pātanǧal[537]	quotation
7	في خاتمة كتاب "پاتنجل"	at the end of the book Pātanǧal[538]	quotation
8	في كتاب "پاتنجل"	in the book Pātanǧal[539]	quotation
9	إلى طريق "پاتنجل"	in the [same] manner as [the book] Pātanǧal[540]	reference
10	في كتاب "پاتنجل"	in the book Pātanǧal[541]	quotation
11	ومثل "پاتَنجُل"	and like [the book] Pātanǧal[542]	reference
12	عن "پاتنجل"	according to [the book] Pātanǧal[543]	reference
13	لمفسّر كتاب "پاتنجل"	for the commentator in the book Pātanǧal[544]	summary
14	لكن مفسّر كتابِ "پاتنجل"	but the commentator in the book Pātanǧal[545]	summary
15	مفسّر "پاتنجل"	the commentator [in the book] Pātanǧal[546]	summary in a table

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[532] Al-Bīrūnī 1958: 6.3; Sachau, 1888b: I: 8.
[533] Al-Bīrūnī 1958: 20.9-10; Sachau 1888b: I: 27.
[534] Al-Bīrūnī 1958: 42.7-8; Sachau 1888b: I: 55.
[535] Al-Bīrūnī 1958: 52.5; Sachau 1888b: I: 68.
[536] Al-Bīrūnī 1958: 53.8; Sachau, 1888b: I: 70.
[537] Al-Bīrūnī 1958: 58.5; Sachau 1888b: I: 76.
[538] Al-Bīrūnī 1958: 61.16-17; Sachau 1888b: I: 81. The content of the *Kitāb Pātanǧal* is also implicitly referred to before this passage. Al-Bīrūnī 1958: 61.3-4; Sachau 1888b: I: 80.
[539] Al-Bīrūnī 1958: 62.10; Sachau 1888b: I: 82.
[540] Al-Bīrūnī 1958: 66.12; Sachau 1888b: I: 87.
[541] Al-Bīrūnī 1958: 70.13; Sachau 1888b: I: 93.
[542] Al-Bīrūnī 1958: 102.3; Sachau 1888b: I: 132.
[543] Al-Bīrūnī 1958: 150.9; Sachau 1888b: I: 189.
[544] Al-Bīrūnī 1958: 191.1; Sachau 1888b: I: 232. The phrasing "the commentator in the book Pātanǧal" is chosen in this dissertation instead of "the commentator of the book Pātanǧal" in light of the results emerging from this dissertation, see sections 5.2.2 and 5.2.3.
[545] Al-Bīrūnī 1958: 192.6-7; Sachau 1888b: I: 234.
[546] Al-Bīrūnī 1958: 193; Sachau 1888b: I: 235.

16	مفسّركتاب "پاتنجل"	the commentator of the book Pātanğal[547]	quotation
17	عن مفسّركتاب "پاتنجل"	according to the commentator [in the book] Pātanğal[548]	reference
18	كمفسّر كتاب "پاتنجل"	like the commentator in the book Pātanğal[549]	paraphrase
19	عن تفسير "پاتنجل"	according to the commentary in Pātanğal[550]	summary

Table 2: List of references to Pātanğal in the Taḥqīq mā li-l-Hind *(my translations).*

The term *pātanğal* is invariably written with a long *ā* in the initial syllable in both the *Taḥqīq* and in the *Kitāb Pātanğal*. Pines and Gelblum suggest that al-Bīrūnī consistently uses the long *ā* in order to make sure that his readership would read the correct vowel.[551] This transliteration may also render the Sanskrit adjective *pātañjala*, that is, the *vṛddhi* ablaut of the first vowel in the proper name Patañjali. This derivative signifies "of Patañjali" or "related to Patañjali" and occurs in the title *Pātañjalayogaśāstra*. Although al-Bīrūnī's transliterations of the vowels' length from Sanskrit in Arabic are not always faithful, nor are they systematic, table 4 in chapter 2, as well as a close look into the *Taḥqīq*, reveals that the vowels' length was generally respected by al-Bīrūnī. Nevertheless, whereas in Sanskrit, the term *pātañjala* which is compounded in the title of the work is an adjective that refers to its author – *patañjali* is the actual name of the author – the Arabic term *pātanğal* does not allow us to determine whether it refers to the title of the work alone or to its author as well. According to Sachau, Dasgupta, and Hauer, the Arabic term *pātanğal* points to the title of al-Bīrūnī's translation.[552] Three occurrences indeed suggest that *pātanğal* simply refers to the title of the work. The first example reads: "[the book] is known as Pātanğal"; number 4 has the expression "the author of the book Pātanğal"; finally, the mention listed under number 11 in

[547] Al-Bīrūnī, 1958: 194.6; Sachau 1888b: I: 236.
[548] Al-Bīrūnī 1958: 196.15; Sachau 1888b: I: 238.
[549] Al-Bīrūnī 1958: 205.14; Sachau 1888b: I: 248.
[550] Al-Bīrūnī 1958: 393.5; Sachau 1888b: II: 62. This instance is not recorded in Sachau's index at the end of his translation.
[551] Pines/Gelblum 1966: 308, note 50.
[552] See Sachau's summary (1888b: II: 257), as well as Dasgupta and Hauer on this point. Dasgupta 1979[1930]: 60; Hauer 1930: 276-278.

the above table occurs within an enumeration of different titles of Indian works, thus suggesting that the term *pātanğal* is understood as the title of the text, as well.

In the other cases, the Arabic phrasing can be freely interpreted as either "the book [entitled] Pātanğal" or "the book by Pātanğal". Al-Bīrūnī may not have felt the need to specify the author's name, for the simple reason that it was already provided in the title of his translation. In contrast, he needed to provide the name of the author of the *Kitāb Sānk* as it was not evident from the title of his translation. It is then likely that al-Bīrūnī did not distinguish between the adjectival form of the name (Skt. *pātañjala*) and the proper name itself (Skt. *patañjali*): he seems to have used the same form, i.e., *pātanğal*, to transliterate both Sanskrit terms. In this way, it is reasonable to conclude that the title and the author's name are both expressed in the title of his translation.

Seven further references are made specifically to a commentator/commentary of the *Kitāb Pātanğal* (no 13, 14, 15, 16, 17, 18, 19). In this context, it is worth recalling a few arguments regarding this commentary. First, al-Bīrūnī merged a text and a commentary in his *Kitāb Pātanğal*.[553] Second, as Maas points out, the Arabic term *kitāb* (book) may well be used to translate the Sanskrit *śāstra* (treatise), thus referring to two layers of text, and not only to the *sūtra*-s.[554] Consequently, the commentary mentioned by al-Bīrūnī may have already formed part of the *Kitāb Pātanğal* instead of being a commentary glossing upon it. Indeed, neither the grammatical study of the phrasings in table 6, nor the analysis of specific passages of al-Bīrūnī's translation in chapter 4 and 5, does indeed exclude this possibility.[555]

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[553] See section 4.2.
[554] Maas 2013: 59-60.
[555] See sections 5.2.2 and 5.2.3.

In addition to this, al-Bīrūnī conceived Pātanğal as a protagonist of the narrative *Kitāb Pātanğal*, as the beginning of this work indicates:

[Question] 1. The ascetic who roamed in the deserts and jungles addressed {Pātanğal}, asking: […]

[Answer]. {Pātanğal} said: […].

(Pines/Gelblum 1966: 313)[556]

The introduction of this character in the *Kitāb Pātanğal* is an innovation on al-Bīrūnī's part: he explains that he himself reshaped the text into a dialogue in his translation.[557] The Arabic word *Pātanğal* is therefore used by al-Bīrūnī for three different purposes: in reference to the author of his source text and commentary, to indicate the title of the work, and finally in allusion to a protagonist in the dialogic narrative.

In his transmission of the *Kitāb Sānk* and the *Kitāb Pātanğal* al-Bīrūnī is aware of the tradition which holds Kapila as the founder of classical Sāṃkhya. He however does not credit Īśvarakṛṣṇa with a role in the transmission of the *Kitāb Sānk*. On the other hand, Hiraṇyagarbha is revered in the laudatory introduction to the *Kitāb Pātanğal*. This view can be connected to his portrayal in some commentaries as a figure actively transmitting the philosophy of Yoga.

Further, the Arabic *sānk* is a relatively faithful transliteration of the Sanskrit word *sāṃkhya*, both of which refer to the title of the works. As already mentioned, the term *sāṃkhya* in Indian tradition refers to the namesake school of thought, as in the compound "expressive of Sāṃkhya" (Skt. *sāṃkhyapravacana*), which appears in the chapter-colophons of the *Pātañjalayogaśāstra*. It is impossible to know whether al-Bīrūnī followed suit and

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[556] Ritter 1955: 169.10; 169.15. My alterations from existing translations are indicated in brace. Technical terms or proper names transliterated by al-Bīrūnī from Sanskrit to Arabic are maintained in this dissertation. See the author's note.

[557] On the dialogic form of the *Kitāb Pātanğal,* see infra pp. 156-161.

considered *sānk* as constituting the designation of a philosophical system as well. The Arabic *pātanğal* seems to express both the Sanskrit title *pātañjala* and the proper name *Patañjali*. Finally, al-Bīrūnī interpreted the source of the *Kitāb Pātanğal* as one entity compiled by a single author, one he did not conflate with Vyāsa. It is possible that he was influenced in this by the Indian thinkers he encountered. Thus, the evidence drawn from al-Bīrūnī's writings on the authorship of the *Kitāb Pātanğal* concurs with the aforementioned one-author position when it comes to the authorship of the *Pātañjalayogaśāstra*.

Whereas the Arabic terms *pātanğal* and *sānk* are relatively accurate renderings of the Sanskrit, the word *kitāb* (كتاب), i.e., book, is a generic term. In the case of the *Kitāb Pātanğal*, if its source is indeed the *Pātañjalayogaśāstra,* al-Bīrūnī elided the crucial word *yoga* in his translation of the title. Another possibility arises from the fact that he defines the topic of his translation as dealing with "the emancipation from the burdens" (فى الخلاص من الاثقال), and for instance determines the subject of the *Kitāb Pātanğal* in its laudatory introduction as being "the means of bringing about the perfection of the soul through {emancipation} from these bonds and the attainment of eternal bliss" (الاسباب المؤدّية الى كمال النفس نالخلاص عن هذا الوثاق والوصول الى السعادة الابدية; Pines/Gelblum: 1966: 311).[558] In my opinion, these definitions stand for the term *yoga*, as this word is never explicitly mentioned in the *Kitāb Pātanğal*. The scholar would thus be glossing the topic of his translation instead of transliterating this term. At any rate, the titles provided by al-Bīrūnī offer a clue for the identification of al-Bīrūnī's Sanskrit sources: indeed, these indicate that he drew upon a work whose title may have included the words *pātañjala* and *sāṃkhya*.

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[558] Ritter 1958: 168.11-12. On the laudatory introduction, see section 5.3.

3.4. Relationship between the two philosophical systems

3.4.1. Classical Sāṃkhya and Yoga

Henry Thomas Colebrooke, who provided the "first academic publication on Yoga philosophy based on primary sources" (Maas 2013: 55) already conceived Patañjali's *Yogaśāstra* and Kapila's Sāṃkhya as belonging to the same doctrine, while he conceded they still displayed distinct features.[559] Along similar lines, Erich Frauwallner interprets classical Yoga as "a second direction of the School" of Sāṃkhya (Frauwallner 2008[1973]: I: 224).

The terms *sāṃkhya* and *yoga* as they appear in epic literature - such as the *Bhagavadgītā* of the *Mahābhārata* - refer respectively to "the way of salvation by pure knowledge, the intellectual method", and to a "disciplined, unselfish activity" producing "none of the evil results which action otherwise produces" (Edgerton 1924: 4); both practices lead to salvation. In parallel with the point of view of modern scholarship, then, both philosophies refer to two different methodologies that share a common aim in the *Mahābhārata*.[560]

The terms *nirīśvara-sāṃkhya,* meaning "Sāṃkhya without [a creator] God", and *seśvara-sāṃkhya*, meaning "Sāṃkhya with [a creator] God" have been used in Sanskrit literature since the 8th century CE at the latest to distinguish between two different systems of thought.[561] The common view holds that the adjective *nirīśvara* was used to refer to the classical Sāṃkhya system, while *seśvara* corresponded to classical Yoga. Refusing this hypothesis, Bronkhorst argues that at an early date the expression *nirīśvara-sāṃkhya* actually stood for both, the Sāṃkhya school of thought and the system developed in the *Pātañjalayogaśāstra*.[562]

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[559] Colebrooke 1824: 38, quoted in Maas (2013: 55). Renou/Filliozat 1953: II: 2.
[560] Edgerton 1924: 19.
[561] Torella 2011: 91.
[562] Bronkhorst 1981.

However, in Mādhava's *Sarvadarśanasaṃgraha* (15th century CE), *seśvara-sāṃkhya* certainly refers to the Yoga philosophy established in the *Pātañjalayogaśāstra*, while *nirīśvara-sāṃkhya* is employed to designate the system developed in the *Sāṃkhyakārikā* by Īśvarakṛṣṇa.[563] It is not known whether Mādhava created this specific terminological distinction or if he followed an earlier tradition. Nevertheless, nothing indicates that Indian thinkers explicitly dissociated the two systems by using these terms before him.[564]

Further, the phrasing of the chapter-colophon of the *Pātañjalayogaśāstra* puts the two compounds *sāṃkhya-pravacana* (expressive of Sāṃkhya) and *yoga-śāstra* (the treatise on *yoga*) in apposition, in such a way that *sāṃkhyapravacana* qualifies *yogaśāstra.* This indicates that the compiler of the *Pātañjalayogaśāstra* considered his work as belonging to the teachings of Sāṃkhya, or at least as being related to this philosophical system. [565]

Another example of the interconnection between Sāṃkhya and Yoga is found in the *Nyāyabhūṣaṇa* by Bhāsarvajña (second half of 9th century CE),[566] which quotes *sūtra*-s from the *Pātañjalayogaśāstra* by referring to them as belonging to the "doctrine of the followers of Sāṃkhya" (Skt. *sāṃkhyānāṃ matam*).[567]

As already highlighted, the Sāṃkhya and the Yoga systems have similar metaphysical, ontological, and epistemological views in their classical form, while they offer different means of reaching "emancipation" (Skt. *kaivalya*). Classical Sāṃkhya is concerned with the acquisition of the theoretical knowledge of a specific metaphysics and ontology. The *Pātañjalayogaśāstra*, on the other hand, chiefly describes the psychological and mental

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[563] Ibid.: 316; Hattori 1999: 616.
[564] Frauwallner seems to have been of this opinion (2008[1973]: I: 321-322).
[565] Bronkhorst 1981: 309; 1985: 203; 209; Larson 1999: 727; 731; Maas 2006: xvi; xx-xxi; 2013: 58; Maas/Verdon, forthcoming 2016. The Sanskrit compound *sāṃkhyapravacana* can be interpreted as a *bahuvrīhi*-compound (expressive of Sāṃkhya), which serves as an adjective, or as a *tatpuruṣa*-compound (mandatory Sāṃkhya teaching), as a substantive apposition to the two other compounds *pātañjala yogaśāstra* (Patañjali's treatise on *yoga*). In the second interpretation, the term *pravacana* may refer to a technical term which is used in Jaina and Buddhist texts as a synonym of *śāstra* (treatise). In this dissertation, the former interpretation has been chosen.
[566] Torella 2011: 36.
[567] Yogindrānandaḥ (1968: 442), quoted in Torella (2011: 91).

conditions of the human being, as well as different meditative states, the last of which brings about the same "emancipation" (Skt. *kaivalya*) as in classical Sāṃkhya.[568]

Sāṃkhya, as it is exposed in the *Sāmkhyakārikā* and its commentaries, accepts the existence of God, although it does not make Him responsible for the creation of the world.[569] According to classical Sāṃkhya, "cognition" (Skt. *buddhi*) is divided into eight "states" (Skt. *bhāva*).[570] The first four are "virtue" (Skt. *dharma*), "knowledge" (Skt. *jñāna*), "lack of desire" (Skt. *virāga* or *vairāgya*), and "mastery" (Skt. *aiśvarya*), whereas the last four consist in their opposites.[571] The *Gauḍapādabhāṣya* on *kārikā* 23, when commenting on "virtue", supplements the description of this state with a quotation from the *Pātañjalayogaśāstra*. It reads:

> "Cognition is eightfold, due to the relative involvement of *sattva* and *tamas* in the different forms [of the phenomenal world, of which cognition is one]. Thus, the form of cognition (*buddhi*) pertaining to *sattva* is fourfold: virtue, knowledge, absence of desire, and mastery. [Amongst these states of cognition,] what is called virtue is characterized by compassion, generosity, commitments, and requirements. The [concepts of] commitments and the requirements have been defined in [the work] of Patañjali: 'the commitments are non-violence, truth, abstaining from thievery, chastity, and abstaining from possession (sū II.30); the requirements are purity, contentment, religious austerity, the practice of recitation, and profound meditation on God (sū II.32)'."

> *sā ca buddhir aṣṭāṅgikā, sāttvikatāmasarūpabhedāt. tatra buddheḥ sāttvikaṃ rūpaṃ caturvidhaṃ bhavati – dharmaḥ, jñānaṃ, vairāgyaṃ, aiśvaryaṃ ceti. tatra dharmo nāma dayādānayamaniyamalakṣaṇaḥ. tatra yamā niyamāś ca pātañjale'bhihitāḥ. "āhiṃsāsatyāsteyabrahmacaryāparigrahā yamāḥ" (yo.sū 2.30). "śaucasantoṣatapaḥsvādhyāyeśvarapraṇidhānāni niyamāḥ" (yo.sū 2.32)* (Sharma 1933: 26).

The *Gauḍapādabhāṣya* explains "virtue" as including "commitments" (Skt. *yama*) and "requirements" (Skt. *niyama*) which are to be counted among the "eight ancillaries" (Skt. *aṣṭāṅga*) constituting the yogic path that leads to "emancipation". One of the "requirements" consists in a "profound meditation on God" (Skt. *īśvarapraṇidhāna*).[572] The *Māṭharavṛtti* and the *Jayamaṅgalā* also provide the two quotations from the *Pātañjalayogaśāstra* in the context of this *kārikā*. The *Tattvakaumudī*, on the other hand, only refers to the "yoga with eight ancillaries" (Skt. *aṣṭāṅgayoga*) in its commentary on *kārikā* 23.[573] Thus, some commentaries on the *Sāṃkhyakārikā* recognized practices that are prescribed in the *Pātañjalayogaśāstra*, notably "profound meditation on God".

The *Sāṃkhyasaptativṛtti* and the *Māṭharavṛtti*, glossing upon *kārikā* 19, compare the "passive self" (Skt. *puruṣa*) to a "religious mendicant" (Skt. *bhikṣu*).[574] These commentaries also qualify this person as being "devoted to commitments and requirements" (Skt. *yamaniyamarata*), as well as being a "master of Sāṃkhya and Yoga" (Skt. *sāṃkhyayogācārya*). The authors of these two commentaries thus associated the practice of "commitments" and "requirements" with both systems of thought, instead of only with Yoga.

Some of the teachers who are traditionally involved in the transmission of the Sāṃkhya and Yoga schools of thought actually play a part in the dissemination of both systems. It is not necessary here to examine this question in-depth. Suffice it to say that the two schools acknowledged the same teachers. It has already been mentioned that Kapila was generally considered as the founder of Sāṃkhya, whereas Hiraṇyagarbha was mentioned as a

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[572] The *Pātañjalayogaśāstra* also acknowledges "profound meditation on God" (Skt. *īśvarapraṇidhāna*) as a means to reach emancipation (I.23).

[573] The *Sāṃkhyasaptativṛtti*, the *Sāṃkhyavṛtti*, and the *Yuktidīpikā* also refer to "commitments" and "requirements" when glossing on *kārikā* 23. However, the listed items in these commentaries do not correspond to those enumerated in the *Pātañjalayogaśāstra*, the *Gauḍapādabhāṣya*, the *Māṭharavṛtti*, or the *Jayamaṅgalā* *ad loc*. Indeed, the three commentaries do not include "profound meditation on God" (Skt. *īśvarapraṇidhāna*) in their "requirements". They list instead: abstaining from anger, obedience to one's master(s), purity, moderation with food, abstaining from negligence. As the corresponding excerpt of the *Kitāb Sānk* is not extant, it is not possible to draw conclusions about al-Bīrūnī's possible source on the basis of this Sanskrit passage.

[574] Section 6.3.4 discusses this analogy in contrast to a quotation from the *Kitāb Sānk* in the *Taḥqīq mā li-l-Hind*.

propounder of some Yoga methods.[575] Kapila is however also sometimes identified with Hiraṇyagarbha.[576] Further, Kapila is associated with the incarnation of God in some classical Sāṃkhya commentaries,[577] while, in some classical Yoga commentaries, he is considered as the first knower, the supreme "passive self" (Skt. *puruṣa*), that is the specific "passive self" of God, i.e., Īśvara.[578] These two names are therefore connected to the transmission of both Sāṃkhya and Yoga teachings.[579]

Thus, although the exact relationship between classical Sāṃkhya and Yoga is difficult to establish, evidence suggests that their respective doctrines share essential features, to the extent that the *Pātañjalayogaśāstra* considers itself as belonging to Sāṃkhya, and that both claim the same traditional teachers. These two systems also ground their own development of ideas on a similar theology and metaphysics.

3.4.2. The *Kitāb Sānk* and the *Kitāb Pātanğal*

The previous section shows that it is no coincidence if al-Bīrūnī mentions, and quotes from, two works connected to these specific schools of thought alongside one another. Not does it come as a surprise that he translates two works related to them. Further examination of how he, or his informants, regarded the two works in their formal aspects would complement the discussion. Did they indeed consider the two works as belonging to the same philosophical system? Or did they conceive them as originating in two different philosophical constructs? Elements of answer are already contained in one of al-Bīrūnī's statements, situated in the preface of the *Taḥqīq mā li-l-Hind*. He mentions the two works together, offering a

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[575] See supra pp. 124-126; 129.
[576] In the *Tattvavaiśāradī* upon I.25. Bronkhorst 2013[2007]: 62-63.
[577] In the *Māṭharavṛtti* and the *Yuktidīpikā*. Bronkhorst 1983: 153; 156-157; 1985: 194-195; 2013[2007]: 62-63.
[578] For instance, in the *Tattvavaiśāradī* and the *Vivaraṇa* commenting upon PYŚ I.25.
[579] The cases of Vindhyavāsin and Patañjali, the latter qualified a Sāṃkhya teacher in the *Yuktidīpikā*, also exemplify this common tradition. Vindhyavāsin's ideas are to be drawn out from references to him in different works, as no work by him is extant. Frauwallner expounds some of his views (2008[1973]: I: 315-320). On Patañjali, the Sāṃkhya teacher: Larson/Bhattacharya (1987: 129-130). See also the discussion by Bronkhorst (1985: 206-209).

description for each of them:

> I have translated two books into Arabic, one about the {fundamental elements} and a description of all created beings, called {*Sānk*}, and another about the emancipation of the soul from the fetters of the body, called {*Pātangal*}. These two books contain most of the elements {around which their faith revolves, barring the section on religious laws}. (Sachau 1888b: I: 8)[580]

This passage indicates that al-Bīrūnī regarded the two works as being connected in some way: not only does he mentions them together, he also associates their thematic in his explanation that they both "contain most of the elements {around which their faith revolves, barring the section on religious laws}".

Chapter 7 of the *Taḥqīq*, entitled "On the nature of {emancipation} from the world, and on the path leading thereto" (Sachau 1888b: I: 68; في كيفيّة الخلاص من الدنيا و صفة الطريق المؤدّى إليه) further associates the topic of these two books, as it includes interwoven quotations of both works, combined with references drawn from other passages from the *Kitāb Gītā* and of some *Purāṇa*-s.[581] There is a good chance that al-Bīrūnī's account echoes in this respect the position of his Indian informants. If this is to be accepted, a few observations can be made. His informants, or himself, regarded these two works as fundamental treatises on the subject of religion. This remark supports the previous observations made in chapter 2, i.e., that al-Bīrūnī, when in northern Pakistan, met educated Indians who studied and transmitted to him classical Sāṃkhya alongside Yoga. Moreover, these informants and/or al-Bīrūnī himself, assigned to both the *Kitāb Sānk* and the *Kitāb Pātangal* a common definition, and thus recognized an inherent connection in them.

In the above extract, al-Bīrūnī also provides separate descriptions for each of the two books, differentiating them in this way. On the one hand, the *Kitāb Sānk* is "about the {fundamental elements} and a description of all created beings" (في المبادئ و صفة الموجوداتِ).

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[580] Al-Bīrūnī 1958: 6.1-4.
[581] Al-Bīrūnī 1958: 51.15-67.8; Sachau 1888b: I: 68-88.

The scholar apparently refers to the metaphysics developed in classical Sāṃkhya. His definition indeed fits the emphasis this system puts on the enumeration, description, and explanation of the twenty-five "elements" (Skt. *tattva*) that constitute the world. On the other hand, the *Kitāb Pātanğal* deals with "the emancipation of the soul from the fetters of the body" (في تخليصِ النفسِ من رباطِ البدن). The "emancipation […] from the fetters of the body" seems to refer to the Sanskrit *kaivalya*. In classical Sāṃkhya and Yoga, the "passive self" needs to be liberated, not from the "fetters of the body", but from the false idea that it plays an active part in the phenomenal world. In this particular case, the Arabic "soul" translates the Sanskrit *puruṣa*.

These definitions do not hint that he, or his informants, considered the two systems as consisting in two distinctive methods leading to the same goal. This contrasts from some Epic and Upaniṣadic understandings of the terms *yoga* and *sāṃkhya*. Rather, it appears that both al-Bīrūnī and his informants conceived the two works as describing different aspects of fundamental Indian religious beliefs, namely metaphysical ("fundamental elements") on the one side, and psychological ("The soul […] and its fetter with the body") on the other. The descriptions of the *Kitāb Pātanğal* and the *Kitāb Sānk* provided by al-Bīrūnī therefore fit relatively well with the subject, as it is dealt with in the *Pātañjalayogaśāstra* and in the *Sāṃkhyakārikā* and its commentaries, respectively. However, it is difficult to elucidate whether his informants considered the two books as belonging to one or to two different schools of thought.

3.5. Concluding remarks

In this chapter, the attempt to situate al-Bīrūnī's translations from a philological perspective indicates that his references to the *Kitāb Sānk* and the *Kitāb Pātanğal* have to be connected with a classical form of Sāṃkhya and Yoga rather than with the ideas related to these schools as they are adapted in other Sanskrit literature. I have thus selected works belonging to the systems of Sāṃkhya and Yoga that predate the *Taḥqīq mā li-l-Hind*, i.e., before 1030, so as to analyze specific passages of the two Arabic translations in comparison to Sanskrit literature in the following chapters.

It has also been seen that the information with regard to transmission, authorship, and titles of al-Bīrūnī's translations generally agrees with Sanskrit textual tradition on classical Sāṃkhya and Yoga. The discrepancies between the two which are highlighted in this chapter may simply reflect the confusion of al-Bīrūnī's informants in this respect, and thus leads one to consider the importance of orality in al-Bīrūnī's reception of these Indian philosophies. Similarly, al-Bīrūnī's description of his two translations reveals that he and his informants considered them to share common features; this mirrors to some extent the status of the Yoga-Sāṃkhya philosophies in Indian textual tradition. Examining the question of how he, or his informants, regarded the two works complements the overall discussion on the significance of classical Yoga and Sāṃkhya in northern Pakistan of the 11th century.

Chapter 4: A study of al-Bīrūnī's interpretative choices

4.1. Al-Bīrūnī through the lens of Translation Studies

Al-Bīrūnī's translation of two Sanskrit works on classical Sāṃkhya and Yoga into Arabic constitutes a genuinely challenging undertaking. Indeed, the scholar's efforts were complicated not only by his need to translate from one language to another, but also from one culture and historical context to another. Therefore, al-Bīrūnī faced a number of difficulties in the work he sought to do. First, he had to understand Brahmanical conceptions, which were systematized and documented between 325 and 425 CE for Yoga, and during the 5th century CE for Sāṃkhya. Second, he needed to be able to convey these ideas to a Perso-Muslim audience living at the beginning of the 11th century. The complexity of the philosophical ideas developed by the classical Sāṃkhya and Yoga systems exacerbated al-Bīrūnī's troubles in the translational process. Moreover, the Sanskrit and Arabic languages belong to two distinct linguistic groups. The lack of common roots between the two languages would have rendered the translation of complex concepts even more arduous. In the case of al-Bīrūnī, a Muslim writing into Arabic, it is likely that the Sanskrit language and Indian culture were perceived as eccentric. Thus, al-Bīrūnī had to bridge important temporal, cultural, conceptual, and linguistic gaps when undertaking the transmission of these Sanskrit works into Arabic.

Reflecting on the parallels and discrepancies between a translation and an interpretation, Hans-Georg Gadamer theorized that one discrepancy lies in the degree of difference between the translated or interpreted text and its original source, with the translated

text remaining closer to its source than the interpreted one.[582] Considering this idea fundamental for his discussion on the process of translation, Umberto Eco conceptualized it as the "difference in degree of intensity" (Fr. Différence en *degré d'intensité*; Eco 2011[2010]: 293) between the source-text and the target-text. In other words, a literal translation would differ from its source to a low degree of intensity, while an interpretative work would depart from it to a higher degree.

A high degree of intensity found in the interpretative work can partly be observed by large gaps (temporal, cultural, conceptual, linguistic, etc.,) between the source-text and the target-text. When comparing the *Kitāb Sānk* and the *Kitāb Pātanğal* and the extant works on classical Sāṃkhya and Yoga, it becomes clear that al-Bīrūnī's Arabic versions display discrepancies in a high degree of intensity in relation to their possible original sources. The important and various gaps he faced necessitated an adaptation of his source.

Moreover, al-Bīrūnī's main motive for producing such manipulations was to help his audience understand the translation, as his aim was to promote intellectual exchanges across Indian and Arabic cultures. He expresses this desire several times, in the preface and postface to the *Taḥqīq mā li-l-Hind*.[583] He also specifies his wish to avoid a literal translation that could affect the meaning of his translation in the preface of the *Kitāb Pātanğal*.[584] This desire indicates that his aim was to provide an effective and meaningful translation for his readership.

Several scholars have explored the relationship between al-Bīrūnī's translations and their possible Sanskrit sources, mostly looking for literal concordances between the Arabic and the Sanskrit works with the aim of finding the original source of the two works.[585] Garbe,

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[582] Gadamer 1996[1976]: 406-409.
[583] Al-Bīrūnī 1958: 5; 547; Sachau 1888b: I: 8; II: 246.
[584] See al-Bīrūnī's preface to the *Kitāb Pātanğal* in section 4.2. (Ritter 1956: 167.21-168.5; Pines/Gelblum 1966: 310). The question of the reception of al-Bīrūnī's works amongst his peers is broached in Maas/Verdon (forthcoming 2016: 6-7) as well as in the introduction of this dissertation, pp. 19-21.
[585] Sachau (1888), Garbe (1894; 1896; 1917), Takakusu (1904a), Dasgupta (1979[1930]), Filliozat (1953), Pines/Gelblum (1966 to 1989).

Pines, and Gelblum note that al-Bīrūnī was creative in his translations, yet they still analyze al-Bīrūnī's work as if his translations were more or less literal.[586] This raises the question of whether it was even possible for al-Bīrūnī to provide a word for word translation.

This question was first considered in an article by Maas and Verdon, who foreground and examine al-Bīrūnī's hermeneutics in his transmission of Yoga philosophy to a Muslim audience. In this article, they describe three transformations observed in al-Bīrūnī's preface to the *Kitāb Pātanğal,* and develop their concept of translational strategies.[587] This concept refers to the various interpretative choices that a translator makes in order to transfer a work into a different language, as well as the manner in which the translator negotiates between the source-text and the target-text. Al-Bīrūnī, far from providing a literal translation, interpreted his source and, in so doing, resorted to translational strategies.

The authors utilize a model established by the linguist Vladimir Ivir, which emphasizes the translation process between cultures, rather than between languages. Ivir proposes seven procedures that a translator may deploy: borrowing, definition, literal translation, substitution, lexical creation, omission, and addition.[588] These translational strategies, according to Ivir, are utilized to reduce the cultural gaps and render the translation as effective as possible in its communicative goal. In al-Bīrūnī's case the model enables us to analyze his translations in connection to their Sanskrit sources from a cultural perspective.

It is possible to link passages of the *Kitāb Pātanğal* and of the *Kitāb Sānk* to nearly all of these procedures. Maas and Verdon provide a detailed description of these strategies, with their drawbacks and benefits, as well as specific examples from al-Bīrūnī's *Kitāb Pātanğal.*[589] This model thus provides analytical tools to consider al-Bīrūnī's translations from a different perspective than by direct comparison between the source-texts and the

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[586] Garbe 1896: 41-42; Pines/Gelblum 1966 305; 307.
[587] Maas/Verdon forthcoming 2016: 28-42.
[588] Ivir 1987: 37-45.
[589] Maas/Verdon forthcoming 2016: 34-41.

target-texts.

The preliminary analysis by Maas and Verdon demonstrates that a difference between the *Kitāb Pātanğal* and the *Pātañjalayogaśāstra* does not prove that al-Bīrūnī used another Sanskrit work than the *Pātañjalayogaśāstra* as the main source of his translation. Providing several examples of translational strategies used by al-Bīrūnī, the authors argue that "[u]nderstanding al-Bīrūnī's motives for deviating from his source, as well as determining other reasons for differences between the *Kitāb Pātanğal* and its sources then led to a fuller picture of al-Bīrūnī's literary activity and creativity" (Maas/Verdon forthcoming 2016: 42).

The subsequent sections build upon issues encountered by Maas and Verdon, notably with regard to al-Bīrūnī's statements in his preface to the *Kitāb Pātanğal* and to some translational strategies which are necessary to consider for the current argument. By foregrounding additional examples drawn from the *Kitāb Sānk*, this dissertation takes another step by identifying the underlying explanations for al-Bīrūnī resorting to some important translational strategies. Eco explains that the process of interpretation is determined by the target language, as well as by the worldly knowledge of the translator.[590] Extensively making use of his intellectual background in his interpretative work, al-Bīrūnī exemplifies Eco's statement. The scholar was, for instance, well-versed in Greek literature and science, via Arabic translations. In the *Taḥqīq*, he quotes Ptolemy, Plato, Galen, Proclus, and Aristotle.[591] The importance of al-Bīrūnī's encyclopedic knowledge in his interpretation of Sāṃkhya-Yoga concepts is elucidated in the following chapters.

Understanding al-Bīrūnī's worldly knowledge, if combined with the identification of some of his translational strategies, enables us to better distinguish when discrepancies between al-Bīrūnī's translations and the possible originals are due to any of the following: his pedagogical intentions, his own logic, his intellectual and religious training, creating new

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[590] Eco 2011[2010]: 38.
[591] Sachau 1888b: xli-xlii.

explanations of abstract concepts, or the influence of Indian sources, oral or written. For instance, in his treatment of different theological and philosophical themes, he uses his knowledge of Islamic religion and philosophy (*falsafa*) in order to transfer Sāṃkhya-Yoga concepts into Arabic. Determining the underlying causes for al-Bīrūnī's adaptations of the originals provides a key to further study the relationship between the translations and their original sources, as well as to define to the extent possible a pattern of his hermeneutics in both the *Kitāb Sānk* and the *Kitāb Pātanğal*. Chapters 5 and 6, which discuss the question of the originals of the *Kitāb Pātanğal* and the *Kitāb Sānk* respectively, illustrate the necessity of such an approach. The perspective I propose to adopt in order to examine the relationship between al-Bīrūnī's sources and his translations leads to a more refined analysis.

4.2. Three explicit transformations

This section analyzes the three aforementioned modifications that al-Bīrūnī made when preparing his translation of the *Pātañjalayogaśāstra,* which the scholar delineates in the preface to the *Kitāb Pātanğal*:

> Their books [i.e., of the Indians] are composed according to metres, and the texts are provided with commentaries in such a way that a complete and accurate translation is difficult, because the commentators are concerned with grammar and etymology and other (matters) which are of use only to a (person) who is versed in their literary languages[592] as distinct from the vernacular. For this reason I was obliged to amalgamate in (my) translation the text with that over-lengthy commentary, to arrange the work in a way which resembles (a dialogue consisting of) questions and answers, and to omit (the parts which) are concerned with grammar and language. This is an apology which I offer because of the difference in size of the book in the two languages, if such a comparison is made. (I do this) in order that no one should think that this (difference) is due to remissness in (the

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[592] The use of plural in this portion of text suggests that al-Bīrūnī knew several Indian "literary languages", although the "literary language" which he was familiar with was in all likelihood Sanskrit.

rendering of) the meaning. Indeed he should be assured that it is due to a condensation of what (otherwise) would be troublesome (in its) prolixness. May God bestow His favour upon the good.

This is the beginning of the book of Patañjali, text interwoven with commentary. (Pines/Gelblum 1966: 310)[593]

According to this passage, there are three types of transformations that al-Bīrūnī consciously did: combine a text (نصّ) and a commentary (شرح ; تفسير), recast these two layers of text into a dialogue, and omit elaborate literary and etymological formulas. His declaration of these three transformations indicates the importance of al-Bīrūnī's input in this process of translating Sanskrit works into Arabic. As for the *Kitāb Sānk*, al-Bīrūnī provides no information regarding adaptations he may have made to its Sanskrit source is provided. In fact, the *Taḥqīq mā li-l-Hind* only provides nine references and no introductory comment by the scholar on his interpretative choices. However, considering some extracts of the *Kitāb Sānk*, it is possible to outline adaptations to his source of classical Sāṃkhya work, in the same way as he did for the source of the *Kitāb Pātanğal*, as is further elaborated upon below and in chapter 6.

The preface of the *Kitāb Pātanğal* became accessible to academia when Ritter edited the text in 1956. Al-Bīrūnī's personal remarks with regard to his work were thus unavailable to Sachau, Garbe, Dasgupta, and Filliozat. Pines and Gelblum did notice the combination of the two layers of text and the dialogue form, suggesting that al-Bīrūnī may have "systematized this form [i.e., the dialogue] into a series of questions and answers" (Pines/Gelblum 1966: 303) and that this specific form found in the Arabic translation could reflect that of the Sanskrit source.[594] They also state that the combination and the dialogue may be "an adaptation based on an Arabic usage" (Pines/Gelblum 1966: 303). However, they do not thoroughly interpret these transformations and do not favor any of the hypotheses

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[593] Ritter 1956: 167.21-168.5.
[594] Pines/Gelblum 1966: 303; 1989: 265.

made. Maas and Verdon describe these three transformations and conclude that, not only the dialogue, but also the combination of the two layers of text, constitute features already existing in the main source of the *Kitāb Pātanğal*, namely the *Pātañjalayogaśāstra*, and that al-Bīrūnī enhanced and systematized these pre-existing characteristics.[595]

4.3. Formal transformations

4.3.1. Pedagogical intentions

Amongst the three transformations that al-Bīrūnī explicitly highlights, two chiefly affect the form of his source: the combination of two layers of text and the dialogue. With regard to the first, in the *Pātañjalayogaśāstra* itself, the distinction between the aphorisms (Skt. *sūtra*) and the commentary (Skt. *bhāṣya*) is not always clearly made, as PYŚ 1.5 shows.[596] Moreover, chapter 3 of this dissertation recalls that several Indian thinkers, as well as Sanskrit sources, regarded the *Pātañjalayogaśāstra* as constituting a single entity, although made up of two layers of text. As noted in chapter 3, the form of the *Kitāb Pātanğal*, in which the distinction between the two layers of text completely vanishes, only reflects the conception that the Indian thinkers al-Bīrūnī met had about the *Pātañjalayogaśāstra*, that is a whole constituted by two layers of text.

In the case of the *Kitāb Sānk*, similar observations are made. First, several passages indicate that al-Bīrūnī made use of a commentary. The name Kapila is only found in the commentaries on the *Sāṃkhyakārikā*. However, al-Bīrūnī is aware of the tradition holding Kapila as the founder of classical Sāṃkhya.[597] More striking is the passage dealing with different opinions with regard to action and agent. These differences in opinion, which occur

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[595] Maas/Verdon forthcoming 2016: section 3, pp. 31 and 33.

[596] The *sūtra*-part is in italic: these, however, which have to be stopped although they are numerous, are the *activities* of the mind, *which are fivefold and either afflicted or non-afflicted*: *tāḥ punar niroddhavyā bahutve 'pi cittasya* (PYŚ I.5) *vṛttayaḥ pañcatayyaḥ kliṣṭākliṣṭāḥ* (sū I.5). Translation by Maas (2013: 62-65). See also Maas/Verdon (forthcoming 2016: 30-31).

[597] Section 3.2.2.

in terms of world creation in the Sanskrit works, are only enumerated in several commentaries of the *Sāṃkhyakārikā*, but not in the *kārikā* itself. Several of the passages of the *Kitāb Sānk* in the *Taḥqīq mā li-l-Hind* in al-Bīrūnī's rendering of analogies are used by classical Sāṃkhya in order to illustrate some abstract concepts of its philosophy. Some of these analogies are only found in commentaries on the *Sāṃkhyakārikā*, while others are only referred to in the *kārikā*-s and contextualized in the commentaries. The way in which al-Bīrūnī was able to explain these analogies clearly indicates that the source of the *Kitāb Sānk* was made up of both a text and a commentary.[598] However, no excerpt of the *Kitāb Sānk* presents two distinct layers of text, which could reveal the aphorisms, in this case the *kārikā*-s, and the commentary of al-Bīrūnī's Sanskrit source.

A parallel can be made with al-Bīrūnī's transmission of the *Brāhmasphuṭasiddhānta* and its now-lost commentary by Balabhadra. David Pingree observes that in the numerous quotations of these works in the *Taḥqīq mā li-l-Hind*, the distinction between the aphorisms (Skt. *mūla*) and the commentary (Skt. *ṭīkā*) is not clearly marked. Pingree concludes that 1) al-Bīrūnī could not consult the manuscript of the original astronomical work, 2) he had insufficient knowledge of Sanskrit, or 3) the Indian thinkers he encountered influenced him in the combination of the aphorisms and the commentary.[599]

The second hypothesis should be reevaluated, as al-Bīrūnī in fact showed some skills in Sanskrit. His translation of the *Pātañjalayogaśāstra* remains a relatively faithful one, in spite of his different transformations. As discussed in sections 2.1 to 2.2, al-Bīrūnī had attained a significant level of Sanskrit by the time he compiled the *Taḥqīq mā li-l-Hind*. His relatively good skills in Sanskrit do not preclude the possibility that Indian thinkers well-versed in the language helped him. Their help was likely even necessary, given the complexity of language used in the variety of works – astronomical, philosophical,

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[598] Section 6.3.
[599] Pingree 1983: 356; 356, note 29; 360. See also Pingree (1969).

mythological, etc. – he consulted. The two other hypotheses of Pingree, i.e., the inaccessibility of the original astronomical work and the influence of Indian thinkers, may be correct. In light of the observations regarding al-Bīrūnī's combination of two layers of text of the Sanskrit sources of the *Kitāb Pātanğal* and the *Kitāb Sānk*, it is possible that, similarly, the scholar only enhanced existing features of the original Sanskrit astronomical work, and/or adopted the conceptions of the Indian thinkers he met regarding this work. The *Brāhmasphuṭasiddhānta* by Brahmagupta was commented by a distinct person, Balabhadra, and appertains to a different scientific field than the *Kitāb Pātanğal* and the *Kitāb Sānk*. Therefore, definitive conclusion may be difficult to reach. Nonetheless, in the case of the two philosophical works, the combination of two layers of text appears to have been a common procedure for al-Bīrūnī.

The second modification expressed by al-Bīrūnī is the systematic organization of the discourse in the form of questions and answers. The first protagonist of the narrative is an "ascetic" (الزاهد), who "asks" (السايل) the questions, while the second is the "answering one" (المجيب). The person answering the questions is Pātanğal himself, as is shown in the first of the questions of the *Kitāb Pātanğal*.[600]

However, Pines and Gelblum highlight an apparent contradiction in al-Bīrūnī's statements in the dialogue form. The last sentence of al-Bīrūnī's translation states that the book, that is, the Sanskrit source, originally consisted of "one thousand and a hundred questions in the form of verse" (Pines/Gelblum 1966: 303; و هو كله الف و مائة سؤال من الشعر).[601] In their view, this statement contradicts al-Bīrūnī's initial comment in the preface to the *Kitāb Pātanğal* on him having reshaping his source into a dialogue.[602] They also note that the Arabic term meaning "questions" (سؤال) perhaps stands for a mistranscription of the original reading *šlūka* (شلوك), which would be a transliteration of the Sanskrit *śloka*, meaning

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[600] See p. 138.
[601] Ritter 1956: 199.1-2.
[602] Pines/Gelblum 1989: 271.

stanza.[603] Despite the resemblance between the two Arabic spellings, this hypothesis appears doubtful. Al-Bīrūnī indeed very occasionally transliterates Sanskrit words in the *Kitāb Pātanğal*. Moreover, this interpretation does not solve the apparent contradiction. There are two possible explanations for the use of the word "questions" in this last sentence. It may correspond, as Maas suggests, to the number of unities called *śloka*, or *grantha*, which are annotated on some Sanskrit manuscripts in order to evaluate the price of the copy.[604] It may however simply signify "topics" that are dealt with in the original work.

Further, several scholars highlight the fact that some questions of the Arabic translation reflect introductory questions to the *sūtra*-part of the *Pātañjalayogaśāstra*. Maas, for instance, notices that Q 12 of the *Kitāb Pātanğal* is an almost literal translation of the introductory question of PYŚ I.24. Maas and Verdon analyze in detail Qs 2 and 3, which correspond to PYŚ I.3, and observe that Q 2 can be paralleled to the introductory question of *sūtra* I.3. Q 3 is a new question created by al-Bīrūnī, whereas its answer is a quasi-literal translation of *sūtra* I.3. [605]

Thanks to the edition of the complete text of the *Kitāb Pātanğal*, it is possible to correspond the questions/answers in the *Kitāb Pātanğal* to the *sūtra*- and *bhāṣya*-segments in the *Pātañjalayogaśāstra*. This structural comparison reveals that in some cases the topics of several *sūtra/bhāṣya*-s are included in one group of questions/answers, and in other cases, the topics of one *sūtra/bhāṣya* are distributed across several groups of questions/answers, as is the case with Qs 2 and 3, which correspond to PYŚ I.3. [606] Al-Bīrūnī's manipulation of his source makes it difficult to find exact correspondence between questions/answers of the *Kitāb Pātanğal* and *sūtra/bhāṣya*-s of the *Pātañjalayogaśāstra*. However, it is possible to provide an outline of these correspondences, as the following table displays:

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[603] Pines/Gelblum 1989: 304, note 155.
[604] Maas 2013: 59.
[605] Pines/Gelblum 1966: 314, note 104; Maas/Verdon forthcoming 2016: 31-33. For other such correspondences, see table 10.
[606] See for instance Q 46 that corresponds to PYŚ III.21-35. Chapter 5, table 9.

1st Ch., Q.1-23		2nd Ch., Q.24-41		3rd Ch., Q.41-56		4rth Ch., Q.57-78	
Q	PYŚ	Q	PYŚ	Q	PYŚ	Q	PYŚ
1	~ I.1-2[607]	24-25	II.1-2	41	III.1-8	57	IV.1
2	I.3	26	II.3-4	42	~ III.9; III.11	58	~ IV.2
3	I.3	27	II.5-10	43	III. 16	59	~ IV.3
4	I.3-4	28	II.11-12	44	III. 13-15	60	IV.4-5
5	I.5-11	29	II.13	45	III.17-20	61	IV.6
6	I.12-16	30	II.14	46	III.21-32; 34-35	62	~ IV.7-8
7	I.17-18	31	II.15	47	~ III.36-38	63-64	~ IV.9-10
8-10	I.19-22	32	II.16	48	~ III.39-42	65	IV.10-11
11	I.23	33	II.17, II.24	49	~ III. 43-48	66	IV.12-13
12-18	~ I.24-29	34	II.18(19)	50	~ III.49-50	67	IV.14
19	I.30	35	II.18	51-52	~ III.51	68	~ IV.15-16
20	~ I.31	36-38	~ II.20-26	53	~ III.52	69	IV.19
21	I.32	39	II.27	54	~ III.53	70	~ IV.19-24
22	I.33-34	40	II.28	55	III.54	71	~ IV.25
23	~ I.40-51	41	II.29-55	56	III.55	72	IV.25-26
						73	IV.27
						74	IV.29-30
						75	IV.31-32
						76	IV.33
						77	IV.33
						78	IV.34

Table 7: Correspondences between questions/answers of the Kitāb Pātanǧal *and the* Pātañjalayogaśāstra, *inspired by Pines and Gelblum's annotations.*

Pines and Gelblum found that some *sūtra*-s are not represented in al-Bīrūnī's Arabic translation of the Yoga work.[608] However, given the high degree of formal and substantial modifications made by al-Bīrūnī, the apparent absence of topics addressed in a particular *sūtra* in the *Kitāb Pātanǧal* does not entail its actual absence from the original Sanskrit source.

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[607] I mark the correspondences which are the least obvious, or dubious, with the symbol ~.

[608] According to Pines/Gelblum, the missing *sūtra*-s are: I.35-39, I.46-47, and I.50-51; II32, II.41, II.50-51; III.8-9, III.12-13, III.15, III.33; IV.17, IV.20-22 (1966: 323, note 217; 325, note 241; 1977: 522; 1983: 258; 1989: 265).

As for the *Kitāb Sānk*, three passages take the form of a dialogue, involving an ascetic (الناسك) and a sage (حكيم), whose names are not given (I, XVII, and XX).[609] Their corresponding Sanskrit passages, respectively *kārikā*-s 61, 67, 53 and commentary, are not provided in the form of a dialogue. Thus, in the same way as for the *Kitāb Pātanǧal*, al-Bīrūnī reshaped some passages of the Sanskrit source of the *Kitāb Sānk* in a dialogue. It is, however, not possible on the basis of the mere extracts of the *Kitāb Sānk* in the *Taḥqīq mā li-l-Hind* to determine whether al-Bīrūnī's translation is systematically characterized by this form or not.

The dialogical form is also a common characteristic of Sanskrit scholastic works, in which they present opposing opinions, the *siddhāntapakṣa* (representative of the school of the text) and the *pūrvapakṣa* (opponent to the school of the text), from a polemical perspective. This form of debate is meant to eventually refute all opposition to the opinion of the author of the text, or to the followers of the school of thought formulated in the text. It may be argued that the form of the *Kitāb Pātanǧal* and the *Kitāb Sānk* reflects such polemical dialogue. However, the dialogue in these two works does not constitute a polemical one, which expounds arguments of two opponents. Al-Bīrūnī organizes his translations in a didactic, or epistemic, dialogue, in which the questioner yearns to learn about the concepts exposed by the answerer.

Dialogue constitutes a common literary *genre*. For instance, the *Dharma Pātañjala*, an Old Javanese work related to Yoga, was composed in a similarly didactic fashion as the *Kitāb Pātanǧal* and the *Kitāb Sānk*. In the Old Javanese version, however, the two protagonists are Kumāra and the Lord (Śiva), and there are 39 questions as against the 78 questions of the *Kitāb Pātanǧal*.[610]

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[609] See table 11 and appendix 1.
[610] Acri 2011: 193-339; 2012: 260.

In Greek philosophy as well, the dialogue was known as a literary *genre*. Plato, whose writings were well-known amongst al-Bīrūnī's Arab readership, extensively uses the dialogue in his different works.[611] In Plato, the questions are asked by the teacher, Socrates, who makes use of his specific dialogic technique, known as maieutic, in order to stimulate his interlocutors. Dialogues in Arabic literature occur in different types of literature, the *Quran*, the *Hadith*-s, the *adab*-literature, and poetry.[612] Medical treatises, in particular, made use of the dialogue *genre* in a didactic way.[613] This redactional technique was thus common amongst al-Bīrūnī's peers. Further, the first person involved in the narrative of the *Kitāb Pātanǧal* is an ascetic "roaming in the deserts and jungles" (الزاهد السايح فى الصحارى والغياض).[614] This type of character is commonly found in medieval Arabic literature dealing with the quest to reach high spirituality. Roaming in deserts came to symbolize the austerity that accompanies the spiritual journey for saints and mystics.[615] Thus, by creating a systematic dialogue and including this type of figure into his narrative, al-Bīrūnī adjusted his source text to his readership. This approach may also have provided a means to give his translations a sense of authority by paralleling them with a literary *genre* acknowledged as valid by his readership.

At least three of al-Bīrūnī's works have been written in the form of a dialogue: *Answers to the questions of the Indian astronomers*; *Answers to the ten Kashmiri questions*;[616] and the epistolary exchange with Ibn Sīnā is also presented in the form of question and answer (*Questions asked to Ibn Sīnā*; مسائل سأل عنها إبنَ سينا).[617]

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[611] For an analysis of Platonic dialogues and their pedagogical impact, see Cotton (2014).

[612] Forster unpublished: 1. On the questions of genre in the dialogue-literature, see Forster (unpublished: 9).

[613] Daiber, EI (2nd), s.v. Masā'il Wa-Adjwiba, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/masail-wa-adjwiba-SIM_4993 [last accessed in November 2014]; Touati 2000: 21.

[614] Ritter proposed an alternative reading of the word "jungle" (الغياض) that is "desert" (الفيافى) (1956: 169.10, note 4; Pines/Gelblum 1966: 313, note 92).

[615] Touati 2000: 187-192.

[616] Boilot 1955: 199; 200, nos 71-72; see supra p. 58.

[617] Ibid.: 227, no 147; Nasr/Mohaghegh 2005. See also number 28 in Boilot (1955: 186). The exchange between the two scholars was a polemical one.

An additional significant advantage of the dialogue form over aphorisms and commentary is that it easily arouses the interest in the reader,[618] and thus constitutes an effective pedagogical means to transmit knowledge. The reader can indeed step into the questioner's shoes. Al-Bīrūnī appears not only to have taken inspiration from the Sanskrit source he consulted, but also from existing Greek and Arabic literature. His choice for this form was led by his objective to promulgate the transmission of the Indian work, and thus was not an arbitrary decision.

4.3.2. <u>Reorganizing the content according to his own logic</u>

In addition to the modifications indicated by al-Bīrūnī in the preface to the *Kitāb Pātanǧal*, one may assume that the scholar transformed his source text in other ways without blatantly stating it. With such considerations in mind, the analysis of his Arabic translations in connection with their possible Sanskrit sources becomes less puzzling. Many discrepancies between the translated works and their possible Sanskrit sources, which caused much difficulty to earlier modern scholars, can now be explained by way of al-Bīrūnī's hermeneutics.

Indeed, a third formal transformation, which occurs relatively often but was never specified by him, is the rearrangement in the description of certain concepts. For instance, Q 5 of the *Kitāb Pātanǧal* lists and describes the five different kinds of "faculties of the soul" (قوة) that correspond to the five "mental activities" (Skt. *cittavṛtti*) of the *Pātañjalayogaśāstra* enumerated in PYŚ I.5 to I.11: 1) "grasping", "understanding" (ادراك), the Arabic translation of "valid knowledge" (Skt. *pramāṇa*); (2) "imagination" (تخيّل)[619] that can be likened to the Sanskrit "error" (Skt. *viparyaya*); 3) "[false] assumption" (ظن) corresponding to "conceptual thinking" (Skt. *vikalpa*); 4) "dream" (رؤيا) that parallels the Sanskrit "deep sleep" (Skt. *nidrā*);

[618] Forster unpublished: 4-5.
[619] Imagination has to be understood here as the faculty of creating images.

and 5) "memory" (ذكر), the rendering of "memory" in Sanskrit (Skt. *smṛti*).[620] Here, al-Bīrūnī gathers several *sūtra/bhāṣya*-parts in one group of questions/answers, giving a slightly different structure to the description of these items. The *Pātañjalayogaśāstra* first enumerates every mental "activity" (Skt. *vṛtti*) in *sūtra* I.6, and then dedicates five *sūtra*-s to explain each of the five "activities" separately from PYŚ I.7 to I.11. The *Kitāb Pātanğal*, however, does not provide the initial enumeration.

In Q 41, al-Bīrūnī rearranges the order in which the eight "qualities" (خصلة), or "ancillaries" (Skt. *aṅga*), are discussed in PYŚ II.29-55 and III.1-8. He defines these concepts immediately after naming them, whereas in the *Pātañjalayogaśāstra*, each "ancillary" is listed in II.29, and subsequently discussed in the next *sūtra*- and *bhāṣya*-parts.[621] Thus, Q 5 and Q 41 have been subject to the same systematic reorganization by al-Bīrūnī.

In the *Kitāb Sānk*, observations of a similar rearrangement do not emerge from the analysis of various excerpts found in the *Taḥqīq mā li-l-Hind*, but one cannot rule out this possibility, as a large part of it is unavailable to us. However, in one of its extracts, al-Bīrūnī appears to have reorganized the Sanskrit content. The passage entitled "births depending upon virtues and vices", corresponding to *kārikā* 39, describes two conditions of future life resulting from one's actions. The consequence of living a virtuous life leads to the divine sphere, whereas a present existence characterized by "lack of virtue" leads to a future reincarnation in the animal or vegetable kingdom. The *Suvarṇasaptati*, the *Gauḍapādabhāṣya*, the *Sāṃkhyasaptativṛtti*, and the *Māṭharavṛtti* have an analogous passage on kā 39, in which these commentaries explain that the "subtle body" (Skt. *sūkṣmaśarīra*) is

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[620] Maas 2006: 10-21; Woods 1914: 17-32; Ritter 1956: 171.1-13; Pines/Gelblum 1966: 315-6. This passage also constitutes an example of the integration of the *sūtra*- and the *bhāṣya*-parts of the *Pātañjalayogaśāstra* in al-Bīrūnī's translation. Maas/Verdon forthcoming 2016: 30. In the *Kitāb Pātanğal*, the Arabic "imagination" (تخيّل) stands for the Sanskrit "error" (Skt. *viparyaya*), while "[false] assumption" (ظن) for "conceptual thinking" (Skt. *vikalpa*). In these two cases, al-Bīrūnī's translation is relatively remote from the Sanskrit original. However, the meaning of these different terms suggest that al-Bīrūnī inverted the order in which these two elements were originally listed in the manuscript he consulted.

[621] On the ancillaries, see also pp. 196-199. A similar reorganization can be noticed with al-Bīrūnī's treatment of the second "quality" of "holiness, outward and inward" (القدس ظاهرا و باطنا), corresponding to the Sanskrit the "ancillary" of "requirement" (Skt. *niyama*).

reborn into an animal or plant, or into a divine being, depending upon one's behaviour. In al-Bīrūnī's translation of this passage, the transferred idea is the same, as the scholar describes the two conditions of future existences. However, he inverted the order in which these two conditions of existence are originally described in the Sanskrit commentaries,[622] which first expound the consequences of a life lacking of virtue, and second explain the results of a virtuous life. The opposite order was chosen by al-Bīrūnī.

These minor changes from the original Sanskrit sources affect their form, but in ways that were not expressed by the scholar. This formal reorganization likely constituted, in his view, a more coherent way to express the thematics developed by the classical Yoga and Sāṃkhya systems.

4.4. Substantial transformations

4.4.1. Omission of technical notions and redundancies

In addition to formal transformation, al-Bīrūnī also modified his Sanskrit sources in substance. These substantial modifications can be linked to four translational strategies, which al-Bīrūnī uses the most in his translations. They are omission, substitution, addition, and definition.[623] The third modification expressed by al-Bīrūnī in his preface to the *Kitāb Pātanğal* involves omitting some parts of the content of his source. He decided to simplify the narrative by "removing (the parts which) are concerned with grammar and language" (يتعلق اسقاط ما والنحو واللغة) that are, as he believes, of no use for those who are not versed in Indian literary languages. This omission may indicate that the original Sanskrit source contained grammatical and literary explanations. There are many examples of grammatical

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[622] See p. 236.
[623] Borrowing was not a translational strategy al-Bīrūnī used frequently in this translations, as against the extensive use he make of it in the *Taḥqīq mā li-l-Hind*. In the *Kitāb Pātanğal*, he appears to have transliterated only some proper names (Maas/Verdon forthcoming 2016: 24-25; 36-37). He also transliterates the Sanskrit compound *mahāvidehā* into the Arabic script (مَهابِدَة: *mahābidaha*; PYŚ III.43 – Q 49).

explanations, for instance, in the *Pātañjalayogaśāstravivaraṇa*. On PYŚ I.13, this commentary defines the causal function of the Sanskrit term *tatra*, frequently meaning "there" in the locative sense, but which has a causal sense in this case. It states that "it is the seventh [locative case expressive of] the cause" (Skt. *sā ca nimittasaptamī*),[624] so as to properly interpret the *sūtra*-part of the *Pātañjalayogaśāstra*. On *sūtra* I.15, the *Vivaraṇa* informs the reader as to the way in which a Sanskrit compound has to be understood. It specifies that "the word *viṣaya* is connected to each [of the words in the compound]" (Skt. *viṣayaśabdaḥ pratyekam abhisambadhyate*).[625]

Maas and Verdon notice that the *Pātañjalayogaśāstra* also sporadically provides literary explanations. They give several examples found in PYŚ I.1. The *bhāṣya* explains the function of the adverb "now" (Skt. *atha*), the meaning of the compound "authoritative exposition" (Skt. *anuśāsana*), and the etymology of the term *yoga,* elements that are all absent from the *Kitāb Pātanğal*. These authors also observe that the *Pātañjalayogaśāstra* does not contain many linguistic explanations and that their omission would not account for an important difference of size between the *Kitāb Pātanğal* and, its probable source, the *Pātañjalayogaśāstra*, in spite of al-Bīrūnī's statement in his preface. They come to the conclusion that the omission of a passage of the *Pātañjalayogaśāstra* in the *Kitāb Pātanğal* is owed to al-Bīrūnī's interpretative choice, rather than him having consulted a different Sanskrit source. [626]

They further observe that al-Bīrūnī omits other elements beyond pure linguistic explanations. For instance, PYŚ I.2 describes the type of "absorption" (Skt. *samādhi*) "centered around an object" (Skt. *samprajñāta*) as a characteristic of all mental states. [627] Al-Bīrūnī does not provide such a definition in the corresponding passage of the *Kitāb Pātanğal*,

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[624] Harimoto 1999: 215.
[625] Ibid.: 217.
[626] Maas/Verdon forthcoming 2016: 33-34.
[627] Maas 2009: 267-268.

namely Q 1. Neither does he broach the topic of "absorption" in this particular passage. Maas and Verdon suggest that al-Bīrūnī remains silent on this psychological definition because he regards it as being "of no interest to his readership" (Maas/Verdon forthcoming 2016: 34).

Furthermore, al-Bīrūnī actually frequently omits Sāṃkhya-Yoga – or Indian – technical notions, as well as what he appeared to have regarded as redundancy. In the above example, the Sanskrit passage on I.1 enumerates five mental states – scattered, confused, distracted, one-pointed, and ceased[628] (Skt. *kṣiptaṃ, mūḍhaṃ, vikṣiptaṃ, ekāgraṃ, niruddham iti cittabhūmayaḥ*) – which were not addressed by al-Bīrūnī at all. In my view, the scholar considered this specific categorization as too technical to transfer it in the *Kitāb Pātanğal*.

Q 1-2 of the *Kitāb Pātanğal,* in fact, consists of a rough summary of *Pātañjalayogaśāstra* I.1-2. Al-Bīrūnī does not translate the technical terms of "absorption". Nor does he mention the four subdivisions of "absorption centered around an object" (Skt. *saṃprajñāta samādhi*), i.e., "thinking" (Skt. *vitarka*), "evaluation" (Skt. *vicāra*), "joy" (Skt. *ānanda*), and "individuality" (Skt. *asmitā*), here, whereas they are referred to in PYŚ I.1. He does not mention "absorption" in Q 5, while one of its corresponding Sanskrit passage briefly tackles the topic. Q 7, i.e., the interpretation of PYŚ I.17-18, constitutes the only passage in which al-Bīrūnī appears to translate the Sanskrit "absorption" (Skt. *samādhi*). He interprets this Yoga concept with the Arabic term meaning "conception" (التصوّر).[629] He merely provides a very concise definition of the two types of "absorptions" rather than translating the *bhāṣya*-parts of this passage, which describe them in detail. He also leaves out the four aforementioned subdivisions.[630] The scholar may have deemed it sufficient to discuss these notions in a simplified manner solely in Q 7, rather than in other passages of his translation, so as to avoid redundancy, as well as complex and obscure discussions on these meditative

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[628] The last enumerated mental state refers to the cessation of the mental activities (Skt. *cittavṛttinirodha*).
[629] Ritter 1956: 172.11-13; Pines/Gelblum 1966: 318.
[630] See the discussion on and the translation of PYS I.17-18 in Maas (2009: 271-274). Buddhist terminology is particularly helpful in order to interpret these different categories of meditative states (Maas 2009: 271-272, note 27).

states.

However, he suggests that there are two types of "conceptions", describing them in a similar way as the *Pātañjalayogaśāstra* defines the two types of "absorptions" (Skt. *samādhi*), "centered around an object" (Skt. *saṃprajñāta*) and "not centered around an object" (Skt. *asaṃprajñāta*). The adjective attributed to the first type of "absorption" in PYŚ I.17 is "with support" (Skt. *sālambana*), while the second type of "absorption" is described as being "without seed" (Skt. *nirbīja*) in PYŚ I.18. PYŚ I.2 describes the second type, in the following words: "[the absorption] not centered around an object: this is absorption without seed. In this [state], nothing is thought on." (*sa nirbījaḥ samādhiḥ. na tatra kiṃcit saṃprajñāyate, ity asaṃprajñātaḥ* […]). In Q 7, al-Bīrūnī conveys the general distinction between these two types of absorption, explaining that there is "the conception of the perceptible with matter" (تصوّر المحسوس ذى المادة), and a second, which is "the conception of the intelligible free from matter" (تصوّر المعقول المجرد عن المادة).

Al-Bīrūnī here does not provide a literal translation of his Sanskrit source. His interpretation appears to be an attempt to transfer the message by using technical terms known to his readership. For instance, the Arabic "conception", also meaning "imagination" or "idea", was conveyed in a philosophical sense used, for instance, by Ibn Sīnā in order to appreciate the "concept" of the "soul" (النفس).[631] The terms "perceptible" and "intelligible" are philosophical concepts considered as well. For instance, Aristotle, whose theories were largely adopted, developed, and adapted by Islamic philosophy, defined two types of matter, the "perceptible" – sensible – and "intelligible".[632] Thus, al-Bīrūnī draws on his pre-existing resources to convey the concept of the two "absorptions".

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[631] Goichon 1933: 63; Finianos 1975: 12; 210.
[632] In *Metaphysics*, book Z (VII), part 11. Aristote 2008: 263.

Despite these discrepancies, al-Bīrūnī distinguishes these two types of "conceptions", in the same way the two types of "absorption", or "meditative states", are discerned in his Sanskrit source. In both cases, the difference lies in the object of the "conception" or "absorption". However, the Yoga concept of "absorption" is not a mental representation of an object, as the Arabic "conception" suggests, but a mental state. Another inaccuracy in al-Bīrūnī's translation lies in the fact that the *Pātañjalayogaśāstra* considers the second type of "absorption" as independent from objects, whereas the scholar conveys the idea that both "conceptions" are focused on an object, of which only the type changes, i.e., "perceptible" or "intelligible".

Interpreting these two types of "absorptions" as they are described in the *Pātañjalayogaśāstra* has been the subject of a number of discussions in contemporary scholarship.[633] Al-Bīrūnī's simple rendering of these puzzling concepts into Arabic is a result of his desire to avoid a complex explanation, and also reflects his own idiosyncratic understanding of these ideas.

Al-Bīrūnī adopts a similar attitude with regard to another meditative state described in the *Pātañjalayogaśāstra*, i.e., the "contemplative state" (Skt. *samāpatti*) (Q 23 – PYŚ I.42-46), in that he extensively summarizes and rephrases the content of his Sanskrit source in his interpretation. In this passage, the *Pātañjalayogaśāstra* describes the "contemplative state" (Skt. *samāpatti*), as well as its subdivisions, i.e., "with thinking" (Skt. *savitarka*), "without thinking" (Skt. *nirvitarka*), "with evaluation" (Skt. *savicāra*), and "without evaluation" (Skt. *nirvicāra*).

The topic of this passage is similar in the Arabic and Sanskrit versions, as they both deal with different types of mental apprehensions of objects. However, al-Bīrūnī does not use a specific technical terminology that could be linked with the Sanskrit terms. He rather describes four different stages corresponding to the aforementioned subdivisions that can

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[633] On these two types of "absorption" see for instance Bronkhorst 2000[1993] 46-49; Maas 2009: 271-280.

gradually be reached by a person, in all likelihood an ascetic.[634]

Thus, when dealing with the meditative states of classical Yoga, al-Bīrūnī decided to omit some technical notions, paraphrase the content of this source, and use a terminology known to him and his readership, thus transforming the meaning of his source. It is worth noting that the *Pātañjalayogaśāstra* elaborates complex theories about different meditative states, describing their characteristics and their interrelations, which al-Bīrūnī was not acquainted with, and thus was challenged when he had to interpret them.

When facing technical ideas or terms, al-Bīrūnī appears to frequently have resorted to omissions. For instance, with regard to the five "mental activities" (Skt. *cittavṛtti*), *Pātañjalayogaśāstra* I.5 states that some of are "afflicted" (Skt. *kliṣṭa*), while others are "non-afflicted" (Skt. *akliṣṭa*). Although the *bhāṣya*-part of the Sanskrit work explains this distinction, the two notions remain very specific and technical. It appears that al-Bīrūnī did not at all translate them, although he describes these activities relatively faithfully in Q 5. The complicated notion of two-fold "karma, leading to a [quick] result and not leading to a [quick] result" (Skt. *sopakramaṃ nirupakramaṃ ca karma*) expounded in PYŚ III.22 is not dealt with in the *Kitāb Pātanğal* either, despite al-Bīrūnī's detailed treatment of PYŚ III.21 to 34 in Q 46 of the *Kitāb Pātanğal*.[635]

A different case of omission occurs in Q 46 of the *Kitāb Pātanğal*. In this passage, al-Bīrūnī is willing to provide transliterated Sanskrit terms. However, in a portion of this passage, dealing with Mount Meru, he does not provide the names of the mountains, kingdoms, rivers, and seas, which are located on its four sides. He explains that it is not useful "either to enumerate [them], for they are unknown, or to name [them], for these names are (given) in the Indian language" (Pines/Gelblum 1983: 261; لا فايدة فى تعديدها لانها ليست بمعروفة و لا

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[634] Ritter 1956: 177.1-9; Pines/Gelblum 1966: 324-325. The manuscript is damaged in place where the discussion about the third stage takes place. However, al-Bīrūnī quotes (number 5 in table 6) this passage in the *Taḥqīq mā li-l-Hind*, in which he speaks in term of four types of knowledge, the last of which leading to emancipation. Al-Bīrūnī 1958: 53.1-9; Sachau, 1888b: I: 70.
[635] See number 3 of table 9.

Omissions also occur in the quotations from the *Kitāb Sānk* found in the *Taḥqīq*. The analysis of these quotations in comparison with Sanskrit commentaries on the *Sāṃkhyakārikā* shows that in most cases these omissions concern technical Sāṃkhya terms or ideas. For instance, in quotation of the *Kitāb Sānk* number XVIII, the type of knowledge leading to emancipation, i.e., that of the twenty-five "elements" (Skt. *tattva*), is not specified, whereas it is described in most Sanskrit passages corresponding to this quotation.[637] Further, classical Sāṃkhya considers three categories that constitute the world: the "manifested" (Skt. *vyakta*), the "unmanifested" (Skt. *avyakta*), and the "passive self" (Skt. *puruṣa*), also called the "knower" (Skt. *jña*). Every "element" (Skt. *tattva*) belongs to one of these categories. In the passage on opinions about action and agent (I), one opinion states that time is the cause, or the agent, in al-Bīrūnī's words. When refuting this opinion, the commentaries explain that time is included in one of these categories, the "manifested", and cannot thus be the cause of the world (Skt. *vyaktāvyaktapuruṣāḥ trayaḥ padārthāḥ, tena kālo'ntarbhūto'sti. sa hi vyaktaḥ*).[638] Although the corresponding passage of the *Kitāb Sānk* appears to be a relatively close translation of the Sanskrit work, it does not explain this argument.[639]

The excerpt of the *Kitāb Sānk* discussing births, which depend upon virtues and vices, and corresponding to *kārikā* 39 appears different from its source, as al-Bīrūnī omits several specific notions. The Sanskrit commentaries on kā 39 deal with the "qualities" (Skt. *viśeṣa*). These "qualities" are said to be threefold: "subtle" (Skt. *sūkṣma*), "born from mother and father" (Skt. *mātāpitṛja*), and the "gross elements" (Skt. *prabhūta*). Amongst these three "qualities", only the "subtle body" (Skt. *sūkṣmaśarīra*) is "permanent" (Skt. *niyata*) and,

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[636] Ritter 1956: 187.6-7. Infra p. 220.
[637] See section 6.3.3. On *kārikā*-s 44 and 45, see pp. 248-255.
[638] *Gauḍapādabhāṣya*'s reading (Sharma 1933: 55). The *Sāṃkhyasaptativṛtti* (Solomon 1973a: 73), the *Sāṃkhyavṛtti* (Solomon 1973b: 60), and the *Māṭharavṛtti* (Vaṅgīya 1970: 56) expose the same idea in a slightly different wording.
[639] See section 6.3.2.

according to some commentaries transmigrates in a world of divinities or of animals and plants. In the corresponding passage of the *Kitāb Sānk*, al-Bīrūnī avoids discussing the notions of "quality" and transmigration, as he adapts the concepts by explaining that a man can either become a spiritual being or an animal, according to his behavior. The scholar probably foregoes these Indian technical terms that would be foreign to his Muslim readership.

In addition to omitting technical concepts, al-Bīrūnī appears to have excluded from his translations, what he considered as redundancy, as well as what he regarded as unnecessary explanations. For instance, in PYŚ I.7, "direct perception" (Skt. *pratyakṣa*), one of the three "valid means of knowledge" (Skt. *pramāṇa*) accepted by Sāṃkhya and Yoga, is discussed quite extensively in the *bhāṣya*-part. In this passage, the Arabic equivalent of the Sanskrit "valid means of knowledge" (Skt. *pramāṇa*) is "understanding" (ادراك). Al-Bīrūnī does not however explain the "understanding" affected "by the five senses" (بالحواس الخمس), namely "direct perception" (Skt. *pratyakṣa*); as if the scholar considered this notion clear enough.[640] Further, Q 41 of the *Kitāb Pātanğal*, which corresponds to PYŚ II.29-55 and III.1-8, is distributed into two sections of the book, following the structure of the *Pātañjalayogaśāstra*.[641] The topic, i.e., the eight "ancillaries" (Skt. *aṅga*) of the yogic path, is discussed in a similar way in both versions. The second part of Q 41, occurring in section 3 of the *Kitāb Pātanğal*, as well as PYŚ III.1 to 8, address the last three "ancillaries" and explain why they are different from the other five. Al-Bīrūnī appeared to have relatively faithfully interpreted the content of PYŚ III.7 and 8, while omitting that of III.4 and 6. It is possible that the content of PYŚ III.4 to 6 seemed redundant or irrelevant to al-Bīrūnī and he therefore decided to omit it in his translation.

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[640] The question of different means of knowledge was also the object of discussion amongst Muslim thinkers. Touati 2000: 16-18; 25-35; 123-128.

[641] Ritter 1956: 182.7-184.5; Pines/Gelblum 1977: 526-527; 1983: 258-259; Āgāśe 1904a: 101-122; Woods 1914: 177-208. See pp. 196-199.

In some quotations from the *Kitāb Sānk*, such phenomenon apparently took place as well. When al-Bīrūnī works on the sections on the eight "states" (Skt. *bhāva*) of "cognition" (Skt. *buddhi*), he only clearly defines three of them, i.e., "virtue" (Skt. *dharma*), "lack of desire" (Skt. *vairāgya*), and "mastery" (Skt. *aiśvarya*). As he referred to the "state" of "knowledge" (Skt. *jñāna*) in his discussion on the "lack of desire", he perhaps did not deem it necessary to deal with this concept separately, as in the *Sāṃkhyakārikā* and some of its commentaries. The opposite binary notions of these four "states", namely "lack of virtue" (Skt. *adharma*), "lack of knowledge" (Skt. *ajñāna*), "desire" (Skt. *rāga*), and "lack of mastery" (Skt. *anaiśvarya*) are not taken into consideration by al-Bīrūnī, although their description was present in the Sanskrit source he consulted.[642]

4.4.2. Substitution due to al-Bīrūnī's cultural background

In many cases, al-Bīrūnī's transfer of fundamental Yoga-Sāṃkhya concepts into Arabic language appears to fall under the substitution strategy described by Ivir as the process of substituting the source concept with another concept of the target culture, whose meaning partially overlaps with that of the source concept. This approach can be adopted when the source and the target concepts share "a partial overlap rather than a clear-cut presence *vs.* absence of a particular elements of culture" (Ivir 1987: 41). Substitution enables the translator to transmit a concept with words that are not completely unknown to its audience and that reduce the foreignness of the source concept for the target culture. The primary drawback of substitution, however, is to overlook significant discrepancies between the two concepts.

There are a great deal of instances of substitution in al-Bīrūnī's translations. First, as seen in section 2.5.2, he uses the Aristotelian terminology of *potentiality* and *actuality* in order to describe the twenty-five "elements" (Skt. *tattva*). He also defines the "unmanifested" (Skt. *avyakta*) with the Arabic term *al-hayula* (الهيولى) derived from the Greek *hule*, which is

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[642] Section 6.3.3.

conceived as the "primordial matter". In al-Bīrūnī's view, the Indian *avyakta* resembles the intelligible matter described in Aristotle's *Metaphysics*.[643] Moreover, according to al-Bīrūnī, *avyakta* possesses the "three forces" (قوى ثلاث), *in potentiality* but not *in actuality*, while *vyakta*, the "manifested", or in al-Bīrūnī's words, the "shaped matter" goes out to the *actuality*. Aristotle developed a theory involving concepts such as "matter", *potentiality,* and *actuality* for explaining the changes in the world. Sāṃkhya combines concepts of "unmanifested" (Skt. *avyakta*) and "manifested" (Skt. *vyakta*) matter with those of "cause" (Skt. *kāraṇa*) and "effect" (Skt. *kārya*), so as to explain the creation of the phenomenal world, as well as the way it changes. Despite the conceptual discrepancies between the two theories, the terminology used by al-Bīrūnī is linked to metaphysics, i.e., the description of what is beyond the perceptible world. He thus transfers to his readership the notions of cause and effect – the *satkārya* theory of Sāṃkhya – by way of the Aristotelian *potentiality* and *actuality*.[644]

Another interesting example of substitution is observed in al-Bīrūnī's use of the Arabic term "faculty" or "force" (قوى).[645] The scholar adopts the same term for two different key-concepts of Sāṃkhya-Yoga psychology and metaphysics. He translates the concept of "mental activity" (Skt. *cittavṛtti*) with the Arabic expression "faculties of the soul" (قوى نفس). According to the *Pātañjalayogaśāstra*, these activities have to be ceased in order for one to reach a state close to the "emancipation" (Skt. *kaivalya*) from karmic retribution and rebirths' cycle. Al-Bīrūnī explains that the ascetic must compress these "faculties" in himself and

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[643] Book Z (VII), parts 10-11. Aristote 2008: 263.
[644] The scholar makes use of the same terminology when explaining that the "passive self" (Skt. *puruṣa*) is ignorant *in actuality* and intelligent *in potentiality* (See supra p. 105). This interpretation is however difficult to connect with the definition of the "passive self" in classical Sāṃkhya, albeit by the fact that it is said to be the "knower" (Skt. *jña*). In the *Kitāb Pātanǧal* as well al-Bīrūnī makes use of this specific terminology, when dealing with "afflictions" (Skt. *kleśa*) which can be "asleep" (*prasupta*), "thin" (*tanu*), "interrupted" (*vicchinna*), and "active (*udāra*) in the yogi (Q 26; PYŚ II.2-4), when defining the knower (Q 36; II.20-23), and when describing the relationship between past, present, and future (Q 66; IV.12).
[645] For the reader interested in a further reading on the polysemous Arabic word "forces" or "faculties" see: EI (2nd), s.v. Ḳuwwa, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/k-uwwa-COM_0553 [last accessed in January 2015].

prevent them from spreading out of him (قبض الانسان اليه قوى نفسه و منعها عن الانتشار); the ascetic thus reaching an intermediary state between attachment to the material world and complete emancipation.

This terminology is known in Greek, as well as in Islamic philosophy, "the faculties of the soul" being sometimes referred to as the "parts of the soul". In Greek philosophy, notably in Plato, as well as in Islamic thought, this concept corresponds with different hierarchical parts constituting the soul. The main distribution of these parts is vegetative, animal, and human. Their numbers, however, vary depending upon the theories elaborated by the philosophers. Plato explains that the divine part of the soul has to develop so that one can reach a higher sphere of spirituality and happiness.[646] Abū Bakr Muḥammad Ibn Zakkariyyāʾ Rāzī (*ca.* 854-925/935) considers that passion has to be restrained.[647] It is perhaps in this context that the Sanskrit "cessation of the mental activities" becomes the Arabic "compression of the faculties of the soul" in al-Bīrūnī's translation.

As mentioned, the scholar uses the same term "faculty" or "force" (قوى) to translate the technical concept of the three "constituents" (Skt. *guṇa*). In this case, however, he refers to the three "constituents" using the Arabic expression "three (primary) forces" (القوى الثلاث or القوى الثلاث الاول). According to Sāṃkhya-Yoga, the three "constituents" each possess different qualities: 1) good or enlightenment for *sattva*, the main constituent of the divine sphere, 2) passion or movement for *rajas*, that of the human sphere, and 3) apathy or immobility for *tamas*, that of the animal and plant sphere. The constituents are present in the phenomenal world, and their variations, or modifications, create its multiplicity.[648] Al-Bīrūnī perhaps used the specific Arabic term of "faculties" in reference to the different possible parts of the soul that were conceived by the Greeks and developed in Islamic philosophy (i.e., vegetative, animal and human), recalling thus the different spheres that are attributed to each of the

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[646] See Plato's analogy of the tearn's driver in *Phaedrus* (246a-256e). Platon 2004[1972]: 117-133.
[647] Rāzī 2003: 73-76.
[648] See section 3.1.1.

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"constituents" in classical Sāṃkhya-Yoga texts. However, in contrast with the definition of the Arabic "faculties", the Sanskrit "constituents" do not exist only in one element, e.g. the "passive self" or in Arabic the "soul", but are part of all twenty-five "elements" (Skt. *tattva*), their proportion and combination varying in the different elements.

Al-Bīrūnī used terminology that originates from Greek philosophy to transmit two different Indian concepts. In each case, it is possible to observe shared attributes between the two different original Sanskrit concepts and their common Arabic translations. The cultural overlaps remain partial, and the fact that al-Bīrūnī used the same term for two distinct Sāṃkhya-Yoga concepts not only indicates that he was somehow conscious of the discrepancies between the concepts, but also that he utilized this term as an heuristic tool, rather than as a comparative tool.

In the domain of theology, he translates the Sanskrit Īśvara by the Arabic Allah, both deities. They, however, do not have the same roles, or significance, in their specific cultural contexts. Current scholarship does not examine at length al-Bīrūnī's interpretation of the concept of Īśvara in his *Kitāb Pātanğal* and *Kitāb Sānk.* Sachau, Takakusu, Garbe, and Filliozat remain silent on this subject. Dasgupta describes al-Bīrūnī's conception of God in the *Kitāb Pātanğal* and observes that God has become "the only object of meditation and absorption in him is the goal" (Dasgupta 1979[1930]: 62). These remarks lead Dasgupta to assume that al-Bīrūnī's Sanskrit source was influenced by later theistic development in Yoga philosophy. [649]

However, this conclusion does not appear to be very convincing. A large amount of discrepancies between al-Bīrūnī's translations and its possible sources are actually due to the scholar's own interpretative choices. Pines and Gelblum recall Dasgupta's assumption, while considering that al-Bīrūnī was also conditioned by his own socio-cultural background when

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[649] Dasgupta 1979[1930]: 60-62. See infra pp. 191-192.

translating his source. They do not take a position on either of the two hypotheses.[650] Maas mentions the influence of al-Bīrūnī's background, but does not posit any further analysis.[651] Maas and Verdon foreground the importance of al-Bīrūnī's choices of interpretation in his translation of the *Pātañjalayogaśāstra*. Without dealing at length with the concept of God, they state that the word Allah for translating the concept Īśvara operates as a substitution according to Ivir's models. They recall some of the striking common points and discrepancies between the two concepts:

> Both concepts refer to the idea of a supreme being. In the case of Pātañjala Yoga, this supreme being is a special kind of Subject (*puruṣa*), who mainly serves as an object of meditation and whose role in the world is rather limited (Maas 2009: 276-280). In contrast, on an ontological level, Allah is unique. Allah is the God of judgment and retribution who determines the post-mortem fate of all human beings. In contradistinction to this, Yoga philosophy and religion takes the quasi mechanism of karmic processes to determine the welfare or otherwise of human beings in their next existences. (Maas/Verdon forthcoming 2016: 39)

The concepts of Allah and Īśvara, originating from two distinct socio-cultural contexts, indeed share common features, while at the same time having their own specific characteristics. There are two main passages referring to God in the *Kitāb Sānk* and the *Kitāb Pātanǧal*. The first is drawn from the *Kitāb Sānk* (I) and corresponds to a commentary on *Sāṃkhyakārikā* 61.[652] Al-Bīrūnī in this passage faithfully transfers the viewpoint of classical Sāṃkhya that Īśvara (Allah) is not the cause of the world, but that the "substrative cause" (Skt. *prakṛti*) is. In this passage, however, no further description or definition of God is offered by al-Bīrūnī.

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[650] Pines/Gelblum 1966: 304-305.
[651] Maas 2013: 59.
[652] Al-Bīrūnī 1958: 22.12-23.5; Sachau 1888b: I: 30-31. See section 6.3.2.

Therefore, the present analysis focuses on the second passage that is found in the *Kitāb Pātanğal*, which corresponds to the set of questions and answers 11 to 18 in the *Kitāb Pātanğal* and to *Pātañjalayogaśāstra* I.23 to I.28.[653] The Arabic passage begins with Q 11 asking whether there is another way than "habituation" (التعويد) and "asceticism" (الزهد) in order to reach "emancipation" (الخلاص). The answer given states that devotion to Allah equally leads to emancipation. The question introducing PYŚ I.23 similarly inquires whether or not there is another way than "practice" (Skt. *abhyāsa*) and "lack of desire" (Skt. *vairāgya*) leading to a state close to "absorption". The third way is "profound meditation on God" (Skt. *īśvarapraṇidhāna*), or in al-Bīrūnī's words "devotion" (العبادة). Al-Bīrūnī however deems it necessary to specify these other two ways, whereas the *Pātañjalayogaśāstra* does not specify them here. Another difference lies in the fact that al-Bīrūnī does not distinguish between the three states differentiated in the *Pātañjalayogaśāstra*, namely a "state close to absorption", "absorption", and "emancipation" as he only refers to "emancipation" in this passage.

In Q 12, a general description of Allah is provided, which states that Allah has "eternity" (ازلية) and "oneness" (وحدانية), two concepts inherent to the Muslim conception of Allah. The transcendence of Īśvara over time is also expressed in the *Pātañjalayogaśāstra*. The *bhāṣya*-part of PYŚ I.24 states that "Īśvara's connection to the [triple bonds][654] is nor past, nor future" (Skt. *īśvarasya tatsaṃbandho na bhūto, na bhāvī*), and concludes by saying that "he is certainly always liberated, he is certainly always Īśvara" (Skt. *sa tu sadaiva muktaḥ sadaiveśvara iti*). For the *Pātañjalayogaśāstra*, Īśvara is beyond the limits of time, in the same way that Allah is. Thus, the fact that al-Bīrūnī ascribes eternity to the God that he describes concurs to one fundamental characteristic of Allah in Islam (القدم).

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[653] Questions 12 to 18 are rephrased in the *Taḥqīq mā li-l-Hind* with the exception of Q 13. Al-Bīrūnī 1958: 20.9-21.16; Sachau 1888b: I: 27-29.

[654] According to Kengo Harimoto, some commentaries on *Sāṃkhyakārikā* 44, as well as the *Vivaraṇa*, differently interpret this notion of three bonds. Harimoto 2014: 91, note 102.

The notion of Īśvara "being a special kind of *puruṣa*" (Skt. […] *puruṣaviśeṣa īśvaraḥ*) in *sūtra* I.24 is perhaps interpreted by al-Bīrūnī as "oneness" (وحدانية), which is ascribed to Allah in Q12. If this is true, al-Bīrūnī here deviates from his Sanskrit sources in that he does not distinguish Īśvara from the common human "passive self" (Skt. *puruṣa*). Al-Bīrūnī's free interpretation here can be explained by the fact that Muslims conceive Allah as unique, to such an extent that it is inconceivable to compare Him in any way to humans.

Two other features of God are ascribed to Allah in Q 12. He is described as "knowing eternally by nature" (والعالم بذاته سرمداً), "to whom ignorance does not belong by no ways, in any time or in any state" (ليس الجهل بمتّجه عليه فى وقت ما او حال). The second part of Q 12 is indeed devoted to God's knowledge. It corresponds to the content of the first part of PYŚ I.25. The *sūtra* of this Sanskrit passage states that "the seed of the omniscient is unsurpassed in [Him]" (Skt. *tatra niratiśayaṃ sarvajñabījam*). The *bhāṣya*-part ad loc. qualifies Him as "omniscient" (Skt. *sarvajña*). It appears that al-Bīrūnī leaves out the obscure idea of the "seed of the omniscient" (Skt. *sarvajñabīja*) and only transfers that of an absolute and eternal knowledge of God.

PYŚ I.24 is introduced by a question that parallels Q 13 of the *Kitāb Pātanğal*.[655] This passage develops the discussion about Īśvara being a special kind of "passive self" (Skt. *puruṣa*), untouched by afflictions (Skt. *kleśa*), karma (Skt. *karman*), its ripening (Skt. *vipāka*), and deposits (Skt. *āśaya*). Īśvara, in contrast with liberated yogis (Skt. *kevalin*), as well as with those "who dissolved in the cause" (Skt. *prakṛtilaya*), has never been not liberated and never will be. Q 13 only discusses the difference between God and the "liberated one" (المتخلص), which principally lies in the fact that God is eternally liberated, and does not depend upon time; the section leaves out other notions dealt with in PYŚ I.24.

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[655] Pines/Gelblum 1966: 320, note 170.

As previously mentioned, the idea in *sūtra* I.24 that Īśvara is a special kind of "passive self" is omitted by al-Bīrūnī. In Q 14, the scholar however evokes a section of *sūtra* I.24, i.e., that "Īśvara is untouched by afflictions, karma, [its] ripening, and deposits" (Skt. *kleśakarmavipākāśayair aparāmṛṣṭaḥ* […] *īśvaraḥ*). Al-Bīrūnī rephrases this, writing "he is the knowledge free from pollution of heedlessness and ignorance" (هو العلم الخلاص عن دنس السهو والجهل). He seemingly focuses on the absence of afflictions in God in this part of his translation. Ignorance may indeed be expressed here in order to refer to the first of the afflictions, as PYŚ I.24 states that "afflictions start with ignorance, etc." (Skt. *avidyādayaḥ kleśaḥ*).[656]

In Q 15, which corresponds to PYŚ I.27, speech is assigned to Allah, because he knows (اذا كان عالما فهو لا محالة متكلم). Al-Bīrūnī transformed and adapted his source to a large extent, as PYŚ I.27 actually explains that the syllable *aum* (Skt. *praṇava*) is the signifier of Īśvara (Skt. *vācaka*) and Īśvara is its signified (Skt. *vācya*), but does not ascribe speech to Īśvara. On the other hand, the *Kitāb Pātanğal* never mentions the syllable *aum*, nor refers to it.[657] In my opinion, in the same way as al-Bīrūnī adjusted Īśvara's characteristic of being a special kind of "passive self" into that of "oneness", he may have avoided mentioning the specific concept of the syllable *aum* and ascribed speech to God instead.[658] The scholar further omits the explanation about the connection between the "signifier" (Skt. *vācaka*), in this case Īśvara, and the "signified" (Skt. *vācya*), that is the word, which is provided in *Pātañjalayogaśāstra* I.27. Q 18 describes the way by which God, who is imperceptible by senses, can be worshipped. This roughly corresponds to the content of PYŚ I.28.[659]

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[656] See their description from PYŚ II.3 to II.12
[657] Pines/Gelblum 1966: 320, note 178.
[658] Pines and Gelblum note that al-Bīrūnī perhaps misunderstood the Sanskrit word *vācaka* "here as referring to speech as an attribute of God (*tasya*) and not to the sacred syllable 'Om' (*praṇava* in the sūtra) as expressive of God" (1966: 320, note 178). This interpretation is possible, although there is no need to assume al-Bīrūnī's misunderstanding in order to explain this discrepancy. The only place in which al-Bīrūnī deals with the syllable *aum* occurs in the *Taḥqīq mā li-l-Hind*. Al-Bīrūnī 1958: 135; Sachau 1888b: I: 173.
[659] See Feuerstein (1987: 392-393) and Maas (2009: 277-278) on the syllable *aum*.

Q 16 and Q 17 focus on God's knowledge and its transmission and can be likened to some sections of PYŚ I.25 and PYŚ I.26.

As mentioned, Īśvara does not have much impact on the world, in contrast with Allah, who is considered to be the creator of the world and the final judge for human's destiny after their life on earth. In classical Sāṃkhya, Īśvara is not considered the cause of the world, as is clear in section 6.3.2. In the *Pātañjalayogaśāstra*, nothing suggests that Īśvara is either.[660] As the "substrative cause" (Skt. *prakṛti*) is considered the cause of creation by both classical Sāṃkhya and Yoga, there is not much room for a creator deity. The *Kitāb Pātanǧal*, like the *Pātañjalayogaśāstra,* remains silent on this issue. Given the above observations concerning al-Bīrūnī's adaptations of his Sanskrit source, if this source attributed the creation of the world to God, it is likely that the scholar took this additional opportunity to liken the concept of Īśvara to that of Allah.

Although the portion of the Arabic text can be likened with confidence to the passage of the *Pātañjalayogaśāstra*, al-Bīrūnī significantly reorganized the content of his source in this particular passage on God. However, it was possible to select significant definitions attributed to Īśvara in order to compare them with al-Bīrūnī's translation. Observations indicate that some of these aspects overlap in both Islamic and Brahmanical traditions (divine sphere, eternity, and knowledge), while others were misunderstood, reinterpreted or simply omitted by al-Bīrūnī (such as a special kind of *puruṣa* and the function of the syllable *aum*). On the whole, al-Bīrūnī's transmission of the concept of God in the *Kitāb Pātanǧal* is indebted to his religious background.

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[660] Bronkhorst 1981: 316.

4.4.3. <u>Additions and definitions from other sources</u>

In order to provide definitions and additions, al-Bīrūnī appears to have drawn his information from written or oral sources of Indian origin, more than from his personal background. Some Indian notions al-Bīrūnī attempted to convey to his Muslim audience may be relatively clear for Indians, yet they require additional clarification for a foreign audience.

In Q 46, when interpreting *sūtra* III.30, for instance, al-Bīrūnī, defines the "cavity in the throat" (Skt. *kaṇṭhakūpe*) by complementing the Arabic expression "the hollow (part) of the chest and the larynx" (فضاء الصدر والحلقوم) with the phrase "the channel (through which) the wind (passes) by means of respiration" (مجرى الريح بالتنفّس).[661] This definition does not occur in the *Pātañjalayogaśāstra*, on which the *Kitāb Pātanğal* is however based for the most part.

Addition also appears to have been a common practice for al-Bīrūnī. In the analogy of Nandikeśvara and Nahuṣa exposing the possibility of being metamorphosed during one's existence in Q 28 (PYŚ II.12), the scholar explained why Nandikeśvara became an angel, i.e., because he devoted to Śiva.[662] He also supplemented the commentary in the *Kitāb Pātanğal*, augmenting the section on anatomy with a passage on food transformation, in all likelihood drawn from other sources – written and/or oral – that he had at his disposal (Q 46 – PYŚ III.29).[663] Neither pieces of information are found in the corresponding passages of the *Pātañjalayogaśāstra.*

The different elements that al-Bīrūnī may have added can be drawn from different Sanskrit works he was aware of, as well as from the Indian thinkers he met. In the section of Q 5 of the *Kitāb Pātanğal,* which translates PYŚ I.7, al-Bīrūnī appears to have added an analogy in order to illustrate "understanding" (ادراك) "by oral tradition" (بالسماع). In contrast with the *Pātañjalayogaśāstra* and all of its Sanskrit commentaries, the *Kitāb Pātanğal* is the only work providing an example for this notion, reading, "for instance our knowledge that the

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[661] Number 12 in table 9, chapter 5.
[662] See infra p. 190.
[663] Maas/Verdon forthcoming 2016: 18-25; see infra pp. 204-205.

city of Kanauj is on the bank of the Gaṅgā River. For this (knowledge) is attained by means of information received and serves as a substitute for one's apprehension of this (fact) by eyesight " (Pines/Gelblum 1966: 315; كمعرفتنا ان بلد كنوج على شط نهر كنك فانها حاصلة بالخبر و قايمة مقام ادراكه لذلك بالبصر).[664] The origin of this example is not clear. The formulation used by al-Bīrūnī to express it suggests that this has been orally communicated to him or that he himself created it.

The analysis of the excerpts of the *Kitāb Sānk* also indicates that al-Bīrūnī had recourse to addition when dealing with his source. When enumerating the different opinions regarding action and agent, the opinion, according to which "action is nothing but a recompense for something which has been done before" (Sachau 1888b: I: 31; ليس الفعل سوى المكافاة على العمل المتقدّم),[665] is absent from all the possible Sanskrit sources under consideration.[666] If al-Bīrūnī added this opinion – a hypothesis which cannot be ascertained – he certainly took this information from his knowledge of Indian culture. This addition is however problematic, as generally al-Bīrūnī does not refer to karmic retribution, except in terms of "merits" and "demerits". Additions also occur when al-Bīrūnī narrates an analogy used to illustrate abstract conceptions. For instance, with regard to the four levels of cognition, when the fourth disciple wants to know the object to be identified, al-Bīrūnī provides more details than the Sanskrit commentaries concerning the reflections of the fourth disciple.[667] Additions and definitions are thus the result of al-Bīrūnī's own interventions, but also of his pre-existing knowledge of Indian science.

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[664] Ritter 1956: 171.4-5.
[665] Al-Bīrūnī 1958: 23.1-2.
[666] Section 6.3.2.
[667] Section 6.3.3.

4.5. Concluding remarks

This chapter reveals that although there are significant discrepancies between al-Bīrūnī's translations and his supposed sources, these differences do not mean that the scholar used as-yet-unknown Sanskrit sources for composing the *Kitāb Sānk* and the *Kitāb Pātanğal*. It appears that the *Kitāb Sānk* has been subject to similar modifications as the *Kitāb Pātanğal*.

This chapter thus directs our attention to the necessity for providing an analysis of al-Bīrūnī's translations from a different perspective than a mere literal comparison between the Arabic translations and the Sanskrit sources. In this respect, Ivir's concept of translational strategies is particularly helpful. Al-Bīrūnī made abundant use of some of them, namely omission, substitution, and addition or definition when large cultural gaps needed to be bridged, such as when the notions to transmit were specific and technical to Yoga-Sāṃkhya or to Indian culture. Al-Bīrūnī's treatment of his sources thus constitutes a rather clever and natural manner for interpreting and transferring these Indian ideas.

While formal transformations have been made by al-Bīrūnī on account of his pedagogical intentions and idiosyncratic logic, omission appears to be a result of al-Bīrūnī's wish to avoid technical or repetitive content. Substitutions for the most part originate from his knowledge of the world, specifically from his Perso-Muslim socio-cultural background, be it in the domain of religion, philosophy, or mysticism. Some of the substitutions may be due to his own idiosyncratic interpretations, but it appears unlikely that his Indian informants suggested substitutions. On the other hand, additions/definitions came from his own creativity, and at the same time could be traced back to other Sanskrit sources or Indian tradition.

It is likely that omissions and additions are the result of al-Bīrūnī's conscious choices, while substitutions are unconscious processes. These modifications are adaptations of the content that rendered possible the understanding of the work for al-Bīrūnī himself and his

readership. Chapter 4's arguments are further confirmed by the subsequent chapters, and at the same time posits the approach for detailed analysis of al-Bīrūnī's translations and his possible Sanskrit sources, as well as for locating the Sanskrit source, which will be further elaborated in the subsequent chapters.

Chapter 5: Debate on the *Kitāb Pātanǧal* and its Sanskrit source

5.1. Scholarship review

Chapter 4 of this dissertation investigated the reasons previous scholarly attempts to identify al-Bīrūnī's Sanskrit sources were unsuccessful despite Ritter's edition of the complete manuscript of the *Kitāb Pātanǧal*. The present chapter specifically examines the relationship between passages of the *Kitāb Pātanǧal* and their possible corresponding excerpts in Sanskrit. As Maas and Verdon have thoroughly assessed previous scholarly arguments regarding the identification of al-Bīrūnī's source, the subsequent sections coalesce the findings of their study. This chapter confirms the hypothesis they postulate, already suggested by Maas in 2013, i.e., that the *Kitāb Pātanǧal* was based on the *Pātañjalayogaśāstra*, by presenting additional elements of reflection and positive evidence excluding the *Vivaraṇa*, the *Tattvavaiśāradī*, and the *Rājamartaṇḍa* from being the Sanskrit sources of al-Bīrūnī's translation.[668] It also highlights, when possible, the underlying causes of the discrepancies between the *Kitāb Pātanǧal* and the *Pātañjalayogaśāstra*.

5.1.1. Carl Edward Sachau and Richard Garbe

Maas and Verdon foreground the philological reasons Sachau was unsuccessful in his endeavor to identify al-Bīrūnī's source, namely because he contrasted the extracts of the *Kitāb Pātanǧal* scattered in the *Taḥqīq mā li-l-Hind* with the English translation of the *Rājamārtaṇḍa*, the only work related to the Yoga system available at the time.[669] The subsequent paragraphs illustrate the problems Sachau faced not only from the philological perspective, but also by taking into account al-Bīrūnī's hermeneutics.

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[668] Maas 2013: 59; Maas/Verdon forthcoming 2016: 26-28.
[669] Maas/Verdon forthcoming 2016: 7-8. He apparently used the translation and edition by Rājendralāl Mitra (1883).

In the *Taḥqīq mā li-l-Hind*, al-Bīrūnī referred to the *Kitāb Pātanğal* so as to provide a description of the four parts of the path leading to emancipation (الخلاص). He also included references to two Indian works, the *Bhagavadgītā* and the *Viṣṇudharma*, in this passage.[670] For Sachau, "the explanation of the four parts of the path of liberation [i.e., emancipation]" (Sachau 1888b: II: 286-287) does not find any parallel in Sanskrit literature. This passage of the *Taḥqīq* actually paraphrases the contents of Q 6, Q 11, and Q 57 of the *Kitāb Pātanğal*.[671] The first part of the path of emancipation is habituation, which al-Bīrūnī categorized as "practical" (العملي بلتعويد), while the second is an "intellectual" part (العقلي).[672] These two parts were described in Q 6 of the *Kitāb Pātanğal*, where al-Bīrūnī again categorized in the same way habituation as practical and renunciation as intellectual. The third part is "devotion" (العبادة), which is referred to in Q 11 of the *Kitāb Pātanğal*. In the *Pātañjalayogaśāstra,* repeated "practice" (Skt. *abhyāsa*) and "lack of desire" (Skt. *vairāgya*), as described in PYŚ I.12 to 16, consist of two interconnected means eventually leading to emancipation, while "profound meditation on God" (Skt. *īśvarapraṇidhāna*), which is discussed in PYŚ I.23 and II.45, results in the cessation of mental activities.[673]

In the *Taḥqīq*, al-Bīrūnī described a fourth part, *rasāyan* (رساين), the Arabic transliteration of the Sanskrit *rasāyana* (drug, elixir), consisting "of alchemistic tricks with various drugs, intended to realize things which by nature are impossible" (Sachau 1888b: I: 80; هى تدابير بأَدْوية تجرى مجرى الكيمياء فى تحصيل الممتنعات بها).[674] Al-Bīrūnī transliterates this Sanskrit term into Arabic in Q 57 as well, which corresponds to PYŚ IV.1. In both the *Kitāb Pātanğal* and the *Pātañjalayogaśāstra*, five ways of obtaining "supernatural powers" (Skt. *siddhi*) are enumerated. For instance, *sūtra* IV.1 enumerates "plants" (Skt. *oṣadhi*) as one of

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[670] Al-Bīrūnī 1958: 58.5- 61.7; Sachau 1888b: I: 76-80.
[671] Ritter 1956: 171.14-172.10; 173.8-11; 193.2-10; Pines/Gelblum: 1966: 316-319; 1989: 267.
[672] Pines and Gelblum propose to read العقلي instead of الغلىّ which is Sachau's reading in the *Taḥqīq*. Given the corresponding phrasing of the *Kitāb Pātanğal*, this emendation seems correct.
[673] Āgāśe 1904a: 17-20; 25; 110; Woods 1914: 34-38; 49; 190. Devotion is also broached in Q 41 which includes the content of PYŚ II.45. On non-theistic and theistic yogic concentrations, see Maas (2009).
[674] Al-Bīrūnī 1958: 61.5-6.

these five ways. The *Pātañjalayogaśāstra* explains that the supernatural powers that originate from plants are due to an elixir, i.e., *rasāyana*.[675] In this Sanskrit passage, "plants" (Skt. *oṣadhi*), or elixir (Skt. *rasāyana*), do not lead to emancipation. Whereas in the corresponding passage of the *Kitāb Pātanǧal,* al-Bīrūnī specifies that *rasāyan* is one way to reach *siddha-hood* (زهادة الزاهد) but does not mention "emancipation" at all, in the *Taḥqīq, rasāyan* becomes a way to reach emancipation. Thus, despite this substantial discrepancy, it is possible to link al-Bīrūnī's description of the fourth part leading to emancipation to as specific portion of the *Pātañjalayogaśāstra*. In this context, it is worth recalling that al-Bīrūnī did not always differentiate between the ultimate state of emancipation and the other mental states which lead to it, although they are distinct in the *Pātañjalayogaśāstra*.[676] His interpretation of Q 6, Q 11, and Q 57 of the *Kitāb Pātanǧal* illustrates this.

In addition to this, Sachau also notices parallels between the Sanskrit works he accessed and the *Kitāb Pātanǧal*.[677] He compares a quotation from the *Kitāb Pātanǧal* in the *Taḥqīq* to the last *sūtra* of the *Pātañjalayogaśāstra* ("Emancipation [occurs when] the constituents which stopped to serve the passive self's purpose resorb into their original state, or [when] the ability of consciousness, [i.e., the passive self] is self-standing"; *puruṣārthaśūnyānāṃ guṇānāṃ pratiprasavaḥ kaivalyaṃ svarūpapratiṣṭhā vā citiśaktir iti.* IV.34).[678] The passage from the *Kitāb Pātanǧal* read:

> Therefore in the end of the {*Kitāb Pātanǧal*}, after the pupil has asked about the nature of {emancipation}, the master says: "If you wish, say, {it} is the cessation of the functions of the *three forces*, and their returning to that home whence they had come. Or if you wish, say, It [*sic*] is the return of the soul as *knowing* being

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[675] See Pines/Gelblum 1989: 283-284, note 24.
[676] In the discussion on al-Bīrūnī's interpretation of Īśvara, p. 176.
[677] Sachau 1888b: II: 287.
[678] Āgāśe 1904a: 207; Woods 1914: 347.

into its own nature." (Sachau 1888b: I: 81)[679]

This passage corresponds to Q 78 of the *Kitāb Pātanǧal*, which Pines and Gelblum have

translated as follows:

> Q 78 What is {emancipation}? If you wish, you may say: It is annulment of the
> action of the three primary sources (i.e. the guṇas) and the return of the latter to the
> source from which they came; and if you wish, you may say: It {i.e., the
> emancipation} is the return of the soul (endowed with knowledge) to its (own)
> nature. (Pines/Gelblum 1989: 271)[680]

Sachau's identification of this passage with PYŚ IV.34 is relevant. The first part of Q 78

elucidates emancipation by the "the return of the latter [i.e., the three forces] to the source

from which they came" (و عودها الى المعدن الذى وفدت منه), a very close parallel to the first part of

sūtra IV.34, that advocates "the resorption of the constituents into their original state" (Skt.

guṇānāṃ pratiprasavaḥ). The second part of Q 78, "and if you wish, you may say: the return

of the soul (endowed with knowledge) to its (own) nature" (وان شئت فقل هو رجوع النفس [عالمة] الى

طباعها) corresponds to the end of *sūtra* IV.34: "the passive self is self-standing" (Skt.

svarūpapratiṣṭhā vā citiśaktir). Although Sachau did not identify the *Kitāb Pātanǧal* with any

Sanskrit source known to him, he noticed striking parallels between this passage and a *sūtra*

of the *Pātañjalayogaśāstra*, which was almost literally translated by al-Bīrūnī.[681]

Further, Maas and Verdon reject on historical and textual grounds Garbe's

identification of the source of the *Kitāb Pātanǧal* with the *Rājamārtaṇḍa* by Bhoja.[682] Garbe,

like Sachau, could only rely on the extracts of the *Kitāb Pātanǧal* for his analysis.[683] Maas

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[679] Al-Bīrūnī 1958: 61.16-19. On the treatment of the translations by Sachau and Pines/Gelblum in this dissertation see the author's note.
[680] Ritter 1956: 198.20-22.
[681] Sachau argues that Balabhadra, an author often quoted in the *Taḥqīq* primarily regarding cosmography, may have composed the commentary on the *Kitāb Pātanǧal.* Sachau 1888b: II: 264. On al-Bīrūnī's interpretation of Balabhadra's work see Pingree (1983).
[682] Maas/Verdon forthcoming 2016: 9-17.
[683] It is worth noting that Garbe first identified it with the *Pātañjalayogaśāstra* (1894: 63; 1896: 41-42; 1917[1894]: 91).

and Verdon recall that the *Rājamārtaṇḍa*'s compilation probably occurred too late to have constituted al-Bīrūnī's source. This remark, supplemented by the lack of references to this king in the *Taḥqīq* and the likely absence of al-Bīrūnī in his kingdom in Mālava, suggests that the scholar did not have access to Bhoja's work.[684] Further, the existence of political establishment of the Ghaznavids in Bhoja's kingdom, which would have enabled a collaboration between officials of the two courts, cannot be sustained by evidence. Therefore, it is unlikely that al-Bīrūnī accessed literature promoted by Bhoja's court in the way he accessed, for instance, literature and science promulgated by the Indian Šāhis.[685]

Maas and Verdon analyze two analogies provided in the *Kitāb Pātanğal* Garbe deploys to argue for connecting it with the *Rājamartaṇḍa*: the agricultural and the mythological examples. The agricultural analogy explains that the ripening of the accumulation of karma ceases if its root, i.e., the "afflictions" (Skt. *kleśa*), is stopped, in the same way as a rice grain does not sprout if its husk is removed.[686] While Maas and Verdon highlight the fact that al-Bīrūnī likely relied on a Sanskrit source other than the *Rājamārtaṇḍa* when rendering this example in the *Kitāb Pātanğal*, as this illustration may have not belonged to the most original and authentic reading of the *Rājamārtaṇḍa*, they connect this example in al-Bīrūnī's translation to a passage of the *Pātañjalayogaśāstra*. They notice some discrepancies in the use of this example in the two works:

> The Sanskrit work explains how future consequences of the storage of karma can be prevented, whereas the Arabic work explains that the soul is covered by ignorance like a rice grain may be covered by its husk. In the *Kitāb Pātanğal*, the husk has to be removed in order to prevent changes of the soul, whereas according to the *Pātañjala Yogaśāstra*, removing the husk prevents the ripening of karma. (Maas/Verdon forthcoming 2016: 12)

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[684] He mentions this king only once in the *Taḥqīq mā li-l-Hind*, in a passage that narrates a tale (حديث) about the door of the government house in Dhār, the capital of Bhoja's kingdom (Al-Bīrūnī 1958: 152.4-6; Sachau 1888b: I: 191). See section 1.3 on al-Bīrūnī's visits to early medieval India.
[685] See sections 1.3 and 2.5.
[686] PYŚ II.13; Q 29.

The two authors further observe that al-Bīrūnī adapted the Sanskrit phrasing about the result from the removal of the husk in his own manner, and ignored the concept of karma referred to in the *Pātañjalayogaśāstra.* Al-Bīrūnī's interpretation can be accounted for by his cultural and intellectual background. In al-Bīrūnī's version of the example, the soul's covering, that is the husk in the analogy, has to be removed "in order to prevent changes of the soul", as well as to purify it (فاذا ازيل القشر عنه انقطعت تلك الحوادث وصفا للبقاء على حال).[687] In Islamic thought, when the purification of the soul occurs, the soul not only ascends to celestial spheres, but also gradually frees itself from gross matter. This conception was present amongst ancient Greek philosophers in addition to the Islamic world.[688] In a different context, the *Quran* uses the same image of the veils, which cover the "heart" (القلب) not the "soul" (النفس).[689]

The idea of the soul being covered by a cloth existed in the Neo-Platonic philosopher Porphyry's notion of purification. This representation was also known to the early medieval philosopher al-Tawḥīdī (922/32-1023).[690] Charles Genequand notices that al-Tawḥīdī sometimes substituted the Arabic term for "cloth" (ملبس) with the word "covering", or "scale" (قشر),[691] which is exactly the same term that al-Bīrūnī uses in this analogy.

It appears then that al-Bīrūnī interpreted the *kleśa*-s described in the *Pātañjalayogaśāstra* in light of theories developed by other earlier or contemporary philosophers. Whereas the consequences of the removal of the husk from the rice grain differ in the Arabic and Sanskrit works, the goal is the same, namely to uncover the "soul" or the "passive self" from impurities that impede it from reaching a higher level in the quest for spirituality.

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[687] Ritter 1956: 180.1-3; Pines/Gelblum 1977: 524; Al-Bīrūnī 1958: 42.7-11; Sachau 1888b: I: 55.
[688] Genequand 1996: 110.
[689] Massignon 1954[1922]: 108; Sūra 51.4.
[690] Stern, EI, (2nd), s.v. Abū Ḥayyān al-Tawḥīdī, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/abu-hayyan-al-tawhidi-SIM_0202 [last accessed in December 2014].
[691] Genequand 1996: 110-111.

Further, the eventuality of al-Bīrūnī having read other commentaries on the *Pātañjalayogaśāstra*, such as the *Vivaraṇa* or the *Tattvavaiśāradī,* still fails to explain this particular interpretation, as they do not substantially deviate from the explanation provided by the *Pātañjalayogaśāstra* with regard to this illustration.[692]

Referring to David Pingree, Maas and Verdon also suggest that al-Bīrūnī's idiosyncratic interpretation may simply be owed to a limited knowledge of Sanskrit.[693] However, in light of the above, this interpretation rather stands as one of al-Bīrūnī's translational strategies, namely substitution.

The second analogy, i.e., the mythological example, which led Garbe to believe that al-Bīrūnī used the *Rājamārtaṇḍa* and which was analyzed in Maas and Verdon, is the analogy of Nandikeśvara (or Nandīśvara) and Nahuṣa, two mythological figures who metamorphosed because of their deeds.[694] In al-Bīrūnī's version, Nandikeśvara (نَنْدِكِيشْنَر), who devoted himself to Śiva (مَهاديو; *mahādywa*),[695] became an "angel" (ملائكة; Skt. *deva*, "deity"), whereas Nahuṣa (نَهُشْ), the evildoer, became a snake. Maas and Verdon observe that the passage in the *Kitāb Pātanğal* displays more parallels, in both wording and content, with the *Pātañjalayogaśāstra* than with Bhoja's work, as the latter, for instance, mentions Viśvāmitra and Urvaśī, whose names are absent from both the *Kitāb Pātanğal* and the *Pātañjalayogaśāstra*. They also shed light on several differences in the narration of this myth between the *Kitāb Pātanğal* and the *Pātañjalayogaśāstra*, foregrounding al-Bīrūnī's additions of contextual elements and combining two different myths.

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[692] Sastri/Sastri 1952: 147; Āgāśe 1904a: 68-69; Woods 1914: 126.
[693] Pingree 1983: 353; Maas/Verdon forthcoming 2016: 13.
[694] PYŚ II.12; Q 28.
[695] Al-Bīrūnī often makes use of the epithet *mahādeva* in order to refer to Śiva.

Further, in the corresponding passage found in the *Vivaraṇa*, this text employs several illustrations, referencing diverse figures, including Viśvāmitra, Aṃbā, Draupadī, and Kuṃbhakarṇa, and eventually recounting the story of Nandīśvara and Nahuṣa.[696] The *Tattvavaiśāradī*, however, gives an account of the story of Dhruva and refers to Nandīśvara, but not Nahuṣa. It also does not narrate the story in detail.[697] It appears then that reading the *Pātañjalayogaśāstra*, or a work similar to it, was sufficient for al-Bīrūnī to expound the story of Nandikeśvara and Nahuṣa.

Based on historical and textual evidence, the above observations not only invalidate Garbe's assumption that the source of the *Kitāb Pātanğal* was the *Rājamārtaṇḍa*, as Maas and Verdon show, but also provide the first hints that neither the *Vivaraṇa* nor the *Tattvavaiśāradī* could have been al-Bīrūnī's source for this work.

5.1.2. Surendranath Dasgupta

Maas and Verdon summarize Dasgupta's conclusion, which does not refer to Sachau's or Garbe's earlier analyzes, that the *Kitāb Pātanğal* was not based on any Yoga work known to him, and that a third Patañjali was the original author of its source.[698] Dasgupta, however, remarks that the commentary provided by al-Bīrūnī covers the same subject matter as the *sūtra*-part of the *Pātañjalayogaśāstra* – such as God, soul, bondage, salvation, and karma. Yet, according to Dasgupta, the *Kitāb Pātanğal* differs from the Sanskrit work in the way it deals with these subjects. He notes that:

> (1) the conception of God has risen here to such an importance that he has become the only object of meditation, and absorption in him is the goal; (2) the importance of the yama and the niyama has been reduced to the minimum; (3) the value of the Yoga discipline as a separate means of salvation apart from any connection with

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[696] Sastri/Sastri 1952: 143-144.
[697] Āgāśe 1904a: 67-68; Woods 1914: 122.
[698] Dasgupta 1979[1930]: 64. Maas/Verdon forthcoming 2016: 8-9.

God as we find in the *Yoga sūtra* has been lost sight of; (4) liberation and Yoga are defined as absorption in God; (5) the introduction of Brahman; (6) the very significance of Yoga as control of mental states (*cittavṛttinirodha*) is lost sight of, and (7) rasāyana (alchemy) is introduced as one of the means of salvation. (Dasgupta 1922: I: 235)

For Dasgupta, Vedāntic and Tantric ideas influenced the doctrine presented in the *Kitāb Pātanğal*.[699] These differences and the reasons underlying them, as noted by Dasgupta, are disputable, especially due to the fact that he was only able to access extracts of the *Kitāb Pātanğal*, preventing Dasgupta from offering a thorough analysis. Al-Bīrūnī's religious and philosophical background may actually constitute the reason for differences 1, 3 and 4 of the above quotation, rather than the influence of Vedāntic and Tantric ideas. First, as seen in chapter 2, al-Bīrūnī was unaware of Sanskrit works related to Vedānta.[700] Second, as seen in chapter 4, al-Bīrūnī's descriptions of God, or Allah, reflect his tendency to domesticate the Yoga concept of Īśvara. The different significance of God in the *Kitāb Pātanğal* has thus to be accounted for by this domestication.[701] In addition, once one is able to access the *Kitāb Pātanğal* in its entirety, it is possible to see that al-Bīrūnī indeed addressed "Yoga as control of mental states", as well as the *yama*-s and the *niyama*-s.[702] Thus, in parallel with Sachau and Garbe, Dasgupta could not reach a conclusive and satisfactory solution to the question of al-Bīrūnī's source.

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[699] Dasgupta 1922: I: 235; Dasgupta 1979[1930]: 63-64.
[700] See pp. 95-96.
[701] See pp. 174-179.
[702] On al-Bīrūnī's treatment of the *yama*-s and *niyama*-s, see pp. 196-197.

5.1.3. <u>Schlomo Pines and Tuvia Gelblum</u>

Pines and Gelblum were the first to have access to the complete manuscript of the *Kitāb Pātanǧal*. They published an annotated English translation of it in the form of four articles.[703] They summarized the previous attempts made to identify the *Kitāb Pātanǧal*'s source,[704] but reached conclusions different from their predecessors. For them, al-Bīrūnī based his Arabic translation on the *sūtra*-s and an unknown commentary, which they consider to have more in common with the *bhāṣya*-part of the *Pātañjalayogaśāstra* than with the *Rājamārtaṇḍa*.[705] Although they compared the content of the *Kitāb Pātanǧal* to numerous Sanskrit works, and made abundant use of secondary literature, they were unable to identify al-Bīrūnī's source.

They thus put forward several hypotheses, suggesting that: 1) the commentary used by al-Bīrūnī is unknown to us and could either still be lying in an Indian library or simply be lost; 2) the commentary may have theistic tendencies that would be characteristic of a later development of the classical Yoga system; 3) an analysis of similes, metaphors, and/or of the *Kitāb Pātanǧal*'s laudatory introduction would be conducive to identifying al-Bīrūnī's source; 4) al-Bīrūnī's choices in his interpretations depended upon his own cultural and religious background, as well as upon his intelligence and creativity, the *Kitāb Pātanǧal* being thus a non-literal translation; 5) an investigation of these choices of interpretation is a *desideratum* in order to further analyze the relationship between the *Kitāb Pātanǧal* and its main source.[706]

Although Pines and Gelblum provide a thorough and pertinent work that constitutes the necessary first step to such an analysis, three fundamental reasons for their difficulty in pinpointing a source can be identified. First, they consider the *sūtra*-s and the *bhāṣya* of the *Pātañjalayogaśāstra* as dissociable entities. When they point out that the *sūtra*-s are

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[703] Pines/Gelblum 1966; 1977; 1983; 1989.
[704] Ibid.: 1966: 302-303.
[705] Ibid.: 304.
[706] Ibid.: 303-304; 306-308.

interwoven with a commentary,[707] they do not, as a first hypothesis, conceive the possibility that this commentary could in fact be the *bhāṣya*-part of the *Pātañjalayogaśāstra*. Further seeking in other commentaries, they are unable to identify the commentary mentioned by al-Bīrūnī. The second drawback to their analysis, resulting from the first, is their assumption of the existence of an unknown commentary. Moreover, as has been pointed out, the Arabic expression mentioning the commentary/commentator ("مفسّر كتاب "پاتنجل or تفسير"پاتنجل") used by al-Bīrūnī can be interpreted in one of two ways: "the commentator, which comments the *Kitāb Pātanğal*", or "the commentator, which is included in the *Kitāb Pātanğal*". This wording does not necessarily entail that al-Bīrūnī accessed an additional written commentary on the *Kitāb Pātanğal*.[708] The last element that can account for their difficulty in identifying al-Bīrūnī's source is that al-Bīrūnī's intelligence and creativity played a more significant part in his interpretive choices than the two scholars thought, as highlighted in chapter 4. Their analysis of two specific passages connected to the commentary in the *Kitāb Pātanğal* is re-examined in section 5.2.2.

5.2. The *bhāṣya* as an integrated part in the *Kitāb Pātanğal*

Two passages of the *Kitāb Pātanğal* mention the commentator. Pines and Gelblum argue that there are too many discrepancies between these passages and their corresponding sections in the *bhāṣya*-part of the *Pātañjalayogaśāstra* to identify the latter as al-Bīrūnī's source.[709] This section outlines the main arguments posited by Maas and Verdon in their detailed analysis of these two passages, summarizes their observations,[710] and supports their hypothesis with new evidence.

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[707] Ibid.: 303. See in the preface to the *Kitāb Pātanğal*, as well as in Q 46. Ritter 1956: 168.5; 185.16; 188.3; Pines/Gelblum 1966: 310; 1983: 260; 261.

[708] See p. 137.

[709] Ibid.: 304; 1983: 258.

[710] The sections reassessing previous scholarship on the identification of the Sanskrit source of the *Kitāb Pātanğal* are found in section 2.1 to 2.5 of their article. Maas/Verdon forthcoming 2016: 17-25.

5.2.1. The colophons and chapter headings

The following table, which was first elaborated by Maas and Verdon, displays the content of the chapter-colophons of the *Kitāb Pātanǧal* and the *Pātañjalayogaśāstra* and reveals striking commonalities between two texts:[711]

The chapter-colophons of the *Kitāb Pātanǧal*	The chapter-colophons of the *Pātañjalayogaśāstra* (Maas 2006: xx-xxi)
Here ends the first section, (dealing with) making the heart steadfastly fixed, of Patañjali's Book. (Pines/Gelblum 1966: 325)[712] تمت القطعة الاولى من كتاب باتنجل فى اقرار القلب على مقر واحد	"In Patañjali's treatise on *yoga*, expressive of Sāṃkhya,[713] the first part 'on absorption'." (*iti pātañjale yogaśāstre sāṃkhyapravacane samādhipādaḥ prathamaḥ.*)
Here ends the second section (dealing with) guidance {in} the *praxis* which has {previously been mentioned} in the first section. (Pines/Gelblum 1977: 527)[714] تمت القطعة الثانية فى ارشاد الى عمل ما كان تقدم فى القطعة الأولى	"In Patañjali's treatise on *yoga*, expressive of Sāṃkhya, the second part called 'instruction of means'." (*iti pātañjale yogaśāstre sāṃkhyapravacane sādhananirdeśo nāma dvitīyaḥ pādaḥ.*)
Here ends the third section {which pertains to reward and how to obtain reward}. (Pines/Gelblum 1983: 265)[715] تمت القطعة الثالثة المقصورة على ذكر الجزاء وكيفية المجازاة	"In Patañjali's treatise on *yoga*, expressive of Sāṃkhya, the third part 'on supernatural powers'." (*iti pātañjale yogaśāstre sāṃkhyapravacane vibhūtipādas tṛtīyaḥ.*)
Here ends the fourth section, (dealing with) {emancipation} and union, and {as [this section] concludes so does the book}. (Pines/Gelblum 1989: 271)[716] تمت القطعة الرابعة فى الخلاص والاتحاد وتم بتمامها الكتاب	"In Patañjali's treatise on *yoga*, expressive of Sāṃkhya, the fourth part 'on emancipation'. And here the work ends." (*iti pātañjale yogaśāstre sāṃkhyapravacane kaivalyapādaś caturthaḥ. samāptaś cāyaṃ granthaḥ.*)

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[711] On the basis of Maas/Verdon (forthcoming 2016: table 1, p. 4).
[712] Ritter 1956: 177.10.
[713] On the interpretation of the compound *sāṃkhyapravacana*, see footnote 569.
[714] Ritter 1956: 183.18.
[715] Ritter 1956: 192.22.
[716] Ritter 1956: 199.1.

Table 8: Comparison of wordings in the chapter-colophons of the Kitāb Pātanǧal *and of the* Pātañjalayogaśāstra.

Chapter-colophons of chapters 1, 2, and 4 of the two works are almost identical. The renderings of "absorption" (Skt. *samādhi*), "instruction of means" (Skt. *sādhananirdeśa*), and "emancipation" (Skt. *kaivalya*) are only rephrased and defined in Arabic by al-Bīrūnī. As for section 3, although the chapter-colophons do not literally correspond, the topics in chapter 3 in the *Kitāb Pātanǧal* and in *pāda* 3 of the *Pātañjalayogaśāstra* are similar, both dealing with the results of the practices described in chapters 1 and 2. The texts of all these colophons differ in that in the *Kitāb Pātanǧal* the expression "expressive of Sāṃkhya" is missing. On the whole, however, al-Bīrūnī conveys the meanings of the chapter headings of the *Pātañjalayogaśāstra*.

In addition to the chapter-colophons themselves, another noticeable example of this concordance occurs between chapters 2 and 3 of each work, specifically at Q 41 of the *Kitāb Pātanǧal*, and II.29-55 and III.1-8 of the *Pātañjalayogaśāstra*.[717] The two passages discuss the "eight ancillaries" (Skt. *aṣṭāṅga*) of the classical Yoga system. In this passage, the "eight ancillaries", alongside their subdivisions and respective benefits, are extensively described. The enumeration of the "eight ancillaries" by al-Bīrūnī corresponds relatively well to that of the *Pātañjalayogaśāstra*. He translates the term "ancillary" (Skt. *aṅga*) using an Arabic word meaning "quality", "property", or "characteristic" (خصلة).[718]

He provides the following list: 1) "refraining from evil" (الكف عن الشر) corresponding to "self-restraint" (Skt. *yama*), 2) "holiness, outward and inward" (القدس ظاهرا و باطنا) which can be paralleled to "[spiritual] restriction" (Skt. *niyama*), 3) "state of rest" (سكون), a term that can

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[717] Ritter 1956: 182.7-184.5; Pines/Gelblum 1977: 526-527; 1983: 258-259; Āgāśe 1904a: 101-122; Woods 1914: 177-208.

[718] It may be worth noting that the semantic field of the Arabic verbal root, *ḥaṣala* (خَصَلَ) from which the substantive originates, includes the notion of "cutting"; which recalls the semantics of the Sanskrit *aṅga*, meaning not only "ancillary", but also "subdivision".

be likened to the Sanskrit "posture" (Skt. *āsana*),[719] 4) "quieting the breath" (تكسين التنفس), the Arabic equivalent of "breath-control" (Skt. *prāṇāyāma*), 5) "compression of the senses" (قبض الحواس), rendering the Sanskrit "withdrawal [from the senses]" (Skt. *pratyāhāra*), 6) "quietude and tranquility" (السكينة والطمأنينة), which corresponds to "visualization of several objects" (Skt. *dhāraṇā*), 7) "prolonging of reflection upon [the object]" (ادامة الفكرة في[...]), a quasi-literal translation of "visualization of one object" (Skt. *dhyāna*), and finally 8) "perfect concentration" (اخلاص), which can be associated with the Sanskrit "absorption" (Skt. *samādhi*).[720] This comparison between the lists provided in the *Kitāb Pātanğal* and the *Pātañjalayogaśāstra* displays the quasi-literal translations, paraphrases, and conceptual adaptations al-Bīrūnī made.

Al-Bīrūnī combined the different *sūtra*-s with their *bhāṣya*-parts, discussing the eight ancillaries according to his own logic in one question/answer that is Q 41. The treatment of the eight ancillaries in the *Pātañjalayogaśāstra* is distributed over several *sūtra*-s. Condensing several portions of his Sanskrit source into one group of question/answer is a frequent approach taken by al-Bīrūnī. However, in spite of this combination, he maintained the chapter division of his source. The *Pātañjalayogaśāstra* deals with the first five ancillaries at the end of *pāda* 2 and the last three ancillaries in the beginning of *pāda* 3. Following this division, al-Bīrūnī thus splits Q 41 between sections 2 and 3 of the *Kitāb Pātanğal* and describes the three remaining "qualities" in the same answer at the beginning of section 3 of his translation. He explains why these three "qualities" are dealt with in the third section:

> The latter three qualities which are referred to in the third chapter are, as it were, separate from the five (qualities described in the) first (place) because they are more remote from the senses and closer to the intellect and are on the brink of a mental representation of the *cognitum* stripped of matter which is among the ties of

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[719] See Pines/Gelblum (1977: 547, note 154).
[720] Ritter 1956: 182.7-184.5; Pines/Gelblum 1977: 526-527; 1983: 258-259.

the sense. (Pines/Gelblum 1983: 258-259)[721]

The corresponding passage of the *Pātañjalayogaśāstra* reads:

"The triad is internal, as compared with the other [ancillaries] (sū III.7). This [triad], i.e., visualization of several objects, visualization of one object, and absorption, is internal to the absorption centered around an object, as compared with the five other means, i.e., commitments, etc. (PYŚ III.7). Further, the [triad] is external to [the absorption that is] not centered around an object. (sū III.8). Even this internal triad of means is external to the *yoga* not centered around an object [i.e., absorption-*asaṃprajñāta*]. Why? Because the [*yoga*] can occur, even when the [triad] does not exist (PYŚ III.8)."

trayam antaraṅgaṃ pūrvebhyaḥ (sū III.7). *tad etad dhāraṇādhyānasamādhitrayam antaraṅgaṃ saṃprajñātasya samādheḥ pūrvebhyo yamādibhyaḥ pañcabhyaḥ sādhanebhya iti* (PYŚ III.7). *tad api bahiraṅgaṃ nirbījasya* (sū III.8). *tad apy antaraṅgaṃ sādhanatrayaṃ nirbījasya yogasya bahiraṅgaṃ bhavati. kasmāt, tadabhāve bhāvād iti* (PYŚ III.8).[722]

The *śāstra* discusses the three last ancillaries separately from the other five, namely in chapter 3 instead of chapter 2, qualifying them under the generic Sanskrit term "meditative control" (Skt. *saṃyama*) in PYŚ III.4 (Skt. *trayam ekatra saṃyamaḥ*) and implying that the other five means are not to be conceived in these terms.[723] The "meditative control" includes "visualization of several objects", the "visualization of one object", and "absorption". The difference between these three ancillaries and the other five put forward in the Sanskrit text lies in the fact that the triad is characterized as being "internal" (Skt. *antaraṅga*) with regard to the absorption centered around an object. The triad is, however, also said to be external with regard to another type of absorption, namely the yoga without seed, because this latter

[721] Ritter 1956: 184.3-5.
[722] Āgāśe 1904a: 121-122. A discussion with Maas drew my attention to the existence of variations in the reading of the *bhāṣya*-part of this section of the *Pātañjalayogaśāstra*, in different manuscripts of the *Vivaraṇa* and of the *Pātañjalayogaśāstra*. However, in this case, these variations, indicated in bracket in the transliteration, do not lead to identify a manuscript that al-Bīrūnī could have use in particular.
[723] Āgāśe 1904a: 120.

can exist even if the triad does not exist. Al-Bīrūnī's definition of the three last ancillaries/qualities as "more remote from the senses and closer to the intellect" (ابعد عن الحس) (واقرب الى العقل) can be likened to the Sanskrit expression "internal, as compared with the other" (Skt. *antaraṅgaṃ pūrvebhyaḥ*). His statement that they "are on the brink of a mental representation" (على شفا تصور) finds expression in the conception that the three last ancillaries/qualities are close to the first type of "absorption" and at the same time distant from the second type. The Sanskrit and Arabic texts dealt with these three ancillaries/qualities similarly, that is in chapter 3 instead of chapter 2.

Although al-Bīrūnī slightly modified his source by grouping several *sūtra*-s as well as their *bhāṣya*-parts according to his own logic, he expressed similar ideas as the *Pātañjalayogaśāstra* and followed its general chapter order. This structural similarity, as well as the concordance between the chapter-colophons of the two works, indicates that al-Bīrūnī had access to a Sanskrit work with structural features similar to that of the *Pātañjalayogaśāstra*, and that he did not need additional commentary in order to bestow titles to the different sections of the *Kitāb Pātanǧal*.

A prominent difference between the colophons of the *Pātañjalayogaśāstra* and that of the other commentaries is the fact that the latter all bear the name of the authors of their respective commentaries. The *Pātañjalayogaśāstravivaraṇa* is thus attributed to Śaṅkara, the disciple of Govinda, while the *Tattvavaiśāradī* is ascribed to Vācaspatimiśra and the *Rājamārtaṇḍa* to King Bhoja. However, none of these Indian names appear in the *Kitāb Pātanǧal* nor in the *Taḥqīq mā li-l-Hind*.

5.2.2. Announced integration of the *bhāṣya*

The two passages occur in Q 46 of the *Kitāb Pātanğal*, a section that expounds the ways to perform "wondrous acts" (اعاجيب افعال) to obtain certain powers.[724] Two passages include an explicit admission by the scholar that he was inserting into his text extracts from the Sanskrit commentary. These interpolations occur after passages numbers 8 (PYŚ III.26) and 11 (PYŚ III.29) of table 9, advising "meditative control" (Skt. *saṃyama*), respectively on the sun and on the navel.

The first of these explicit quotations is introduced by the Arabic sentence "[t]he commentator has at this point an explanatory discourse" (وللمفسر فى هذا الموضع كلام شرحى),[725] and concludes with the words "[l]et us go back to the text" (فلنعد لى النص).[726] This quotation expounds the cosmography developed in the *Pātañjalayogaśāstra*. For Pines and Gelblum, the contents of the *Kitāb Pātanğal* in this place diverges too significantly from the *bhāṣya*-part of the *Pātañjalayogaśāstra* for the two to correlate them to each other.[727]

After stating that he quoted the commentator at this point, al-Bīrūnī explained how his source organized its cosmographical description. He also commented on the measurement units used in his source and transposed them into Arabic miles, once again revealing his efforts to make his translation as intelligible as possible. Subsequently, al-Bīrūnī goes on with the translation of his source. Al-Bīrūnī organized seven broad categories of regions in the following order: 1) seven hells (Skt. *naraka*); 2) seven netherworlds (Skt. *pātāla*); 3) seven islands (Skt. *dvīpa*); 4) seven oceans (Skt. *samudra*); 5) the end of the world (Skt. *lokāloka*); 6) three regions above (Skt. ?); 7) seven world-regions (Skt. *loka*, or *brahmaloka*).

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[724] Ritter 1956: 185-188; Pines/Gelblum 1983: 259-262.
[725] Ritter 1956: 185.16; Pines/Gelblum 1983: 260.
[726] Ritter 1956: 187.15; Pines/Gelblum 1983: 261.
[727] Ibid. 1966: 304.

Table 2 provided by Maas and Verdon compares these categories with those enumerated in the *Pātañjalayogaśāstra*.[728] This table highlights discrepancies and similarities between the two accounts. The "three regions above" (no 6), which are described by al-Bīrūnī as containing the "world of the fathers" (بِتُرلوكَ), the half of the "egg of Brahma" (بْرَهْمانْدَ),[729] and a "darkness" (ظلمة) called "tama" (تَمَ) do not find any parallel in the *Pātañjalayogaśāstra*. However, every other category appears in both works. The defining features of the oceans, such as "salted", "sugar cane water", are the same,[730] as are the names of the seven world-regions, etc., whereas the name and order of the enumerated seven hells and seven islands do not entirely match across both works. More importantly, Maas and Verdon notice that the two accounts are in agreement with regard to the number of hells and the position of the netherworlds situated above the hells, whereas other Brahmanical texts generally present the hells as more numerous and the netherworlds lying at the bottom of the cosmos.[731]

It is interesting to note that al-Bīrūnī was aware of the disparate views about cosmography that were held among literary Sanskrit works. In chapter 21 of the *Taḥqīq mā li-l-Hind*, entitled "Description of earth and heaven according to the religious views of the {Indians}, based upon their traditional literature" (فى صورة الارض و السماء على الوجوه المِلِّية التى ترجع إلى الاخبار و الروايات السمعيّة),[732] he noted the following:

> They [i.e., the Indians] do not differ among themselves as to the number of earths nor as to the number of the parts of the upper earth, but they differ regarding their names and the order of these names. I am inclined to derive this difference from the great verbosity of their language, for they call one and the same thing by a

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[728] Maas/Verdon (forthcoming 2016: 21-25).
[729] The concept of the egg of Brahmā (Skt. *brahmāṇḍa*) is only referred to with the second term of the Sanskrit compound, i.e., egg (Skt. *aṇḍa*) in the *Pātañjalayogaśāstra*. Al-Bīrūnī however mentions it two times in the *Kitāb Pātanǧal*. At the end of this cosmographical excursus, he explains to his readership that "[t]heir totality [i.e., that of the world-regions, or *loka*] is designated as Brahmāṇḍa in the same manner as we [i.e., the Muslims] designate the (heavenly) spheres as ether" (Pines/Gelblum 1983: 261; تسمى جملتها "بْرَهْمانْدَ" كما نسمى نحن جملة الافلاك اثيرا; Ritter 1956: 187.14). He also describes it in the *Tafhīm*. Wright 1934: 44-45, no 122.
[730] Whereas the *Pātañjalayogaśāstra* uses the Sanskrit term *lavaṇa* (salted) for describing the salted ocean, al-Bīrūnī gives the Arabic transliteration of the term *kṣāra* (saline), as being *kšāra* (كْشارَ).
[731] See Kirfel (1920: 148-173).
[732] Al-Bīrūnī 1958: 185.3-196.17; Sachau 1888b: I: 228-238.

multitude of names. For instance, they call the sun by a thousand different names according to their own statement, just as the Arabs call the lion by nearly as many. (Sachau 1888b: I: 228)[733]

For al-Bīrūnī, the main discrepancies lay in the different names the Indians use to designate the earths, which he explained by the wealth of the Sanskrit lexicon. He also provided another reason:

> Frequently it has crossed my mind that the authors of books and the transmitters of tradition have an aversion to mentioning the earths in a definite arrangement, and limit themselves to mentioning their names, or that the copyists of the books have arbitrarily altered the text. (Sachau 1888b: I: 229)[734]

Al-Bīrūnī considered the negligence of copyists as one of the reason for some the discrepancies found in the different texts. In chapter 7 of the *Taḥqīq mā li-l-Hind*, he also discussed the views on cosmography of other diverse Sanskrit sources, such as the *Ādityapurāṇa*, the *Vāyupurāṇa*, the *Viṣṇupurāṇa*, and the *Matsyapurāṇa*. In two of the tables he offered, he provided the names of the netherworlds (Skt. *pātāla)*, oceans, and islands (Skt. *dvīpa*) he had "heard orally" (مسموع من الألسنة).[735] This indicates that he also had recourse to an oral source for this type of information.

With regard to the commentator of the *Kitāb Pātanğal*, al-Bīrūnī noticed that the author's description of the seven heavens and his mention of the measurement of the islands actually diverged from the accounts of his *paurāṇic* sources. He also remarked:

> We on our part found it already troublesome to enumerate all the seven seas [i.e., oceans], together with the seven earths [i.e., islands], and now this author [i.e., the commentator of the *Kitāb Pātanğal*] thinks he can make the subject more easy and pleasant to us by inventing some more earths below those already enumerated by

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[733] Al-Bīrūnī 1958: 185.11-15.
[734] Ibid.: 186.9-11.
[735] Al-Bīrūnī 1958: 187; 193; Sachau 1888b: I: 230; 235.

ourselves! (Sachau 1888b: I: 237) [736]

Al-Bīrūnī thus revealed that he was aware of discrepancies concerning the position of the different hells emerging from his study of the source of the *Kitāb Pātanğal*, i.e., the *Pātañjalayogaśāstra* on the one hand, and other *paurāṇic* literature on the other.

Another common point between these two works, as opposed to other types of literature, is the order of the descriptions of the islands and oceans. Both works list them in two separate sequences, whereas other Brahmanical Sanskrit literature enumerates each island and ocean consecutively.

Thus, despite terminological and descriptive discrepancies, al-Bīrūnī's account coincides with that of the *Pātañjalayogaśāstra* in its global structure and representation of the cosmos. Further, no other known Sanskrit source related to classical Yoga is demonstrably closer to this passage of the *Kitāb Pātanğal* than the *Pātañjalayogaśāstra*, as none, as will shortly become evident, can account for any of the differences at the forefront of the preceding paragraphs. Indeed, the *Vivaraṇa* merely quoted from the *Pātañjalayogaśāstra*,[737] failing to comment upon it, with the exception of these short sentences:

> "The [threefold] meditative control upon the sun leads to the knowledge of the worlds (sū III.26). Having concentrated upon the sun, he will look at the whole extent of the worlds. The meaning of the commentary (*bhāṣya*) is easily understandable, as it was well established in all *Purāṇa*-s."

> *bhuvanajñānaṃ sūrye saṃyamāt* (sū III.26). *sūrye saṃyamaṃ kṛtvā samastaṃ bhuvanaprastāraṃ pratyakṣīkurvīta. bhāṣyaṃ tu gatārthaṃ, sarvapurāṇaprasiddhatvāt.* (*Vivaraṇa* III.26; Sastri/Sastri 1952: 287)

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[736] Al-Bīrūnī 1958: 195.1-2.
[737] Sastri/Sastri 1952: 285-287.

The author of the *Pātañjalayogaśāstravivaraṇa*, in parallel with al-Bīrūnī, considered this cosmographical description as part and parcel of a common knowledge shared by both the author of the *bhāṣya* and that of "all *Purāṇa*-s". As for the *Tattvavaiśāradī*, it generally does not deviate from the description provided by the *Pātañjalayogaśāstra*. In contrast to the latter, the *Tattvavaiśāradī* explicitly mentions the egg of Brahmā but not in the same context in which it appears in the *Kitāb Pātanğal*, namely that of the "three regions above".[738] It moreover refers to elements of metaphysics, i.e., the "substrative cause" (Skt. *prakṛti*) and the "essence of the conscious perception" (Skt. *buddhisattva*), which neither the *Kitāb Pātanğal* nor the *Pātañjalayogaśāstra* mention in this place.[739] Finally, the *Rājamārtaṇḍa* could not have inspired al-Bīrūnī for this section of his translation either, as it does not provide any cosmographical description at this particular instance.[740]

The three aforementioned commentaries, the *Vivaraṇa*, the *Tattvavaiśāradī*, and the *Rājamārtaṇḍa*, do not provide the additional elements that are contained in the *Kitāb Pātanğal*, for instance the "three regions above" or the specific names of the hells – *vajra*, *garbha* and *suvarṇa* – which all find their way into al-Bīrūnī's account. The differences between the *Kitāb Pātanğal* and the *Pātañjalayogaśāstra* can be explained by the fact that in some instances al-Bīrūnī deemed necessary for the sake of his Muslim readership to complement the cosmographical description, or, conversely, that in other instances he regarded some elements as irrelevant and therefore not worth expounding in detail. His knowledge drawn from other sources, such as the *Purāṇa*-s and his oral informants, on the other hand, played a significant part in his approach to rendering the Yoga work into Arabic.

The second passage in which al-Bīrūnī explicitly quotes from the commentary is now analyzed. It corresponds to PYŚ III.29 and discusses medical notions strongly inspired by Āyurvedic medicine. It starts with "[t]his too belongs to the commentator's explanation" (هذا

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[738] Āgāśe 1904a: 150; Woods 1914: 258.
[739] Āgāśe 1904a: 151; 152; Woods 1914: 258; 259-260.
[740] Āgāśe 1904b: 38-39; Śāstrī 2009: 141-142.

قد رجعنا) ,[741] and ends with the sentence "[a]t this point we return to the text" (من كلام المفسر ايضا

الى النص).[742] In this passage, al-Bīrūnī included and described the process through which food

is transformed into matter, a process which is not described in the *Pātañjalayogaśāstra*.

Further, both Sanskrit and Arabic works enumerate seven bodily constituents, although in

different orders. Pines and Gelblum conclude that the *Pātañjalayogaśāstra* could not be the

source of the *Kitāb Pātanǧal* because of these two main discrepancies. Maas and Verdon, on

the other hand, explain the first difference, i.e., the addition of the description of food

transformation, as due to al-Bīrūnī being inspired by his oral informants and elucidate the

second thanks to a philological discussion.

They also notice al-Bīrūnī's peculiar understanding of the Sanskrit sentence "[t]his

arrangement is such that the preceding element is in each case exterior to that next preceding"

(Skt. *pūrvaṃ pūrvam eṣāṃ bāhyam ity eṣa vinyāsaḥ*) in the *bhāṣya*-part. He interpreted it as

follows: "[w]hatever is farther from matter is more excellent" (Pines and Gelblum: 1983: 261;

كل ما هو ابعد عن المادة فهو افضل),[743] an interpretation indebted to his socio-cultural background.

The idea that impurity is to be linked with gross matter, and that purity, or good, should be

associated to the immaterial, is a common conception not only amongst ancient Greek

thinkers, but also Arab philosophers, as the example of the covering of the soul showed.[744]

This particular interpretation does not fit the *Vivaraṇa*, nor can it be linked to the

Rājamārtaṇḍa, as it does not even comment on this particular passage. As for the

Tattvavaiśāradī, it does not supply any more information than what is actually provided by

the *Pātañjalayogaśāstra*. Therefore, the specific difference between the Arabic passage and

its Sanskrit corresponding portion is owed to al-Bīrūnī's hermeneutics rather than to him

having used a work different from the *Pātañjalayogaśāstra*.

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[741] Ritter 1956: 188.3; Pines/Gelblum 1983: 261.
[742] Ritter 1956: 188.11; Pines/Gelblum 1983: 262.
[743] Ritter 1956: 188.8-9.
[744] Supra pp. 188-189.

The reasons al-Bīrūnī announced his insertion of the commentary only in these two cases have already been broached by Maas and Verdon who recall the following: the scholar, having expressed in the preface to the *Kitāb Pātanǧal* his combination of a commentary and a text in his translation, felt the need to inform his readership whenever he did not conform with his initial declaration.

In addition to this observation, there may be another reason for the full insertion of the commentary in these two places in particular. With regard to the cosmographical digression, al-Bīrūnī explained his decision in the following manner:

> The commentator has at this point an explanatory discourse describing the world and the Earths.[745] It seems useful to quote this discourse in an exact manner. For it is one of the current sciences among them [i.e., the Indians]. In the description of the existent (things) he starts with the lowest section (proceeding) towards the uppermost (Pines/Gelblum 1983: 260)[746]

It appears that al-Bīrūnī considered it important to insert the commentator's words "in an exact manner", simply because he regarded this topic as "one of the current sciences among" the Indians. First, the Arabic expression على وجهه that is rendered by Pines and Gelblum as "in an exact manner" literally means "properly", "in the right manner", or "as it should be". Thus, the use of this phrase suggests that al-Bīrūnī wished to express the commentator's words in spirit, rather than attempting to render them literally. Second, the reason for quoting the commentator here more extensively than elsewhere reflect al-Bīrūnī's desire, which he formulated in his preface and his conclusion, to inform his readership as much as possible about Indian culture. A major part of the *Taḥqīq* is equally devoted to these scientific fields, referring to a large number of Indian astronomers, such as Brahmagupta, Āryabhaṭa, or Varāhamihira, but also mentioning the *Purāṇa*-s. Section 2.1 of this dissertation highlights al-

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[745] The reading proposed by Pines/Gelblum is followed here. See supra p. 134.
[746] Ritter 1956: 185.16-18.

Bīrūnī's initial knowledge of – and interest in – Indian astronomy and astronomical mathematics.

As for the medical discussion related to PYŚ III.29, al-Bīrūnī did not clarify why he quoted the commentary. It is possible that, in the same way as for his cosmographical digression, al-Bīrūnī considered medicine a "current science among them" and/or initially had a special interest in the subject addressed in the commentary. However, it is worth recalling that this interest was not isolated and that, from the second half of the 8th century CE onward, Sanskrit astronomical and medical treatises were amongst the first scientific writings to be translated by the Arabs in the 8th century CE. One reason simply lies in the fact that cosmography and medicine were fundamental disciplines, both for al-Bīrūnī's readership and the Indians, or al-Bīrūnī at least considered them to be so, and therefore chose to develop them further.

A question was raised with regard to the exact interpretation of the Arabic expression that can mean either "the commentator in the *Kitāb Pātanğal*" or "the commentator upon the *Kitāb Pātanğal*" (مفسّر "پاتنجل").[747] The present section shows that it is appropriate to interpret this expression as "the commentator in the *Kitāb Pātanğal*", since several portions of the *bhāṣya*-part of the *Pātañjalayogaśāstra* are included in the *Kitāb Pātanğal*.

5.2.3. Unannounced integration of the *bhāṣya*

Q 46 enumerates different objects of thoughts upon which intense "thought" or "concentration" (فكرة or تفكر) leads to peculiar powers or knowledge linked to those objects. This is due, according to al-Bīrūnī, to the fact that "he [i.e., the yogi/ascetic] finds his recompense and reward in every case in which he applies his thought and to which he directs his steadfastness" (Pines/Gelblum 1983: 259;   يجد مكافأته وثوابه حيث انزل فكرته و صرف اليه

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[747] See supra p. 137.

عزيمته).[748] In all, fifteen objects are listed by al-Bīrūnī. These objects are all found in PYŚ III.21 to III.35,[749] as the table below shows:

Nos	Q 46, *Kitāb Pātanğal*[750]	III.21-35, *Pātañjalayogaśāstra*
1	[W]hoever wishes to be hidden from the eyes applies his thought constantly to (his own) body and to the representation which he has concerning it […]. Accordingly, he becomes invisible to (other) persons. من اراد الاستتار عن الاعين ادام التفكر فى البدن و ما تصور به [...] فانه يخفى عن الناس	"The [threefold] meditative control focused on the [outer] form of the body leads to invisibility, when [the body's] ability to be perceived has ceased as a consequence of the disjunction between eye and light." *kāyarūpasaṃyamāt tadgrāhyaśaktistambhe cakṣuḥprakāśāsaṃprayoge 'ntardhānam* (sū III.21).
2	Similarly, whenever he applies his thought constantly to speech and to its constriction, his voice becomes inaudible […]. كما انه اذا ادام التفكر فى الكلام و قبضه خفى صوته فلم يُسَمع	"By this [way], it should be known that the disappearance of sounds and so on was [also] told." *etena śabdādyantardhānam uktaṃ veditavyam* (PYŚ III.21).
3	Whoever wishes to grasp the circumstances of his death, constantly applies (his) thought to (his) work […]. من اراد الاحاطة بكيفية موته ادام التفكر فى الاعمال	"The [threefold] meditative control, when focused on karma, leading to a [quick] result and not leading to a [quick] result, or on fatal signs, leads to the knowledge of the latter end."[751] *sopakramaṃ nirupakramaṃ karma tatsaṃyamād aparāntajñānam ariṣṭebhyo vā* (sū III.22).
4	Whoever wishes to have a (mental) representation of Paradise and Hell, of the	"Likewise [a fatal sign] pertaining to other creatures [would occur when] one sees the

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[748] Ritter 1956: 185.2-3.
[749] Āgāśe 1904a: 146-155.
[750] Based on Pines/Gelblum's translation (1983: 259-262).
[751] The karma discussed here is the type of karma whose results are related to the life span (*āyurvipākaṃ karma*, PYŚ III.22). This karma is in turn two-fold. The *Vivaraṇa ad loc.* explains the difference of this two-fold karma in terms of speed of their results. Sastri/Sastri 1952: 282-283.

	angels and the spirits […], as well as of the dead among his ancestors, should constantly apply (his) thought to them […]. من اراد ان يتصور له الجنة والنار والملايكة والزبانية والموتى من اسلافه فليدم التفكر فيهم	men of Yama, [or] when one sees [or knows][752] the fathers passed away without a reason."[753] *tathādhibhautikaṃ yamapuruṣān paśyati, pitṝn atītān akasmāt paśyati* (PYŚ III.22).
5	Whoever wants to strengthen his soul should constantly remember to rejoice in good and turn away from evil […]. من اراد تقوية نفسه فليدم تذكار السرور بالخير والاعراض عن الشر	"[The threefold meditative control] upon friendliness and other [feelings][754] strengthens [friendliness]." *maitryādiṣu balāni* (sū III.23).
6	Whoever wants to strengthen his body directs (his) thought to the power (in question) and its localizations in it (i.e. the body). For by doing this constantly he will acquire a power which does not fall short of that of an elephant. من اراد تقوية بدنه صرف الفكرة الى القوة و مواضعها منه فانه يكتسب بادامة ذلك قوة لا تتخلف عن قوة الفيل	"[The threefold meditative control] upon strength leads [to have] the strength of an elephant, and so on." *baleṣu hastibalādīni* (sū III.24).
7	Therefore if he directs his thought to the light of the senses after having subdued and constricted them, he receives as his recompense knowledge of the subtle things, (both) present and absent. لهذا اذا صرف فكرته الى نور الحواس بعد قمعها و قبضها كوفىء بمعرفة الدقايق الحاضرة والغايبة	"The knowledge of the subtle, the concealed, and the obscure objects proceeds from casting light of the contemplation [of mind[755] upon them]." *pravṛttyālokanyāsāt sūkṣmavyavahitaviprakṛṣṭajñānam* (sū III. 25).
8	Whoever directs it (i.e. his thought) to the sun receives as his recompense comprehension of everything that is in the worlds so that he sees them. من صرفها الى الشمس كوفىء بالاحاطة بجميع ما فى العوالم وابصرها	"[The threefold meditative control] upon the sun leads to the knowledge of the world." *bhuvanajñānaṃ sūrye saṃyamāt* (sū III.26).

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[752] In some manuscripts of the *Pātañjalayogaśāstra*, as well as in the reading proposed by the *Vivaraṇa*, the text reads *vetti* (he knows) instead of *paśyati* (he sees). Sastri/Sastri 1952: 283.

[753] The Sanskrit compound *yamapuruṣān* which stands here as a synonym of *yamadūta* (messenger of Yama) has been interpreted as the "men of Yama". The men in the world of Yama are separately referred here to with the plural of the Sanskrit term *pitṛ*, meaning fathers or ancestors.

[754] In PYŚ I.33, other feelings, which could be referred to here, are enumerated.

[755] The term *pravṛtti* refers to a state of the mind, in which stability has arose. See PYŚ I.35.

9	Whoever directs his thought to the moon achieves knowledge concerning the arrangement of the stars, their positions and their actions. من صرف فكرته الى القمر احاط علما بترتيب الكواكب واوضاعها وافعالها	"[The threefold meditative control] upon the moon leads to the knowledge of the arrangement of the stars." *candre tārāvyūhajñānam* (sū III.27).
10	Whoever directs it to the pole(-star)–it is a complex of fourteen stars[…]–knows the motions of the stars. من صرفها الى القطب ـ و هو فى جملة اربعة عشر كوكبا [...] ـ عرف حركات الكواكب	"[The threefold meditative control] upon the North Star leads to the knowledge of [the star's] movements." *dhruve tadgatijñānam* (sū III.28).
11	Whoever wishes to know his own body should meditate continuously on the navel. من اراد معرفة بدنه فليدم التفكر فى السُّرّة	"[The threefold meditative control] upon the navel's cakra leads to the knowledge of the arrangement of the body." *nābhicakre kāyavyūhajñānam* (sū III.29).
12	Whoever wishes to remove the harmful (effects) of hunger and thirst from himself should direct his thought to the hollow (part) of the chest and the larynx (i.e.) the channel (through which) the wind (passes) by means of respiration. من اراد نفى اذى الجوع والعطش عنه فليصرف فكرته الى فضاء الصدر والحلقوم مجرى الريح بالتنفّس	"[The threefold meditative control] upon the cavity in the throat leads to the cessation of hunger and thirst." *kaṇṭhakūpe kṣutpipāsānivṛttiḥ* (sū III.30).
13	Whoever wishes to dispense with motion should reflect on the 'tortoise', namely, the twisted veins above the navel likened to this (animal). من اراد الاستغناء عن الحركة فليتفكر فى السلحفاة و هى عروق ملتوية فوق السرة شُبّهت بها	"[The threefold meditative control] upon the tortoise canal [system] leads to stability [of the mind]. There is a vessel resembling a tortoise, below [this] cavity, in the chest." *kūrmanāḍyāṃ sthairyam* (sū). *kūpād adha urasi kūrmākārā nāḍī* (PYŚ III.31).
14	Whoever wishes to see the {secret of the} ascetics, [756] who […] inhabit {bhūbarlūka}, should direct his thought to the light of the	"[The threefold meditative control] upon the light in the head leads to see the accomplished ones."

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[756] It is not necessary, in my view, to interpret the Arabic *sirra* (secret; سرّ) as a transliteration of the Sanskrit *siddha* (accomplished) as Pines and Gelblum do.

	orifice which is (found) on the bone of the vertex. من اراد ان يعاين سرّ الزهّاد الذين [...] سكنوا "بْهوبَرْلوكَ" فليصرف الفكرة الى نور النّقبة التى على عظم اليافوخ	*mūrdhajyotiṣi siddhadarśanam* (sū III.32).
15	Whoever wishes (to acquire) knowledge–let his thought be (centred) in the heart, which is its source and dwelling place […] من اراد العلم فليكن فكرته فى القلب الذى هو ينبوعه ومسكنه	"[The threefold meditative control] upon the heart leads to the mind's consciousness. *hṛdaye cittasaṃvit* (sū III.34).

Table 9: Concordance between the Kitāb Pātanğal *and the* Pātañjalayogaśāstra *about different objects of concentration.*

The accumulation of correspondences, as highlighted in this table, cannot be a coincidence. Every object of concentration enumerated in the *Kitāb Pātanğal* finds its analogue in the *Pātañjalayogaśāstra*. The only two objects that are listed by al-Bīrūnī that are not found in the *sūtra*-part are expressed in the *bhāṣya*-part (number 2 and 4). The Sanskrit passage in number 1 dealing with the "invisibility" from sight that results from a "meditative control focused on the [outer] form of the body" belongs to the *sūtra*-part of PYŚ III.21. The second object of meditative control (number 2) related to "sounds" is described in the *Kitāb Pātanğal* as a distinct object from the first object of meditative control related to "sight" (number 1). In the Sanskrit printed editions of the *Pātañjalayogaśāstra*, the Sanskrit passage covering "sounds" is sometimes considered as part of the *sutra*-part of PYŚ III.21, and in other cases as of its *bhāṣya*-part, as Pines and Gelblum have remarked.[757] Āgāśe, for instance, includes this passage as part of the *bhāṣya* in his edition of the text.[758] In the editions of the *Rājamārtaṇḍa* and the *Vivaraṇa* used for this dissertation, it also does not appear in the *sūtra*-part.[759]

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[757] Pines/Gelblum: 1983: 277, note 65.
[758] Āgāśe: 1904a: 146. Also in Angot (2008: 505).
[759] Āgāśe: 1904b: 37; Śāstrī 2009: 137. Sastri/Sastri 1952: 281-282; Rukmani 2001a: 73.

The passages of the *Kitāb Pātanğal* in numbers 3 and 4 can be respectively likened to *sūtra* III.22 and to the end of the *bhāṣya* on III.22, although the wording is different.[760] First, *sūtra* III.22 states that concentration on the two-fold karma and the "fatal signs" (Skt. *ariṣṭa*)[761] results in the "knowledge of the latter end" (Skt. *aparāntajñānam*). In contrast, in al-Bīrūnī's translation, only concentration on "work" (اعمال), in all likelihood the rendering of the Sanskrit karma, leads to the knowledge of "the circumstances of [one's] death" (كيفية موته). Second, according to the *bhāṣya*-part of the *Pātañjalayogaśāstra*, there are three types of "fatal signs": "pertaining to other creatures" (Skt. *ādhibhautika*), "pertaining to self" (Skt. *ādhyātmika*), and "pertaining to divine beings" (Skt. *ādhhidaivika*). The reference in the *Kitāb Pātanğal* to "the angels and the spirits […] as well as […] the dead among his ancestors" (والملايكة والزبانية والموتى من اسلافه) invokes the "men of Yama, […] the fathers passed away without a reason" (Skt. *yamapuruṣān* […] *pitṝn atītān akasmāt*) enumerated in the *Pātañjalayogaśāstra* in order to describe the "fatal sign pertaining to other creatures".

Al-Bīrūnī did not refer to the other two "fatal signs" described in the *Pātañjalayogaśāstra*. It also appears that al-Bīrūnī neglected to translate the Sanskrit word meaning "without a reason" (Skt. *akasmāt*), probably because the scholar did not consider this specification necessary. These differences cannot be accounted for by al-Bīrūnī having used a different source than the *Pātañjalayogaśāstra*, as all commentaries mention the three "fatal signs". The *Vivaraṇa* quotes the complete *Pātañjalayogaśāstra* almost literally in this passage, and does not offer an additional explanation that could explain the discrepancies between the *Kitāb Pātanğal* and the *Pātañjalayogaśāstra*.[762] The *Tattvavaiśāradī* and the *Rājamārtaṇḍa* only briefly mention the three "fatal signs", without explicitly referring to

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[760] Pines and Gelblum also notice the correspondence with the *bhāṣya*-part of the *Pātañjalayogaśāstra* (1983: 274, note 7).

[761] Yano discusses these signs predicting death (Skt. *ariṣṭa*) in the context of divination and medicine (2005: 53-59).

[762] Sastri/Sastri 1952: 283.

Yama or to the "fathers" (Skt. *pitṛ*).[763] The tripartite division of the "suffering" (Skt. *duḥkha*), i.e., "pertaining to other creatures" (Skt. *ādhibhautika*), "pertaining to self" (Skt. *ādhyātmika*) and "pertaining to divine beings" (Skt. *ādhidaivika*), is fundamental in the classical Sāṃkhya-Yoga.[764] On the other hand, in Islamic culture, there is no room for such notions, and hence al-Bīrūnī may have omitted them in his translation.

It is interesting to note that al-Bīrūnī deemed it necessary to insert some definitions on the notions he interpreted in this passage, such as in number 12, which explains "the hollow (part) of the chest and the larynx" as the "channel (through which) the wind (passes) by means of respiration", which is neither present in the *sūtra*-part nor in the *bhāṣya*. As for number 10, which shows a parallel between the Arabic translation and *sūtra* III.28, al-Bīrūnī defined the pole star as being a complex of "fourteen stars" (اربعة عشر كوكبا). This explanation is not found in any of the commentaries that could have been available to him.[765] However, in the *Taḥqīq*, quoting the *Viṣṇudharma* (بِشْنَ دْهَرم), al-Bīrūnī writes that "[f]ourteen of these stars he [i.e., the author of the *Viṣṇudharma*] placed round the pole […]" (Sachau 1888b: I: 242;وضع منها حول القطب اربعة عشر).[766] In these two cases, al-Bīrūnī in all likelihood thought it necessary to augment the information he transferred in his *Kitāb Pātangal*. In the first of these examples, he was probably informed orally, whereas in the second he may have drawn his information from the *Viṣṇudharma*.

The *Kitāb Pātangal* diverges from the *Pātañjalayogaśāstra* on two final points. Al-Bīrūnī adapted at least two objects of concentration based on material gleaned due to his own background. He included the notion of paradise and hell in number 4 and translated karma in its more literal, less figurative sense of "work" or "action", in number 3, thus avoiding the need to explain the Indian karmic retribution theory, and thereby leaving the door open for an

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[763] Āgāśe 1904a: 147; Woods 1914:252; Āgāśe 1904b: 68; Śāstrī 2009: 168.
[764] See for instance *kārikā* 1 of the *Sāṃkhyakārikā* and *Pātañjalayogaśāstra* I.31.
[765] Āgāśe 1904a: 153; Āgāśe 1904b: 39; Woods 1914: 260; Sastri/Sastri 1952: 287-288; Śāstrī 2009: 142-143.
[766] Al-Bīrūnī 1958: 199.12.

Islamic interpretation of the term "action". In some cases he supplemented the information found in his source, explaining technical concepts to his readership and/or adapting them. As seen above, he also omitted those that were technical and foreign to him. These observations concur with findings from the survey of chapter 4 on al-Bīrūnī's use of translational strategies in the *Kitāb Pātanğal*.

It is also appears that PYŚ III.33 was not translated or even interpreted by al-Bīrūnī, whereas PYŚ III.35 may find a parallel in the last part of Q 46. Apart from these divergences, the *Kitāb Pātanğal* and the *Pātañjalayogaśāstra* are relatively close to each other in terms of content.

On the whole, these passages indicate that al-Bīrūnī included portions of the *bhāṣya*-part of the *Pātañjalayogaśāstra* into the *Kitāb Pātanğal*, just as stated in the preface to his translation. Other passages found in different parts of the *Kitāb Pātanğal* also indicate such an inclusion. For instance, the question in the *bhāṣya* introducing *sūtra* I.24 was without a doubt rendered by al-Bīrūnī in Q 12 of the *Kitāb Pātanğal*.[767] Al-Bīrūnī actually appropriated several of the introductory questions in the *Pātañjalayogaśāstra* for his translation, as illustrated in the following table:

Kitāb Pātanğal	*Pātañjalayogaśāstra*
Q 6 How can the quelling of the soul and the compression of its faculties away from external things be accomplished? (Pines/Gelblum 1966: 316) [768] فكيف يمكن قمع النفس وقبض قواها عن الخارجات ؟	"Now what means exists for the cessation of these [mental activities]?" *athāsāṃ nirodhe ka upāya iti* (Introduction to sū I.12. Maas 2006: 21).
Q 19 What are the obstacles which prevent	"But what are these obstacles? and (*vā*) how

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[767] Ritter 1956: 173.12; Pines/Gelblum 1966: 319. This passage also occurs in the *Taḥqīq mā li-l-Hind* as a quotation from the *Kitāb Pātanğal*. See Maas (2013: 59).
[768] Ritter 1956: 171.14.

the soul from attaining its own self? (Pines/Gelblum 1966: 322) [769] فما هذه التى تمنع النفس عن الاقبال على ذاتها ؟	many are they?" *atha ke 'ntarāyāḥ, kiyanto veti* (Introduction to sū I.30. Maas 2006: 46).
Q 26 What are these afflictions which burden the heart? (Pines/Gelblum 1977: 522) [770] وما هذه الاثقال التى تؤود القلب ؟	"Now what are those afflictions and (*vā*) how many are they?" *atha ke kleśāḥ kiyanto veti* (Introduction to sū II.3. Āgāśe 1904a: 59).
Q 66 If both (i.e. merit and demerit) become null and void in (the ascetic's) past and future and {emancipation} is an existent, how can an existent come about from two non- existents? (Pines/Gelblum 1989: 269)[771] اذا عُدما معا فى ماضيه وفى مستقبله وللخلاص ايس فكيف يحصل انس من ليسين ؟	"There is no production of what is non-existent nor destruction of what is existent. Considering this [remark], how past impressions disappear, although they exist in their substance?" *nāsty asataḥ saṃbhavaḥ, na cāsti sato vināśa* *iti dravyatvena saṃbhavantyaḥ kathaṃ* *nivartiṣyante vāsanā iti* (Introduction to sū IV. 12. Āgāśe 1904a: 186).

Table 10: Correlation of the questions from the Kitāb Pātangal *and the* Pātañjalayogaśāstra.

These examples indicate that al-Bīrūnī included the *bhāṣya*-part of his source into his translation without indicating this insertion.[772] In addition, Q 5, which corresponds to PYŚ I.5-11, includes the *sūtra*- and the *bhāṣya*-parts of the *Pātañjalayogaśāstra*.[773] Both passages, Arabic and Sanskrit, deal with the "mental activities" (Skt. *cittavṛtti*), or, in al-Bīrūnī's words, the "faculties of the soul" (قوى النفس). The explanation al-Bīrūnī provided for the first of these "mental activities", referred to in Arabic as "grasping" or "understanding" (ادراك) and in

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[769] Ritter 1956: 175.11.

[770] Ritter 1956: 177.21.

[771] Ritter 1956: 196.1-2. The reading of the term ايس, meaning "being", is suggested by Pines/Gelblum (1989: 294, notes 81 and 82).

[772] Other correspondences are for instance found in Qs 2 and 3, corresponding to PYŚ I.3 (Maas/Verdon forthcoming 2016: 31-32), Q 7 to PYŚ I.17-18, and Q 12 to I.23.

[773] Ritter 1956: 171.1-13; Pines/Gelblum 1966: 315-316; Āgāśe 1904a: 9-17; Woods 1914: 17-32. See Maas/Verdon (forthcoming 2016: 30-31).

Sanskrit as "valid knowledge" (Skt. *pramāṇa*), was undoubtedly inspired by the content of the *bhāṣya*, although the wording of the Arabic translation differs from that of its Sanskrit source. The aforementioned analogies of Nandīśvara and Nahuṣa, as well as that of the husked or unhusked rice grains, equally stand as examples of the *bhāṣya*'s influence on al-Bīrūnī's works. These analogies are indeed only referred to in the *bhāṣya*-part, and not in their respective *sūtra*-s: II.12 ("The sediment of karma, rooted in the afflictions, may be known in a present or future birth"; *kleśamūlaḥ karmāśayo dṛṣṭādṛṣṭajanmavedanīyaḥ*) and II.13 ("When the root exists [i.e., the afflictions], there is its ripening, [which results in] the experiences of [a certain type of] birth and of life's duration"; *sati mūle tadvipāko jātyāyurbhogāḥ*).[774]

Several other passages also display the insertion of the *bhāṣya*-part of the *Pātañjalayogaśāstra* in the *Kitāb Pātanǧal*. For instance, Q 23, corresponding to PYŚ I.41, describes the yogi's "psychic power" (قوته النفسية), which, according to al-Bīrūnī's description, stands here for the "soul" or the "mind" of the *Pātañjalayogaśāstra*.

It compares the "soul" to crystal, which, while it reflects the external world, is yet not similar to it:

> It [i.e., the psychic power] is like to a crystal, in which its surroundings are seen, so that the things are in it, whereas it is external to them. In the same way he [i.e., the yogi] contains that which encompasses him, so that when union between (the act of) knowing and the known (is achieved) in him – he being the knower – intellection, he who intellects, and that which is intellected become in him one thing. (Pines/Gelblum 1966: 323-324)[775]

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[774] Āgāśe 1904a: 67; 68.
[775] Ritter 1956: 176.10-12.

In the *Pātañjalayogaśāstra*, a similar analogy is used to describe the mind when it has ceased its activities. It reads:

"The contemplative state (*samāpatti*), [which] is the identity with that which is located in (*tatsthatadañjanatā*) the perceiver, the perception, and the perceptible, [presents itself] to the [mind], when the latter's activities have ceased, [and therefore it has become] like a beautiful jewel. (sū I.41) […]. He offers an example with [the phrasing] "like a beautiful jewel": just like a crystal, tinted by different colors because of the variety of its environment, irradiates [differently] depending upon the color and the form of its environment, the mind, when in contact with the perceptible is tinted by the attributes[776] of the perceptible, irradiates [differently] depending upon the color and the form of the perceptible (PYŚ I.41)."

kṣīṇavṛtter abhijātasyeva maṇer grahītṛgrahaṇagrāhyeṣu tatsthatadañjanatā samāpattiḥ (sū I.41) […] *abhijātasyeva maṇer iti dṛṣṭāntopādānam. yathā sphaṭika upāśrayabhedāt tadrūpoparakta upāśrayarūpākāreṇa nirbhāsate, tathā grāhyālambanoparaktaṃ cittaṃ grāhyasamāpannaṃ grāhyasvarūpākāreṇa nirbhāsate* (PYŚ I.41).

As this passage exemplifies, the analogy of the "jewel" is only contextualized in the *bhāṣya*-part of the *Pātañjalayogaśāstra*, which specifies: "just like a crystal, tinted by different colors because of the variety of its environment, irradiates [differently] depending upon the color and the form of its environment" (Skt. *yathā sphaṭika upāśrayabhedāt tattadrūpoparakta upāśrayarūpākāreṇa nirbhāsate*). The *bhāṣya* also provides a synonym for "jewel" (Skt. *maṇi*), the lexical field of which is vast. According to the Monier-Williams, it can be translated in a flurry of ways such as jewel, gem, pearl, any ornament or amulet, globule, crystal, a magnet, but also glans, penis, clitoris, the hump (of a camel), thyroid cartilage, the name of different mythological figures, and so on.[777] The *bhāṣya* specifies the meaning that has to be understood in this context by employing as a synonym the Sanskrit masculine term

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[776] The term *ālambana* is understood in its Buddhist interpretation, as being the attributes of a perceived object, connected to the five senses, namely the form, the sound, smell, taste, and touch.
[777] Monier-Williams 2003[1899]: 774.

sphaṭika, one which cannot be understood differently than as "crystal" or "quartz".

Although the wording differs between the *Kitāb Pātanğal* and the *Pātañjalayogaśāstra*, the conclusions of this analogy in both works can be paralleled. The Sanskrit reads "the mind, when in contact with the perceptible is tinted by the attributes of the perceptible, irradiates [differently] depending upon the color and the form of the perceptible" (Skt. *tathā grāhyālambanoparaktaṃ cittaṃ grāhyasamāpannaṃ grāhyasvarūpākāreṇa nirbhāsate*), which was rendered by al-Bīrūnī, as follows: "In the same way he [i.e., the yogi] contains that which encompasses him," (كذلك هو يتضمن ما احاط به).

The three concepts "perceiver" (Skt. *grahītṛ*), "act of perceiving" (Skt. *grahaṇa*), and "perceptible" (Skt. *grāhya*) are consistently translated into Arabic as "knower" (عاقل), "act of knowing" (عقل), and "known object" (معقول), notions that are not only important in the Greek and Islamic thought, but are also relatively faithful renderings of the Sanskrit terms.

Lastly, the three aspects of time – past, present, and future – are described in similar way in PYŚ IV.12 and in Q 66:

> "Past and future exist in their own forms, because there exists the difference in time[778] for the properties [of a substrate] (sū IV.12). Future is the manifestation of what is about to come. Past is the manifestation of what has been experienced. Present is what has reached its own function (PYŚ IV.12)."

> *atītānāgataṃ svarūpato 'sty adhvabhedād dharmāṇām.* (sū IV.12) *bhaviṣyadvyaktikam anāgatam, anubhūtavyaktikam atītam, svavyāpāropārūḍhaṃ vartamānam* […] (PYŚ IV.12; Āgāśe 1904a: 186).

In the *Kitāb Pātanğal* these three aspects are described in the following way:

> Ans. Their being null and void is not absolute but is (*a*) a transition to potentiality, or (*b*) being in (a state of potentiality). The two times (the time of the past and the time of the future) are (respectively (*a*) or (*b*)) and have no actual effect upon the

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[778] The term *adhvan* is understood in its Buddhist interpretation.

present which exists *in actu*. (Pines/Gelblum 1989: 269)[779]

As previously noted, the question introducing this passage in the *Kitāb Pātanğal* parallels the opening question to *sūtra* IV.12.[780] The beginning of answer 66 almost literally corresponds to the beginning of the *bhāṣya*-part of PYŚ IV.12. The terminology used by al-Bīrūnī is a purely Aristotelian one, as he has recourse to the concepts of *potentiality* (القوة) and *actuality* (الفعل) to define the relationship between past, present, and future. This is not the place to analyze the reasons al-Bīrūnī chose such terminology,[781] but this passage represents another example of the insertion of the *bhāṣya*-part into the *Kitāb Pātanğal*, without being explicitly cited by al-Bīrūnī.

Further, section 3.3.2 discusses the many mentions al-Bīrūnī makes of the *Kitāb Pātanğal* in the *Taḥqīq mā li-l-Hind*. A number of these instances are related to the *Kitāb Pātanğal* itself, while others concern the commentator, or the commentary, of the *Kitāb Pātanğal*.

Moreover, all references to – and quotations from – the commentary or commentator in the *Taḥqīq* are drawn from Q 46 of the *Kitāb Pātanğal*. Al-Bīrūnī manipulates the content to some degree, so as to fit his own argument. Every instance connected to the commentary can be linked to passages of the *Kitāb Pātanğal* except one. This passage reads:

> "For instance, the commentator of the book {Pātanğal} not only makes Meru quadrangular, but even oblong. The length of one side he fixes at 15 *koṭi*, *i.e.* 150,000,000 *yojana*, whilst he fixes the length of the other three sides only at the third of this, *i.e.* 5 *koṭi*. Regarding the four sides of Meru, he says that on the east are the mountain {Mālwa} and the ocean, and between them the kingdoms called Bhaḍrâśva. On the north are {Nīra, Śīta, and Šrangādar}, and the ocean, and between them the kingdoms {Ramīku, Harinmāyān, and Kur}. On the west are the mountain Gandhamâdana and the ocean, and between them the kingdom

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[779] Ritter 1956: 196.3-4.
[780] See supra table 10.
[781] For a detailed exposition of al-Bīrūnī's motives and cultural influences in his translations see chapter 4.

{*Kītumāla*}. On the south are {Mrābta, Nišada, Hīmakūta, Himagiru} and the ocean, and between them the kingdoms {Baharaṯa Barša, Kīnpuruśa, and Haribarša}. (Sachau 1888b: I: 248-249)[782]

Al-Bīrūnī provides the names of several mountains and kingdoms that surround Mount Meru. The parallel passage in the *Kitāb Pātanğal*, as transmitted via Ritter's edition, is as follows:

> In the middle of the island which we inhabit is *Mount Meru*, the habitation of the angels. One of the sides of the quadrangle (which it forms) is five *koṭis* (50,000,000) (*yojanas* in extent). On its four sides are mountains, kingdoms, rivers and seas, which it would serve no useful (purpose) either to enumerate, for they are unknown, or to name, for these names are (given) in the Indian language. (Pines/Gelblum 1983: 261)[783]

Thus, in this passage, al-Bīrūnī explicitly mentions and justifies his choice to not enumerate the names of the different mountains, kingdoms, etc. Al-Bīrūnī's statement suggests that he knew these names, and this is indeed confirmed by the parallel passage in the *Taḥqīq mā li-l-Hind* quoted above. In addition, these names are found in the *bhāṣya*-part of the *Pātañjalayogaśāstra* III.26. Thus, al-Bīrūnī used a section of the *Pātañjalayogaśāstra* in the *Taḥqīq*, but omitted the section in the *Kitāb Pātanğal*. The *Pātañjalayogaśāstra* reads:

> "North of the Sumeru are three mountains, whose peaks are blue and white, and which span two thousand *yojana*-s. Between these mountains, there are three regions (*varṣa*), [spanning] nine thousand *yojana*-s each, and called Ramaṇaka, Hiraṇmaya, and Northern Kurus. To the south [of Mount Sumeru], are the mountains Niṣadha, Hemakūṭa, and Himaśaila, [covering] two thousand *yojana*-s. Between these [mountains, there are] three regions [stretching over] nine thousand *yojana*-s each, called Harivarṣa, Kiṃpuruṣa, and Bhārata. To the East of Sumeru, [lies] Bhadrāśva, bounded by Mālyavat [mountains]. To its West, [is the country of] Ketumāla, bounded by the Gandhamādana [mountains]. In the middle, [is] the region [called] Ilāvṛta."

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[782] Al-Bīrūnī 1958: 205.14-206.3.
[783] Ritter 1956: 187.4-7.

tasya nīlaśvetaśṛṅgavanta udīcīnās trayaḥ parvatā dvisāhasrāyāmāḥ. tadantareṣu trīṇi varṣāṇi nava nava yojanasāhasrāṇi ramaṇakaṃ hiraṇmayam uttarāḥ kurava iti. niṣadhahemakūṭahimaśailā dakṣiṇato dvisāhasrāyāmāḥ. tadantareṣu trīṇi varṣāṇi nava nava yojanasāhasrāṇi harivarṣaṃ kiṃpuruṣaṃ bhāratam iti. sumeroḥ prācīnā bhadrāśvamālyavatsīmānaḥ pratīcīnāḥ ketumālā gandhamādanasīmānaḥ. madhye varṣam ilāvṛtam (PYŚ III.26; Āgāśe 1904a: 149-150).

Al-Bīrūnī remained relatively concise in the *Kitāb Pātanğal*, and thus provided fewer descriptions than the *Pātañjalayogaśāstra*. He did not give the same size of the different regions in *yojana*-s either. The order also differs between the two works. Notwithstanding these differences, the two enumerations correspond quite well: to the east of Mount Meru can be found the mountains called Mālwa, (مالَو), i.e., Mālyavat (Skt. *mālyavat*); between the Mālyavat and Mount Meru is situated the kingdom of Bahadrāsa (بَهَدْراس), i.e., Bhadrāśva (Skt. *bhadrāśva*). Al-Bīrūnī explained that Nīra (نِيرَ), Šīta (شِيتَ), and Šrangādar (شَرَنگادَر) are located to its north. These three names stand for the Sanskrit compound "whose peaks are blue and white" (Skt. *nīla-śveta-śṛṅga-vat*), which al-Bīrūnī understood as three separate proper names. The kingdoms of Ramīku (رميكُ), i.e., Ramaṇaka (Skt. *ramaṇaka*), Harinmāyān (هَرنمَائَ), i.e., Hiraṇmaya (Skt. *hiraṇmaya),* and *Kur* (كُر), i.e., Kurua (Skt. *kuru*) are situated between these mountains and Mount Meru. To its west are the mountains Gandamādan (گَنْدمادَن), i.e., Gandhamādana (Skt. *gandhamādana*), and between Mount Meru and these mountains is situated the kingdom of Kītumāla (كِيتُمالَ), i.e., Ketumāla (Skt. *ketumāla*). To its south can be found Mrābta (مرأَبْت), i.e., Ilāvṛta (?) (Skt. *ilāvṛta*), Nišada (نِشَدَ), i.e., Niṣadha (Skt. *niṣadha*), Hīmakūta (هِيمَكُوت), i.e., Hemakūṭa (Skt. *hemakūṭa*), and Himagiru (هِمَگِرُ), which seems to be the Arabic rendering of the Sanskrit *himaśailā*. At the end of this passage, al-Bīrūnī enumerated the names of the following kingdoms: Baharaṯa Barša (بَهأَرَث پرش), i.e., Bhāratavārṣa (Skt. *bhārata*), Kīnpuruśa (كينپرش), i.e., Kiṃpuruṣa (Skt. *kiṃpuruṣa*), and Haribarša (هرپرش), i.e., Harivarṣa (Skt. *harivarṣa*). All names found in the *bhāṣya*-part of the

Pātañjalayogaśāstra appear in al-Bīrūnī's description. One important difference between these two passages is that al-Bīrūnī places an ocean directly after each group of mountains (northern, southern, etc.).

5.3. The problematic laudatory passage

Al-Bīrūnī was greatly inspired by the *Pātañjalayogaśāstra* when he wrote the *Kitāb Pātanǧal*. Nevertheless, an essential point can impede the definite identification of the *Pātañjalayogaśāstra* as al-Bīrūnī's source, as the *Kitāb Pātanǧal* includes a problematic passage. This passage occurs after al-Bīrūnī's own introduction and before the beginning of chapter 1 in the *Kitāb Pātanǧal*.[784] It starts after the sentence "This is the beginning of the book of Patañjali, text interwoven with commentary" (وهذا هو ابتداء كتاب باتنجل مركَّباً نصه) بشرحه),[785] which obviously originated from al-Bīrūnī's own hand:

> I prostrate (myself) before Him above whom there is nothing, and I glorify Him who is the beginning of things and to whom they shall return, Him who knows all beings. In the second place I exalt, with a humble soul and a pure intention, the angels and (other) spiritual beings who are below Him, and I call upon them to help me in my exposition – which I wish to keep short – according to the method of Hiraṇyagarbha.

> The ancients have been deeply engaged in the study of the things through which the four objectives may be achieved. These (objectives) are: religion and conduct of life, property and ease, enjoyable living and pleasure, {emancipation} and permanence. (In studying these the ancients) scarcely left for those who came later scope for discourse. However, my exposition excels in clearing up the ambiguities which they put down. It is restricted to (a study of) the means of bringing about the perfection of the soul through {emancipation} from these bonds and the attainment of eternal bliss. Accordingly I shall say:

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[784] The question of the laudatory passage was first broached in Maas/Verdon (forthcoming 2016: 27-28).
[785] Ritter 1956: 168.5; Pines/Gelblum 1966: 310.

As regards things which perception does not apprehend, the attribute (of not being apprehended) can only be ascribed to them because of various modalities: (1) (their) essential smallness, as (in the case of) atoms, whose minuteness is the cause preventing them from (being apprehended by) the senses; (2) (their being) far away, for distance prevents perception when it extends beyond the latter's limit; (3) a barrier which conceals, e.g. a fence which prevents the perception of that which is placed behind it, bones which are covered up by the flesh and the skin, and mixtures, which being inside the body cannot be perceived because of the veils (intervening) between them and ourselves; (4) their being remote from the present time either (because of their being) in the past, e.g. the former generations and the tribes which have perished, or (because of their being) in the future, e.g. things expected (to happen) in the time to come; (5) the deviating from the methods of cognition by means of which apprehension becomes perfected, as in the case of necromancy whereby the state of hidden things is discovered. It is (in effect) known that the perfection of certitude can of necessity only be (obtained) through sense-perception, which is lacking in the case of hidden things. For what is absent can only be inferred from what is present, and that which can be attained only through arguments is not in the same (category) as that which is known through sense-perception. Similarly logical demonstration removes doubts as (effectively as) sense-perception. As long as ambiguities beset the soul, the latter is given over to perplexity and cannot give heed to that which (procures) its {emancipation} from this entanglement and its deliverance from toil and bondage, and (gives) it an eternal sojourn, in which there is neither death nor birth.

Most of the intentions of the expounders of books are (directed) either to the production of a comment peculiar to them or to guidance towards an objective which they endeavour to obtain. The aims are determined according to (the capacity of) the knower. As for knowledge, it is divided into two parts: the superior which leads to {emancipation}, for it procures the absolute good, and that which is inferior relatively (to the first part) and which (refers to) the remaining objectives, which rank lower than {emancipation}. I shall try to see to it that, comparatively to the arguments set forth by (my) predecessors with regard to this hidden subject, my comment will have for the reader a status similar to that of sense-perception productive of conviction. (Pines/Gelblum 1966: 310-313)[786]

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[786] Ritter 1956: 168.6-169.9.

Such an introduction does not occur in the *Pātañjalayogaśāstra* and does not tally with the introductory passages found in other commentaries. It contains a benedictory stanza to God (الله), i.e., probably Īśvara, to the angels (مالائكة), and to spiritual beings (الروحانيين). The author of this passage recognizes Hiraṇyagarbha's method as authoritative and as a source of inspiration. Whereas this name does not appear in the *Pātañjalayogaśāstra* itself, Hiraṇyagarbha is explicitly acknowledged as playing a part in the transmission of Yoga teachings in several of this text's commentaries, as seen in chapter 3.[787] Al-Bīrūnī does not refer to Hiraṇyagarbha anywhere else. However, it is possible that al-Bīrūnī's oral informants assisted him and suggested he pay homage to Hiraṇyagarbha in the *Kitāb Pātanğal*.[788]

The other elements present in this passage are not discussed in the extant commentaries al-Bīrūnī could have used. These are: the four human objectives (المطالب الاربعة; Skt. *puruṣārtha*), that is "religion and conduct of life" (الدين والسيرة; Skt. *dharma*), "property and ease" (المال والنعمة; Skt. *artha*), "enjoyable living and pleasure" (العيش واللذه; Skt. *kāma*), and "emancipation and permanence" (الخلاص والديمومة; Skt. *mokṣa*); the five reasons why things are hidden from perception (الاشياء التى تغيب عن الادراك); and the three means of valid knowledge (برهان; Skt. *pramāṇa*).[789] The four human objectives are obviously fundamental beliefs in the Brahmanical development of thought. On the other hand, the Sāṃkhya system examines the reasons why things are hidden from perception (*kārikā* 7),[790] while both Sāṃkhya and Yoga discuss the three means of valid knowledge (*kārikā* 4; PYŚ I.7).

Although no exact corresponding passage to this Arabic laudatory introduction could be found within the introductory strophes of classical Sāṃkhya and Yoga literature, some of the themes dealt with in the Arabic passage are discussed in other portions of these Sanskrit

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[787] See p. 129.
[788] On the significance of al-Bīrūnī's informants see sections 2.3 and 4.4.3.
[789] See Gelblum's comments on this introductory passage in Larson/Bhattacharya (2008: 263).
[790] However, the reasons why things can be hidden from perception, provided by the Sāṃkhya system and by the *Kitāb Pātanğal*, differ in number and in kind.

works. Al-Bīrūnī may have thus been influenced by these portions of texts to write a laudatory introduction to his translation.

The first person is used in this introduction. Although al-Bīrūnī also employs the first person for his preface to the *Kitāb Pātanğal*, directly preceding this passage, it appears unlikely that, in this case, the first person should refer to al-Bīrūnī himself. First, the statement "[t]his is the beginning of the book of Patañjali, text interwoven with commentary", which introduces this passage, strongly suggests that the translation *per se* starts at this point in the text. Moreover, whereas the beginning of the passage praising God, the angels and spiritual beings could reflect al-Bīrūnī's own beliefs, the other elements mentioned in this passage – Hiraṇyagarbha, four human objectives, reasons for the non-perceptions of things, and the three means of valid knowledge – are clearly related to Indian thought. It would then be very surprising for al-Bīrūnī to officially avow such a position for himself.

It is thus likely, as Maas and Verdon have remarked, that al-Bīrūnī, inspired by his own knowledge of Indian philosophy and religion, decided to include this passage to his translation of his own initiative and/or under the guidance of his Indian informants. First, such introductions including a laudation to God and the author's patron, and further describing the author's motives as well as the work's subject matter are a common occurrence in the Arab literary tradition. Al-Bīrūnī did, for instance, include such an introduction in *al-Āṯār al-Bāqiya*[791] and in the *Taḥqīq mā li-l-Hind*.[792] In Indian scholastic tradition, a similar convention equally exists.[793] In order to fit into both of these traditions, elements that were considered essential topics in al-Bīrūnī's source were thus probably included in the *Kitāb Pātanğal* so as to provide a complete Arabic manuscript on Yoga for his Muslim audience.

[791] Al-Bīrūnī 2001: 3-6; Sachau 1879: 1-4.
[792] Al-Bīrūnī 1958: 1-7; Sachau 1888b: I: 3-8.
[793] Funayama 1995: 181; Maas 2008b; Minkowsky 2008; Maas/Verdon forthcoming 2016: 28.

5.4. Concluding remarks

When translating a work related to Yoga philosophy, it is certain that al-Bīrūnī needed to study a commentary to understand the *sūtra*-s. This chapter confirms that this commentary existed in the *bhāṣya*-part of the *Pātañjalayogaśāstra*. The supposed theistic tendencies found in the *Kitāb Pātanğal* are due to al-Bīrūnī's hermeneutics, while the study of the laudatory passage did not point to any Sanskrit source. Investigating similes and metaphors occurring in the *Kitāb Pātanğal* may constitute another way to determine its source. However, as seen in chapter 4 and 6, analogies are also highly subject to al-Bīrūnī's adaptations, namely substitutions, additions, and omissions. It has been also demonstrated that the commentary used by al-Bīrūnī was in many cases rephrased and integrated by him in the *Kitāb Pātanğal*, either implicitly or explicitly. There is thus little chance that a now lost manuscript of commentary on classical Yoga would better fit the content of the *Kitāb Pātanğal* than the *Pātañjalayogaśāstra*.

Al-Bīrūnī's study of the *Pātañjalayogaśāstra* was equally supplemented by an oral commentary provided by one or several of his informants. He thus did not need to use a supplementary written, commentary in order to compose the *Kitāb Pātanğal*, as the important and striking differences between the *Pātañjalayogaśāstra* and the *Kitāb Pātanğal* could not be explained by one of the extant commentaries that may have been available to him, including the *Pātañjalayogaśāstravivaraṇa*, the *Tattvavaiśāradī*, and the *Rājamārtaṇḍa*.

Chapter 6: Debate on the *Kitāb Sānk* and its Sanskrit source

6.1. Scholarship review

Sachau (1888), Garbe (1894; 1896; 1917), and Takakusu (1904) have all attempted to identify al-Bīrūnī's source for the *Kitāb Sānk*. However, new material has since been unearthed and academic insight into Sanskrit textual tradition has grown by leaps and bounds. These scholars compared the extracts of the *Kitāb Sānk* to portions of the *Suvarṇasaptati*, the *Gauḍapādabhāṣy*a, and the *Tattvakaumudī*. The other commentaries on the *Sāṃkhyakārikā*, namely the *Yuktidīpikā*,[794] the *Sāṃkhyasaptativṛtti*, the *Sāṃkhyavṛtti*,[795] the *Māṭharavṛtti*,[796] and the *Jayamaṅgalā*,[797] were unknown to them. The present chapter takes new Sanskrit textual material, as compared to previous studies, into consideration in its analysis.

6.1.1. Carl Edward Sachau

Sachau was the first to discuss the relationship between the *Kitāb Sānk* and the Sanskrit literature on Sāṃkhya. He grounds his analysis by making a comparison between the *Kitāb Sānk* and three Sanskrit works: the *Sāṃkhyapravacana* by Vijñānabhikṣu, the *Sāṃkhyakārikā* by Īśvarakṛṣṇa, and the *Gauḍapādabhāṣya* by Gauḍapāda.[798] The compilation's date of the first of these works postdates the composition of the *Kitāb Sānk* by several centuries, as

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[794] Edited for the first time by Pulinbehari Chakravarti in 1938 (Bronkhorst 2003: 242) and critically edited by Wezler and Motegi in 1998.

[795] The *Sāṃkhyasaptativṛtti* and the *Sāṃkhyavṛtti* were both edited by Esther A. Solomon in 1973 (1973a; 1973b).

[796] The *Māṭharavṛtti* was discovered in 1917 (Keith 1924: 551).

[797] It was edited for the first time in 1926 (Sarma 1926). See also Sarma (1985).

[798] Sachau: 1888b: II: 266-268.

Vijñānabhikṣu lived in the 16th CE.[799] Sachau, unsurprisingly, finds little in common between the *Sāṃkhyapravacana* and the *Kitāb Sānk*. The comparison between al-Bīrūnī's work and the two other treatises yields, in his opinion, more fruitful results. Indeed, Sachau notices that Īśvarakṛṣṇa's *Sāṃkhyakārikā* and al-Bīrūnī's *Kitāb Sānk* both "teach *moksha* [i.e., emancipation] by means of knowledge" (Sachau 1888b: II: 267).

He also remarks that several analogies found in the quotations from the *Kitāb Sānk* in the *Taḥqīq* are only referred to in the *Sāṃkhyakārikā,* but are contextualized and commented upon in the *Gauḍapādabhāṣya*. Sachau argues then that Īśvarakṛṣṇa's "words show that he copied from a book like the *Sâṃkhya* of Alberuni", and that Gauḍapāda "seems to have taken his information from a work near akin to, or identical with, that *Sâṃkhya* book which was used by Alberuni" (Sachau 1888b: II: 267). He also notices that the descriptions are "more extensive" (Sachau 1888b: II: 267) in al-Bīrūnī's work than in Gauḍapāda's. Sachau's preliminary observations suggest that al-Bīrūnī not only translated the *Sāṃkhyakārikā*, but also one of its commentaries, as becomes evident in the subsequent analyzes of different excerpts of the *Kitāb Sānk*.

6.1.2. Richard Garbe

Garbe was the second scholar to address the question of the source for al-Bīrūnī's *Kitāb Sānk*. He remarks on the striking similarities between the latter and the *Gauḍapādabhāṣya*. For this reason, in the first edition of *Die Sâṃkhya-Philosophie* published in 1894, he concludes that the source of the *Kitāb Sānk* was the *Gauḍapādabhāṣya*.[800] However, this identification raises two specific problems. First, in the *Taḥqīq mā li-l-Hind*, al-Bīrūnī mentioned "the book composed by Gaura, the anchorite, which goes by his name" (كتاب عمله "گؤر" الزاهد و عرف باسمه)

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[799] Sachau used the edition by Ballantyne (1885). About Vijñānabhikṣu's date see Larson/Bhattacharya (1987: 375-412; 2008: 295-333), Maas (2006: xviii), and Nicholson (2010: 6).
[800] Garbe 1894: 66; Also in Garbe (1896: 7).

alongside the *Kitāb Sānk* and an enumeration of Indian books.[801] Sachau had already posed the question of whether Gaura was the author of the *Gauḍapādabhāṣya*, without however finding an answer.[802]

For Garbe, even if Gaura's book and the *Kitāb Sānk* were listed separately by al-Bīrūnī, the former has to be identified with the *Gauḍapādabhāṣya*, at the same time that it constitutes the source of the *Kitāb Sānk*. Garbe's conclusion is based on the fact that at his time the *Gauḍapādabhāṣya* was the only commentary on the *Sāṃkhyakārikā* available to scholars that predated the compilation of the *Taḥqīq mā li-l-Hind*.[803] However, the discovery of other commentaries on the *Sāṃkhyakārikā,* which were compiled prior to al-Bīrūnī's *Taḥqīq*, solves this first problem. Second, amongst these commentaries, some of them resemble the *Kitāb Sānk* more than the *Gauḍapādabhāṣya*, as for instance, the *Sāṃkhyavṛtti* and the *Suvarṇasaptati*. As will be established by textual evidence in the subsequent sections, the *Gauḍapādabhāṣya* is indeed unlikely to be the source of the *Kitāb Sānk*.

The question may further arise as to whether al-Bīrūnī's Gaura, has to be identified with the homonymous Advaita Vedāntin, Gauḍapāda, who composed the commentary on the *Māṇḍūkya Upaniṣad* entitled *Māṇḍūkyakārikā*. As al-Bīrūnī did not describe the content of Gaura's book, it is difficult to provide a definitive answer. However, it appears that he failed to display any acquaintance with the Advaita Vedānta system in the *Taḥqīq* and thus it is more reasonable to think that al-Bīrūnī's Gaura is Gauḍapāda, the author of the commentary on the *Sāṃkhyakārikā*. If this is the case, the *Gauḍapādabhāṣya* is probably not the source of the *Kitāb Sānk*, as he mentioned each work separately.

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[801] See p. 95.
[802] Sachau 1888b: II: 267.
[803] Garbe 1894: 63; 66.

6.1.3. Junjiro Takakusu

In 1904, Takakusu brings to light, and reliably translates into French, a Chinese version of a Sanskrit commentary on the *Sāṃkhyakārikā* translated by Paramārtha. In his study, Takakusu compares the *Suvarṇasaptati* to the *Gauḍapādabhāṣya* and the *Kitāb Sānk*.[804] One of Takakusu's objectives was to determine the Sanskrit source upon which the Chinese *Suvarṇasaptati* is grounded. In summary, Takakusu remarks that the *Gauḍapādabhāṣya* is more abridged than the *Suvarṇasaptati* and the *Kitāb Sānk*.[805] He thus comes to the conclusion that Paramārtha and al-Bīrūnī used the same commentary as a source for their respective translations, and that the *Gauḍapādabhāṣya* is equally indebted to the same work, without however being the source of the Chinese or Arabic translations.[806] In the second edition of *Die Sâmkhya-Philosophie* in 1917, Garbe follows Takakusu's analysis and identifies the source of the *Kitāb Sānk* as the same as the source of the Chinese *Suvarṇasaptati*.[807] Filliozat, who mentions the question of the *Kitāb Sānk*'s source also conforms his claims to Takakusu's conclusions.[808]

6.1.4. Esther A. Solomon

Solomon, thanks to her useful editions of the *Sāṃkhyavṛtti* and the *Sāṃkhyasaptativṛtti,* examines the relationship of these two texts to other commentaries, including the *Kitāb Sānk*. She first observes that three commentaries, namely the *Yuktidīpikā*, the *Jayamaṅgalā*, and the *Tattvakaumudī,* generally diverge from the other extant commentaries.[809] She highlights striking resemblance between the *Māṭharavṛtti* and the *Sāṃkhyasaptativṛtti,* and further concludes that the *Sāṃkhyavṛtti* must have been the Sanskrit source for Paramārtha's Chinese

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[804] Takakusu 1904a; 1904b.
[805] Takakusu 1904a: 27; 33-34.
[806] Takakusu 1904a: 2-4; 25; 35.
[807] Garbe 1917: 91-93.
[808] Filliozat writes: "Takakusu demonstrated that al-Bīrūnī's source is Paramārtha" (Takakusu a démontré que la source d'al-Bīrūnī est Paramārtha; 1953: II: 37).
[809] Solomon 1974: 1.

translation and for al-Bīrūnī's Arabic work,[810] as well as was the earliest extant commentary on the *Sāṃkhyakārikā*.[811] Her work editing the *Sāṃkhyasaptativṛtti* and the *Sāṃkhyavṛtti* represents a significant contribution to the scholarly research on Sāṃkhya. However, as Wilhelm Halbfass states in two reviews about Solomon's works, some of her conclusions may need to be revised.[812] The present dissertation confirms the intimate connection between the *Sāṃkhyavṛtti*, the *Suvarṇasaptati*, and al-Bīrūnī's *Kitāb Sānk* that Solomon highlights, as well as the relationship between the *Māṭharavṛtti* and the *Sāṃkhyasaptativṛtti*.

6.2. Selection of the analyzed extracts

Takakusu compares several passages from the *Taḥqīq mā li-l-Hind* to portions of the *Gauḍapādabhāṣya* and the *Suvarṇasaptati*. In order to evaluate his analysis, Takakusu's complete list is given in the following table:

Nos	*Kitāb Sānk*	Corresponding passages in the *Gauḍapādabhāṣya* and the *Suvarṇasaptati*
I	Six opinions on the relationship between action and agent.[813]	kās 27 and 61.
II	Enumeration of the twenty-five "elements" (Skt. *tattva*).[814]	kā 3.
III	Five vital breaths.[815]	kā 29.
IV	The soul, as a female dancer.[816]	kās 42, 65, 66, and 59.

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[810] Solomon 1973b: 7; Solomon 1974: 100; 106.
[811] Solomon 1973b: 5-7.
[812] Halbfass 1976; 1977.
[813] Al-Bīrūnī 1958**:** 22.9-23.10**;** Sachau 1888b: I: 30-31. Number 2 of table 5, in chapter 3.
[814] Al-Bīrūnī 1958: 30.10-34.4; Sachau 1888b: I: 40-44. This excerpt is discussed supra pp. 104-109. Takakusu counts twenty-four *tattva*-s although al-Bīrūnī enumerates twenty-five elements.
[815] Al-Bīrūnī 1958: 35.2-12; Sachau 1888b: I: 46.
[816] Al-Bīrūnī 1958: 35.12-36.3; Sachau 1888b: I: 47. Takakusu entitles this excerpt "comparison of nature to a female dancer", but al-Bīrūnī actually compared the soul to a female dancer.

V	The blind person and the lame person.[817]	kā 21.
VI	The traveller who observes the working villagers.[818]	kā.19.
VII	The innocent man amongst thieves.[819]	kā 20.
VIII	The rainwater whose taste is altered.[820]	kā 16.
IX	Production of light from oil, wick, and fire.[821]	kā 13.
X	The chariot's driver.[822]	kā 17.
XI	Reward from heaven as not being of special gain.[823]	*Gauḍapādabhāṣya*, kā. 2; *Suvarṇasaptati*, kā 1-2.
XII	Births depending upon virtues and vices.[824]	kā 39.
XIII	Eight powers.[825]	kā 23.
XIV	Three types of knower.[826]	kā 49.
XV	Nine rules of conduct.[827]	kā 23.
XVI	Man cannot go beyond his hand.[828]	kā ?
XVII	The wheel's movement.[829]	kā 67.
XVIII	Those who do not reach emancipation	kā 50.
XIX	Four levels of knowledge.[830]	kā 46 (30 ?).
XX	Different categories of beings.[831]	kās 39, 44, and 53.

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[817] Al-Bīrūnī 1958: 36.3-8; Sachau 1888b: I: 47.
[818] Al-Bīrūnī 1958: 36.16- 37.4; Sachau 1888b: I: 48. Number 3 of table 5, in chapter 3.
[819] Al-Bīrūnī 1958: 37.5-9; Sachau 1888b: I: 48-49. Number 3 of table 5, in chapter 3.
[820] Al-Bīrūnī 1958: 37.9-13; Sachau 1888b: I: 49.
[821] Al-Bīrūnī 1958: 37.13-16; Sachau 1888b: I: 49.
[822] Al-Bīrūnī 1958: 37.16-17; Sachau 1888b: I: 49.
[823] Al-Bīrūnī 1958: 47.10-16; Sachau 1888b: I: 62. Number 4 of table 5, in chapter 3.
[824] Al-Bīrūnī 1958: 48.16-49.2; Sachau 1888b: I: 64. Number 5 of table 5, in chapter 3.
[825] Al-Bīrūnī 1958: 52.5-17; Sachau 1888b: I: 69.
[826] Al-Bīrūnī 1958: 54.17-55.2; Sachau 1888b: I: 72.
[827] Al-Bīrūnī 1958: 56.13-16; Sachau 1888b: I: 74.
[828] Al-Bīrūnī 1958: 57.5-6; Sachau 1888b: I: 75. Number 6 of table 5, in chapter 3.
[829] Al-Bīrūnī 1958: 62.1-10; Sachau 1888b: I: 81-82. Number 7 of table 5, in chapter 3.
[830] Al-Bīrūnī 1958: 63.7-64.8; Sachau 1888b: I: 83-84. Number 8 of table 5, in chapter 3.
[831] Al-Bīrūnī 1958: 67.11-68.1; Sachau 1888b: I: 89. Number 9 of table 5, in chapter 3.

Table 11: Passages of the Kitāb Sānk *traced back to the* Sāṃkhyakārikā *by Takakusu.*[832]

All passages are quoted and indexed in appendix 1 of this dissertation; their numbers there correspond with those given in the table here. Although Takakusu's preliminary study offers an invaluable starting point for the analysis of the excerpts of the *Kitāb Sānk* in the *Taḥqīq*, it also presents one particular flaw. Takakusu's list includes indirect references to classical Sāṃkhya. Some topics discussed by al-Bīrūnī in the *Taḥqīq mā li-l-Hind* are indeed related in some way to classical Sāṃkhya, but not explicitly linked to the *Kitāb Sānk*. Moreover, the latter passages that can be traced back to the commentaries on the *Sāṃkhyakārikā*, such as the *Gauḍapādabhāṣya* or the *Suvarṇasaptati*, also cover topics that have been developed in some works other than the classical Sāṃkhya texts. Thus, this chapter shall not take into account seven of the excerpts listed by Takakusu, numbers II, III, IV,[833] V, [834] XIII, XIV, [835] and XV, because these indirect references to classical Sāṃkhya present the significant main drawback that they may have been drawn from another Sanskrit source than the *Kitāb Sānk*.

A particular section of the *Taḥqīq mā li-l-Hind* that is explicitly marked as indebted to the *Kitāb Sānk* lists five analogies dealing with the relationship between matter, action, and soul, in connection with the "three primary forces" (القوى الثلاث الأول), or "constituents" (Skt. *guṇa*). They are numbers VI, VII, VIII, IX, and X of the above table. Only the first analogy (VI) is explicitly drawn from the *Kitāb Sānk*, as it directly follows a general statement introduced by the sentence "the *Kitāb Sānk* relates action to matter" (فإنّه "سانك" و أما فى كتاب). The second illustration (VII) probably also consists of a quotation from the *Kitāb Sānk*, because it starts with the expression "it relates action to the soul" (يَنْسِب الفعل إلى المدّة).[836] يَنْسب الفعل إلى

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[832] Takakusu 1904a: 27-35.
[833] Jacob (2004: 66) indicates other utilization of this analogy than in classical Sāṃkhya.
[834] According to Takakusu, this illustration is peculiar to classical Sāṃkhya (1904a: 3). See also Apte (1992: Appendix E: 66) and Jacob (2004: 34).
[835] Takakusu links this passage with the *Suvarṇasaptati* and the *Gauḍapādabhāṣya* glossing upon *kārikā* 49 (1904a: 31). However, if this excerpt is really based on the *Kitāb Sānk*, its content rather parallels that of *kārikā* 43 and its commentaries.
[836] Al-Bīrūni 1958: 36.16-17; Sachau I: 1888b: 48.

(النفس),[837] the subject of the sentence, i.e., the *Kitāb Sānk*, being implied here.

The three next analogies (VIII, IX, and X) described in the *Taḥqīq mā li-l-Hind* may belong to the source of the *Kitāb Sānk*, and can respectively be connected to some commentaries on *kārikā*-s 16, 13, and 17. These illustrations are introduced by the verb "they say" (قالوا) in the *Taḥqīq*, which likely refer to the adherents of the *Kitāb Sānk,* as there is no other referent to which this verb could be connected. However, amongst these analogies only VI (that of the traveler who observes the working villagers) and VIII (that of the rainwater whose taste is altered) provide elements of reflection regarding the relationship between the *Kitāb Sānk* and the Sanskrit commentaries examined in this dissertation.

The other excerpts listed in the above table either consist of explicit references to, or quotations from, the *Kitāb Sānk*. Takakusu established connections between these passages and the content of specific *kārikā*-s. Several correspondences between the Arabic version and the Sanskrit commentaries are revised in section 6.3. However, passage numbers XI, XVI,[838] and XVII[839] are not studied here. Another reference to the *Kitāb Sānk* in the *Taḥqīq*, which is not listed by Takakusu, is also not dealt with in this chapter. [840] These extracts appear to have been subject to major transformations by al-Bīrūnī and are not conducive to helping determine the relationship between the *Kitāb Sānk* and the Sanskrit literature on classical Sāṃkhya. The same is true of two of the aforementioned analogies (IX and X).

Several excerpts (VII, XII, and XX) lead to the exclusion of some commentaries from being the source of the *Kitāb Sānk,* and therefore are discussed in section 6.3.1.

Four passages (I, VI, XVIII, and XIX) allow us to draw parallels between the content of the *Kitāb Sānk* and that of specific Sanskrit commentaries. Therefore they are examined in sections 6.3.2 to 6.3.5.

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[837] Al-Bīrūni 1958: 37.4-5; Sachau 1888b: I: 48.

[838] This excerpt could not be linked with any particular portion of the *Sāṃkhyakārikā* and its commentaries.

[839] This analogy appears at least in Vedānta and Sāṃkhya works (Apte: 1992: Appendix E: 61; Jacob 2004: 27).

[840] Al-Bīrūnī 1958: 69.15-16; Sachau 1888b: I: 92. Number 10 of table 5, in chapter 3.

6.3. Excerpts from the *Kitāb Sānk*

6.3.1. Overview of three passages

Three passages of the *Kitāb Sānk* indicate that the *Yuktidīpikā*, the *Jayamaṅgalā*, the *Tattvakaumudī*, and the *Gauḍapādabhāṣya* were unlikely to be the sources of the *Kitāb Sānk* for these particular passages. Their analysis, however, does not enable us to draw further parallels between the *Kitāb Sānk* and the remaining commentaries under consideration. Therefore, they are briefly and collectively presented in this section.

The first is the analogy of the innocent man amongst thieves referenced under passage number VII. The illustration is narrated by the commentaries on *kārikā* 20,[841] except by the *Yuktidīpikā*, the *Jayamaṅgalā*, and the *Tattvakaumudī*, which could thus not have constituted al-Bīrūnī's source for this passage. Whereas the *Kitāb Sānk* explains the illustration in a relatively detailed manner, the *Gauḍapādabhāṣya* is extremely concise reading: "Just like [someone who is] not a thief, when caught with thieves, is considered as a thief" (Skt. *yathā acauraś cauraiḥ saha gṛhītaś caura ity avagamyate*).[842] A further analysis of this quotation and the remaining commentaries, i.e., the *Suvarṇasaptati*, the *Sāṃkhyavṛtti*, the *Sāṃkhyasaptativṛtti*, and the *Māṭharavṛtti*, does not make it possible to point out one or two specific sources for al-Bīrūnī's translation. They all narrate the story in a more developed manner than the *Gauḍapādabhāṣya* does. However, they present few discrepancies in their description. Because of the brevity of the *Gauḍapādabhāṣya*, in contrast to the description provided by the *Kitāb Sānk*, as well as the explanation of the other commentaries, the *Gauḍapādabhāṣya* appears unlikely to have been al-Bīrūnī's source for this passage.

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[841] Sachau 1888b: II: 275.Takakusu 1904a: 29.
[842] Sharma 1933: 23.

In the next excerpt, which consists of a description of births depending upon virtues and vices, al-Bīrūnī, quoting from the *Kitāb Sānk*, explained that "[h]e who deserves exaltation and reward will become like one of the angels, mixing with the hosts of spiritual beings" (أمّا مَن استحقّ الاعتلاء و الثواب فإنّه يصير كأحد الملائكة مخالطا للمخامع الروحانيّة), whereas "he who deserves humiliation as recompense for sins and crimes will become an animal or a plant" (أمّا من استحقّ السفول بالأوزار والآثام فإنّه يصير حيوانا أو نباتا). [843] The (Sachau 1888b: I: 64; *Suvarṇasaptati*, the *Gauḍapādabhāṣya*, the *Sāṃkhyasaptativṛtti*, and the *Māṭharavṛtti* commenting on kā 39 all provide similar passages to this quotation. [844] These commentaries explain that the "subtle body" (Skt. *sūkṣmaśarīra*) can transmigrate into two forms of existence, as either fauna and flora, or as divinity. Although the order is inverted compared to al-Bīrūnī's account, the message is the same. In contrast, the *Yuktidīpikā*, the *Jayamaṅgalā*, and the *Tattvakaumudī* do not describe the two different conditions of life, nor do they mention the types of beings into which the "subtle body" could transmigrate at that point in the text. [845]

The third of these extracts, equally consisting in a quotation from the *Kitāb Sānk*, enumerates different categories of beings. It states that there are "three classes of them" (أجناسُها ثلاثة): "the spiritual" beings (الروحانيّون), "the man" (الناس), and "the animals" (الحيوانات). These three classes include "fourteen species" (أنواعها فهى أربعة عشر), distributed as follows: "spiritual beings are eight" (الروحانيّين ثمانية), "animals are five" (الحيوانات خمسة) and "man is one" (الإنس نوع واحد). Al-Bīrūnī also provides the names of the eight types of spiritual beings and of the five kinds of animals.

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[843] Al-Bīrūnī 1958: 48.16-49.2.
[844] Takakusu 1904b: 1025; Sharma 1933:38; Solomon 1973a: 55; Vaṅgīya: 1970: 42. Folios in the *Sāṃkhyavṛtti* are missing in this place (Solomon 1973b: 53).
[845] Wezler/Motegi 1998: 228; Vaṅgīya: 1970: 99; Srinivasan 1967: 146.

In this quotation, al-Bīrūnī complains that the names of the eight types of spiritual beings are given twice in the *Kitāb Sānk*, but with two different orders. The first lists Brāhma, Indra, Praǧāpati, Saumya, Gāndharba, Ǧakša, Rākšasu, and Pīšācha (براهم و إندر وَ پرَجاپَتِ و سومى و گاندهرب و جكش و راكُشَسُ و پيشاچ), while the second reads Brāhma, Indra, Praǧāpati, Gāndharba, Ǧakša, Rākšasa, Pitra, and Pīšācha (براهم، اندر، پرجاپت، گاندهرب، جكش، راكُشس، پِتْر، پيشاچ).[846]

Sachau links this quotation to kās 44, 53, and Takakusu to kās 44, 53, and 39.[847] The contents of the commentaries on kā 53 and this extract are analogous, as they share a comparable way of numbering the different species. Conversely, the commentaries on kā 44 only list the divine beings and the world of the animals, foregoing any mention of human beings. The perspective adopted in kā 44 is also different from that of kā 53. The two different worlds, i.e., divine and animal, are in fact referred to in kā 44 because they are consequences of the binary notions of "virtue" and "lack of virtue". The commentaries on kā 39 mention three types of births, i.e., gods, humans, and animals. They however remain too concise on this topic for al-Bīrūnī to have drawn all of his material from kā 39. It appears, therefore, that this passage is rather to be linked with kā 53 and a commentary on it, alongside a passing reference to kā 44.

First, the *Yuktidīpikā*, the *Jayamaṅgalā*, and the *Tattvakaumudī* do not enumerate the divine beings, when commenting on kā 44, and therefore can be once more excluded from being the possible source of al-Bīrūnī's translation. However, the *Suvarṇasaptati,* the *Sāṃkhyasaptativṛtti*, the *Māṭharavṛtti*, and the *Gauḍapādabhāṣya* provide two lists of divine beings touching upon each of these *kārikā*-s.[848] However, contrary to al-Bīrūnī's remark that two lists are given in a different order in the *Kitāb Sānk*, all commentaries other than the *Suvarṇasaptati* list these categories in the same order in both places. And the enumerations in the *Suvarṇasaptati* does not reflect the orders of the lists in the *Kitāb Sānk*. Changes in the

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[846] Al-Bīrūnī 1958: 67.9-68.1; Sachau 1888b: I: 89-90.
[847] Sachau 1888b: II: 290; Takakusu 1904a: 34.
[848] Leaves of the *Sāṃkhyavṛtti* manuscript are missing in these two places.

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order of the listed names may also originate from an evolution in the textual transmission of the works. Only critical editions of all these works could help determine al-Bīrūnī's source for this passage. Thus, a general analysis of these three passages of the *Taḥqīq mā li-l-Hind* suggests that the source of the *Kitāb Sānk* was probably not the *Gauḍapādabhāṣya*, and was certainly not the *Yuktidīpikā*, the *Jayamaṅgalā*, or the *Tattvakaumudī*.

6.3.2. Six opinions on the relationship between action and agent

The following passage occurs in a chapter of the *Taḥqīq* entitled "On their belief in Allah" (ذكر اعتقادهم فى الله سبحانه), and consists of an explicit quotation from the *Kitāb Sānk*.[849] Al-Bīrūnī makes use of the *Kitāb Sānk*, of the *Kitāb Pātanǧal*, and of the *Kitāb Gītā* in order to discuss the Indian conception of God. A general statement by al-Bīrūnī on different Indian opinions about the "action" (فعل) introduces the quotation from the *Kitāb Sānk* (See number I, Appendix 1). In this passage, al-Bīrūnī spells out six opinions regarding the relationship between action and agent: 1) Allah is the "universal cause" (السبب الأعمّ); 2) union of action and agent are effected "by nature" (با لطباع); 3) the agent is "*pūruša*" (پورش) according to the *Veda*-s;[850] 4) the agent is "time" (زمان); 5) action is only the reward of the "preceding act" (عمل متقدّم); 6) "matter" (مادّة) is the cause and the agent. This last opinion is held by the wise man expounding the view of the *Kitāb Sānk*.

The *Suvarṇasaptati*, the *Gauḍapādabhāṣya*, the *Sāṃkhyasaptativṛtti*, and the *Māṭharavṛtti* on kā 61 all provide the first four opinions conveyed in the *Kitāb Sānk*: "God" (Skt. *īśvara*), effected "by nature" (Skt. *svabhāva*), "passive self" (Skt. *puruṣa*), and "time" (Skt. *kāla*). As for the *Sāṃkhyavṛtti*, some folios are missing here, and the commentary starts with the opinion that the world is effected by nature. These commentaries similarly refute these opinions and acknowledge that the "substrative cause" (Skt. *prakṛti* or *pradhāna*) is the

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[849] Al-Bīrūnī 1958: 20.1-24.3; Sachau 1888b: I: 27-33. In contrast with Sachau, I decide not to translate the Arabic word Allah so as to highlight the original terminology used by al-Bīrūnī in this title.
[850] On *puruṣa* interpreted as the soul by al-Bīrūnī, see supra pp. 104-105.

true cause of the active and phenomenal world.[851]

Takakusu links this passage to the *Suvarṇasaptati* and the *Gauḍapādabhāṣya* glossing upon kā 27 and 61.[852] However, this quotation appears to be a relatively free translation of a commentary on kā 61, rather than on kā 27. The available Sanskrit commentaries on kā 27 first discuss the role of the "mental organ" (Skt. *manas*) as a special organ effecting discernment (Skt. *saṃkalpaka*) amongst the other sense organs, which are the five "senses of perception" (Skt. *buddhīndriya*), and the five "senses of action" (Skt. *karmendriya*). The Sanskrit works cast doubt on the theory that the phenomenal world, which is multiple, originates from a unique cause, namely the "substrative cause" (Skt. *prakṛti*). According to the Sāṃkhya view, explained on *kārikā* 27, the multiplicity of the phenomenal world exists because of the different combinations of the three "constituents" (Skt. *guṇa*) in this world.

The "constituents", *sattva*, *rajas*, and *tamas*, indeed are present in every "true element" (Skt. *tattva*) from the unmanifested, subtle "substrative cause" (Skt. *prakṛti*) down to the manifested gross elements (Skt. *mahābhūta*). The three "constituents" bear different specific qualities: good or enlightenment for *sattva*, passion or movement for *rajas*, and apathy or immobility for *tamas*. The quality of the different "elements" (Skt. *tattva*) depends on the mutual combinations of these "constituents". In the "substrative cause", for instance, there is only good and enlightenment (Skt. *sattva*). Thus, for classical Sāṃkhya, because of the "specific modifications of the constituents" (Skt. *guṇapariṇāmaviśeṣāt*) into the "elements" (Skt. *tattva*), the phenomenal world can be multiple, although originating from one unique "substrative cause" (Skt. *prakṛti* or *pradhāna*). Thus, *kārikā* 27 and its commentaries do not discuss the same topic as the above quotation from the *Kitāb Sānk*.

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[851] Takakusu 1904b: 1050-1051; Sharma 1933: 54-55; Vaṅgīya 1970: 55-56; Solomon 1973a: 72-73; Solomon 1973b: 59-60.
[852] Takakusu 1904a: 27-28.

On *kārikā* 61, several Sanskrit commentaries correspond more closely to the excerpt of the *Kitāb Sānk*. The Sanskrit and Arabic versions discuss the "cause" (Skt. *kāraṇa*) of the world. The readings of the *Sāṃkhyasaptativṛtti*, the *Sāṃkhyavṛtti*, the *Māṭharavṛtti*, and the *Gauḍapādabhāṣya* are in agreement with each other in this regard.[853] The *Sāṃkhyavṛtti* notably reads:

> "Here, the master says: "for the adherents of Sāṃkhya the cause is the primary source (*pradhāna*)." Why? Because it comprises the constituents. The creations comprise the constituents. The three constituents are *sattva*, *rajas*, and *tamas*, and they exist in the creations. Therefore, having seen these creations, which comprise the constituents, we demonstrate that these creations originate from the substrative cause (*prakṛti*) […]. The production of the worlds endowed with [three] constituents from the passive self (*puruṣa*) without constituents is unsuitable."

> *tatrācāryo bravīti sāṃkhyānāṃ pradhānaṃ kāraṇam. kasmāt, saguṇatvāt. imāḥ prajāḥ saguṇāḥ. sattvarajastamāṃsi trayo guṇāḥ. te ca prajāsu santi. ataḥ saguṇāḥ prajā dṛṣṭvā <sādhayāmaḥ>[854] prakṛter imāḥ prajāḥ sa<mu>tpannā iti […] nirguṇāt puruṣāt saguṇānāṃ lokānām utpattir ayuktā.* (Solomon 1973b: 59-60)

We learn from this passage that the cause of the "creations" (Skt. *prajāḥ*), or of the "worlds" (Skt. *loka*), is indeed discussed here. In the quotation from the *Kitāb Sānk*, the cause of the worlds is described in terms of the relationship between action and agent, which was an important debate amongst Muslim intellectuals. This difference appears to be due to al-Bīrūnī's own interpretation. It is reasonable to think thus that this quotation from the *Kitāb Sānk* is based on a commentary glossing upon *kārikā* 61, which resembles the *Sāṃkhyasaptativṛtti*, the *Sāṃkhyavṛtti*, the *Māṭharavṛtti*, or the *Gauḍapādabhāṣya*, as well as the source of the *Suvarṇasaptati*.

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[853] The *Sāṃkhyasaptativṛtti*'s reading in Solomon (1973a: 72); see also the *Māṭharavṛtti* in Vaṅgīya (1970: 56), and the *Gauḍapādabhāṣ2ya* in Sharma (1933: 54).
[854] Instead of *sādhakatamaḥ*.

On the other hand, the *Jayamaṅgalā* and the *Tattvakaumudī* do not expound these different opinions at all here[855] and there is a lacuna in this passage in the *Yuktidīpikā*.[856] This commentary discusses the origin of the world when glossing on *kārikā* 15, while the *Tattvakaumudī* discusses different possible causes of the world when commenting upon kās 56 and 58.[857] Both commentaries however do not present the discussion in the same form as the *Kitāb Sānk*, the *Suvarṇasaptati*, the *Gauḍapādabhāṣya*, the *Sāṃkhyasaptativṛtti*, and the *Māṭharavṛtti* do on *kārikā* 61. Moreover, the *Yuktidīpikā* has a different list of possible originators of the world: "atoms" (Skt. *paramāṇu*), the "passive self" (Skt. *puruṣa*), "God" (Skt. *īśvara*), "action" (Skt. *karman*), "fate" (Skt. *daiva*), "time" (Skt. *kāla*), "chance" (Skt. *yadṛcchā*), and "absence" (Skt. *abhāva)*. This quotation from the *Kitāb Sānk* is probably not drawn from any of these three commentaries on the *Sāṃkhyakārikā*.

On the basis of this first comparison between the *Kitāb Sānk* and its possible Sanskrit sources, it also becomes evident that al-Bīrūnī drew from a commentary on the *Sāṃkhyakārikā* in order to compose his translation, and not solely from the *kārikā*-s.

Moreover, the passage from the *Kitāb Sānk* bears striking resemblance to the *Gauḍapādabhāṣya*, the *Sāṃkhyasaptativṛtti*, the *Sāṃkhyavṛtti*, and the *Māṭharavṛtti* in its structure and form. The source of the *Kitāb Sānk*, as well as these commentaries, indeed introduces the different opinions with: "some people say" (قال قوم) and "others say" (قال آخرون) in the *Kitāb Sānk*; "some say" (Skt. *kecid* […] *bruvate*); "other [say]" (Skt. *apare*), "some masters say" (Skt. *kecid ācāryāḥ bruvate*), or "masters consider" (Skt. *ācāryāḥ manyante*) in these Sanskrit commentaries. This similarity of form is an additional sign that the source of the *Kitāb Sānk* resembles these texts, more than others. It may also be remarked that commentaries on *kārikā* 27 do not present this type of structure.

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[855] Vaṅgīya 1970: 113; Srinivasan 1967: 166-167.
[856] Noted by Wezler and Motegi (1998: 265, note 1).
[857] See Bronkhorst on this passage (1983: 149-155) referring to the edition of Ram Chandra Pandeya (1967: 68.20-74.15; Wezler/Motegi 1998: 154.13-162.15). Srinivasan 1967: 164-166.

In order to decide which commentaries amongst the remaining possible candidates, i.e., the source of the *Suvarṇasaptati*, the *Sāṃkhyavṛtti*, the *Sāṃkhyasaptativṛtti*, the *Māṭharavṛtti*, and the *Gauḍapādabhāṣya*, could have been the main Sanskrit source of the *Kitāb Sānk*, a more refined analysis is helpful. The following table displays the different opinions, as well as other relevant elements, as they appear in each of these commentaries on kā 61:

Kitāb Sānk	*Suvarṇasaptati*	*Sāṃkhyavṛtti*	*Sāṃkhyasaptativṛtti* *Māṭharavṛtti*	*Gauḍapādabhāṣya*
God	God	missing	God	God
omission?	quotation from the *Mahābhārata*	missing	quotation from the *Mahābhārata*	quotation from the *Mahābhārata*[858]
by nature	spontaneity	missing	passive self	by nature
substitution?	unknown *śloka*	missing	reference to the *Veda*-s	unknown *śloka*
soul	soul	by nature	by nature	passive self
reference to the *Veda*-s	reference to the *Veda*-s	unknown *śloka*	unknown *śloka*	no correspondance
time	time	time	time	time
analogy between time	reference to the *Mahābhārata*	quotation from the *Mahābhārata*	quotation from the *Mahābhārata*	quotation from the *Mahābhārata*[859]

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[858] The same quotation from the *Mahābhārata* occurs in the *Suvarṇasaptati*, the *Sāṃkhyasaptativṛtti*, the *Māṭharavṛtti*, and the *Gauḍapādabhāṣya*, although the editors of these works relate it to two different parts of the Epic. The *Sāṃkhyasaptativṛtti*, the *Māṭharavṛtti* connects it to MBh 3.31.27 and the *Gauḍapādabhāṣya* to MBh 3.30.88, while Takakusu links this quotation with that given in the *Gauḍapādabhāṣya*.
[859] Same remark as in footnote 860. The *Sāṃkhyavṛtti* relates this quotation to MBh 11.2.24, the *Sāṃkhyasaptativṛtti* and th*e Māṭharavṛtti* to MBh 3.13.70.57. There is no indication of verses number in the *Gauḍapādabhāṣya* and Takakasu refers to the *Gauḍapādabhāṣya*'s reading without however giving any verse number.

and rope				
preceding action	no correspondance	no correspondance	no correspondance	no correspondance
matter	nature	primary source (*pradhāna*)	primary source (*pradhāna*)	substrative cause (*prakṛti*)

Table 12: Correspondences in opinion listed on kā 61.

The order of the given opinions corresponds well between the *Kitāb Sānk*, the *Gauḍapādabhāṣya,* and the *Suvarṇasaptati.* The *Māṭharavṛtti* and the *Sāṃkhyasaptativṛtti* appear to have inverted orders of the listed opinions and present the view that the "passive self" is the cause before taking the position that the world is effected "by nature". This first observation may lead to the conclusion that al-Bīrūnī's translation is based on the original source of the *Suvarṇasaptati* or on the *Gauḍapādabhāṣya.* The order of the opinions does not provide the most convincing evidence to link the *Kitāb Sānk* with its Sanskrit source. Moreover, with regard to the *Gauḍapādabhāṣya*, as previously discussed, this commentary is likely not the *Kitāb Sānk*'s source. Other more significant pieces of evidence from this passage, as well as from other subsequent passages, confirm this argument.

In this passage, for instance, the reference to the *Veda*-s, which positions the "soul" or the "passive self" as the cause of the world, is not found in *Gauḍapādabhāṣya*. It is doubtful that al-Bīrūnī added this reference on his own initiative, especially as a similar reference occurs in the *Suvarṇasaptati*, the *Sāṃkhyasaptativṛtti* and the *Māṭharavṛtti*. The two Sanskrit commentaries respectively read:

"The followers of the *Veda*-s say that the cause is *puruṣa*."

vedavādi<no> br<u>vate puruṣaḥ kāraṇam iti. (*Sāṃkhyasaptativṛtti.* Solomon 1973a: 72)

"Nevertheless, the followers of the *Veda*-s considered the cause in this manner: '*puruṣa* is certainly everything'. Therefore, they consider the cause as being *puruṣa*." *vedāvadinaḥ punar itthaṃ kāraṇam āhuḥ. 'puruṣa evedaṃ sarvam' ity ataḥ puruṣaṃ kāraṇam āhuḥ.* (*Māṭharavṛtti.* Vaṅgīya 1970: 56)[860]

The *Sāṃkhyavṛtti* may have contained this reference, but as the folios are missing in this place, it is not possible to draw a parallel or highlight discrepancies between this Sanskrit commentary and the source of the *Kitāb Sānk* on the basis of this passage. These references in the different versions of this passage and serving a similar purpose in their arguments is probably not a coincidence. One of the Sanskrit commentaries, or one similar in content, probably constituted the source for al-Bīrūnī's *Kitāb Sānk*.

There are also differences between the *Kitāb Sānk* and the Sanskrit commentaries that are not necessarily accounted for by al-Bīrūnī having drawn from a different Sanskrit source. Al-Bīrūnī inserted the different opinions in a dialogue between an ascetic (ناسك) and a wise man (حكيم) who propounds the different opinions, in a way similar to the manner in which he structured the *Kitāb Pātanğal*. This interaction, which is absent from all Sanskrit commentaries on the *Sāṃkhyakārikā*, was in all likelihood supplemented by al-Bīrūnī himself. The quotation from the *Kitāb Sānk* also appears as a simplified version of a Sanskrit work on *kārikā* 61. Moreover, it appears that al-Bīrūnī had recourse in this passage to several translational strategies, namely omissions, substitutions, and possibly an addition.[861]

There are two quotations from other works that occur in the Sanskrit commentaries, but they do not have parallels in the *Kitāb Sānk*. The *Sāṃkhyasaptativṛtti*, the *Māṭharavṛtti*, the *Gauḍapādabhāṣya,* and the *Suvarṇasaptati* quote from the *Mahābhārata* in order to illustrate the view that "God" is the cause of the world.[862] It is possible that al-Bīrūnī

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[860] According the editor of the *Māṭharavṛtti*, this quotation belongs to the *Śvetāśvatara Upaniṣad* (3.15).
[861] See chapter 4 on translational strategies.
[862] Only the second quotation from the *Mahābhārata* is present in the *Sāṃkhyavṛtti*, as the earlier portion of text is missing.

deliberately omitted this quotation in his translation. [863]

It also appears that al-Bīrūnī omitted three technical explanations present in the Sanskrit commentaries. According to classical Sāṃkhya, the "substrative cause" (Skt. *prakṛti*) is said to be "extremely delicate" (Skt. *sukumāratara*), notably in *kārikā* 61.[864] Therefore, when the "passive self" (Skt. *puruṣa*) perceives it as a different entity from itself, the "substrative cause" disappears from sight. The separation between the two brings about the dissolution of the world and the emancipation (Skt. *kaivalya*) of the "passive self". This process is referred to in *kārikā* 61, and is explained in the Sanskrit commentaries, before they enumerate the different opinions. The *kārikā* reads:

> " 'Nothing is more delicate than the substrative cause' This is my thought. She, who [has realized]: 'I have been seen', does not show herself anymore to the passive self."

> *prakṛteḥ sukumārataraṃ na kiñcid astīti me matir bhavati. yā dṛṣṭāsmīti punar na darśanam upaiti puruṣasya.* (*Gauḍapādabhāṣya*'s reading. Sharma 1933: 53)

The *Kitāb Sānk* does not, for example, qualify the cause of the world, "matter" (مادّة), as "extremely delicate" (Skt. *sukumāratara*), nor does it explain the separation between "matter" and the "soul". Classical Sāṃkhya considers three categories as constituting the world: the "manifested" (Skt. *vyakta*), the "unmanifested" (Skt. *avyakta*), and the "passive self" (Skt. *puruṣa*), also called the "knower" (Skt. *jña*). Every "element" (Skt. *tattva*) is part of one of these categories. When refuting the opinion that time is the cause, the commentaries explain that time is included in the "manifested" category, and cannot thus be the cause of the world

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[863] Al-Bīrūnī perhaps replaces the quotation from the *Mahābhārata* about Īśvara being the cause of the world by the following analogy: like as that which is living and powerful moves that which is dead and weak. However, this analogy differs from the possible original quotation to such an extent that it is difficult to draw any conclusion.
[864] The adjective "extremely delicate" (Skt. *sukumāratara*) has to be understood with regard to the "substrative cause" when she is compared to a female dancer, who does not show herself to her audience twice.

(*vyaktāvyaktapuruṣāḥ trayaḥ padārthāḥ, tena kālo'ntarbhūto'sti. sa hi vyaktaḥ*).[865] Lastly, it appears that al-Bīrūnī omitted the word *sāṃkhya*, which is present in the *Gauḍapādabhāṣya*, the *Sāṃkhyasaptativṛtti*, the *Sāṃkhyavṛtti*, and the *Māṭharavṛtti*, where these commentaries conclude referring to the followers of Sāṃkhya who consider the "substrative cause" as the true cause of the world. These instances are only a few examples of technical explanations or terms that al-Bīrūnī probably decided to omit. He indeed had to negotiate the content of his Sanskrit source, keeping in mind the difficulties the use of some of these explanations or terms would have caused for his readership.

Further, there may be two substitutions in the quotation from the *Kitāb Sānk*. The *Gauḍapādabhāṣya*, the *Sāṃkhyasaptativṛtti*, the *Māṭharavṛtti*, and the *Suvarṇasaptati* quote from an unknown work, when explaining the opinion that the world is produced "by nature". It runs as follows:

> "This {natural condition}, which makes swans white, parrots green, peacocks multi-colored, also produces our condition."

> *yena śuklīkṛtā haṃsāḥ śukāś ca haritīkṛtāḥ. mayūrāś citritā yena sa no vṛttiṃ vidhāsyati.* (*Sāṃkhyasaptativṛtti*. Solomon 1973a: 72)[866]

This quote, which illustrates the natural production of the world (Skt. *svabhāva*) may have been replaced by al-Bīrūnī's expression "the usual process in everything that increases and decreases" (فهكذا جرت العادة فى كل ناش بال), as this explanation is found nowhere in the Sanskrit works under consideration. The scholar perhaps deemed the Sanskrit illustration too obscure for his readership and decided thus to substitute it with another explanation. The origin of this

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[865] *Gauḍapādabhāṣya*'s reading (Sharma 1933: 55). The *Sāṃkhyasaptativṛtti* (Solomon 1973a: 73), the *Sāṃkhyavṛtti* (Solomon 1973b: 60), and the *Māṭharavṛtti* (Vaṅgīya 1970: 56) expose the same idea in a slightly different wording.
[866] The *Māṭharavṛtti* (Vaṅgīya 1970: 56) has the exact same reading as the *Sāṃkhyasaptativṛtti*. The *Gauḍapādabhāṣya* refers to the same strophe, although differently and in incomplete manner (Sharma 1933: 54). The *Sāṃkhyavṛtti* is missing. See also Takakusu 1904b: 1050. Only the *Māṭharavṛtti* provides the reference of this quotation, as following: hi 1.183. However, this reference could not be identified so far.

explanation remains however unknown.

Another example of substitution appears in the second quotations from the *Mahābhārata* occurring in the Sanskrit commentaries. They quote:

> "Time ripens beings; time destroys the world; time is awake amongst the sleeping ones; indeed time is insurmountable."

> *kālaḥ pacati bhūtāni kālaḥ saṃkṣipate jagat. kālaḥ supteṣu jāgartti kālo hi duratikramaḥ.* (*Sāṃkhyavṛtti*. Solomon 1973b: 60)[867]

Rather than literally translating this strophe, al-Bīrūnī made use of an analogy absent from the Sanskrit commentaries under review: time controls the world, as a rope tied to a sheep's neck controls the sheep. This analogy perhaps consists of an idiomatic expression drawn from al-Bīrūnī's own background, to which his readership was more acquainted than to the quotation from the *Mahābhārata*. Although the Sanskrit and Arabic illustrations are different, the message is similar: time has control over the world.

Al-Bīrūnī also provides an opinion absent from the Sanskrit sources, i.e., that "action is nothing but a recompense for something which has been done before". The *Yuktidīpikā* is the only commentary that conveys this understanding, although not on *kārikā* 61, but on *kārikā* 15. In light of previous observations made in this section, it is however unlikely that al-Bīrūnī drew his information from the *Yuktidīpikā*. However, this opinion, which clearly refers to the Indian karmic retribution, may have been added by al-Bīrūnī under the influence of his Indian informant(s), or simply on his own initiative, as this opinion was perhaps widespread enough amongst the Indians he met for him to feel it important to include in this quotation.

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[867] The quotation appears in a similar form, completely or incompletely, in the other Sanskrit commentaries. Takakusu 1904b: 1051; Sharma 1933: 55; Vaṅgīya 1970: 56; Solomon 1973a: 72.

Thus, the analysis of this quotation in comparison to the available Sanskrit works on the *Sāṃkhyakārikā* is revealing. First, none of the three commentaries, the *Yuktidīpikā*, the *Jayamaṅgalā*, or the *Tattvakaumudī,* could be the source of the *Kitāb Sānk*. Second, there are a relatively large number of formal and substantial discrepancies between the *Kitāb Sānk* and the remaining possible Sanskrit sources. However, many of these discrepancies appear to be due to al-Bīrūnī's hermeneutics. They cannot necessarily be accounted for by al-Bīrūnī's use of a different work than those available to us. Similarly, as with his translation of the *Pātañjalayogaśāstra*, al-Bīrūnī manipulated his Sanskrit source, deciding to add or omit parts, in order to adapt its content for his readership when translating composing *Kitāb Sānk*.

On the whole, only one element can be, in my view, linked with some confidence to the use of a specific source-- the reference to the *Veda*-s. This reference illustrates that the source of the *Kitāb Sānk* at least parallels the *Sāṃkhyasaptativṛtti*, the *Māṭharavṛtti*, and the source of the *Suvarṇasaptati*.

6.3.3. Those who do not reach emancipation and the four levels of knowledge

This passage is found in chapter 7 of the *Taḥqīq mā li-l-Hind*, which is devoted to explaining the concept of emancipation (فى كيفيّة الخلاص من الدنيا و صفة الطريق المؤدّى إليه).[868] The subsequent analysis jointly considers two passages indexed under numbers XVIII and XIX. These two excerpts are actually translations of consecutive *kārikā*-s. The first provides a general discussion of three stages of the human condition, which constitute the steps toward emancipation but do not lead to it. The second illustrates the four levels of knowledge.

Takakusu connects the first part of this passage to kā 50, which deals with nine reasons for not reaching emancipation, called "satisfactions" (Skt. *tuṣṭi*) in the Sanskrit commentaries.[869] However, although al-Bīrūnī's translation of this passage is not literal, it fits

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[868] Al-Bīrūnī 1958: 51.15-67.7; Sachau 1888b: I: 68-88.
[869] Takakusu 1904a: 31.

better with the contents of the commentaries on kā 44 and 45 than with those commenting upon kā 50. The commentaries on kā 44 and 45 discuss the eight "states" (Skt. *bhāva*) inherent to the concept of "cognition" (Skt. *buddhi*): "virtue" (Skt. *dharma*), "lack of virtue" (Skt. *adharma*), "knowledge" (Skt. *jñāna*), its "reverse" (Skt. *viparyaya*), or "lack of knowledge" (Skt. *ajñāna*), all enumerated in kā 44, and "lack of desire" (Skt. *vairāgya*), "desire" (Skt. *rāga*), "mastery" (Skt. *aiśvarya*), and its "reverse" (Skt. *viparyaya*), or "lack of mastery" (Skt. *anaiśvarya*), listed in kā 45. In the above passage, al-Bīrūnī does not describe the nine reasons for not reaching emancipation, but rather enumerates three situations that can be linked with some "states" (Skt. *bhāva*) of "cognition" (Skt. *buddhi*). The *Sāṃkhyakārikā* 44 and 45 reads:

> "Upward movement [is a result of] virtue, downward movement [arises] from the lack of virtue. The end [of further transmigration happens] with knowledge, while the attachment [to this world] is caused by [its] reverse (44). The dissolution in the producers (*prakṛti*) [arises] from lack of desire, transmigration from desire, [a desire] that is related to *rajas*. The absence of obstacles [originates] from mastery, its opposite from the reverse (45).

> *dharmeṇa gamanam ūrdhvaṃ gamanam adhastād bhavaty adharmeṇa. jñānena cāpavargo viparyayād iṣyate bandhaḥ* (44). *vairāgyāt prakṛtilayaḥ saṃsāro bhavati rājasād rāgāt. aiśvaryād avighāto viparyayāt tadviparyāsaḥ* (45) (*Yuktidīpikā*'s reading. Wezler/Motegi 1998: 282-283)

Al-Bīrūnī provides definitions to some of the "states" (Skt. *bhāva*) described in kās 44 and 45 by rewording the content of his source. He appears to have avoided translating the abstract Sanskrit concepts of "states" and "cognition", preferring to depict human behaviors that can illustrate these "states". The whole expression "[h]e who enters upon the world with a virtuous character, who is liberal with what he possesses of the goods of the world, is rewarded in it in this way, that he obtains the fulfilment of his wishes and desires, that he moves about in the world in happiness, happy in body and soul and in condition [of life]"

المُقبِل على الدنيا مع حسن السيرة الجوادُ بما يملك منها مكافئً فى الدنيا بنَيْل الأمانيِّ و الإرادة ;I: 83 :Sachau 1888b) و التردّد فيها على السعادة مغبوطا فى البدن و النفس و الحال) appears to define the Sanskrit "virtue" (Skt. *dharma*) described in *kārikā* 44.

The second part of al-Bīrūnī's translation, starting with "[w]hoso lives in this world piously but without knowledge will be raised and be rewarded, but not liberated, because the means of attaining it are wanting in his case" (Sachau 1888b: I: 83; و الزاهدُ فى الدنيا من غيرعلم يفوز بالاعتلاء و الثواب و لا يتخلّص لعَوَز الآلة), can be traced with much more confidence to kā 45. The whole Arabic expression is a rendering of the portions of Sanskrit commentaries dealing with the "lack of desire" (Skt. *vairāgya*). First, al-Bīrūnī uses the Arabic term "ascetic" (زاهدُ), which Sachau translates with "[w]hoso lives in this world piously". Al-Bīrūnī uses the same verbal root (زهد), meaning "to abstain", "to renounce", when he translates the concept of "lack of desire" (Skt. *vairāgya*) in the *Kitāb Pātanğal* (Q 6). The *Pātañjalayogaśāstra* (PYŚ 12-16) considers the "lack of desire" as a means to emancipation. The use here of a derivative from the same verbal root as that used to describe "lack of desire" in the *Kitāb Pātanğal* suggests that al-Bīrūnī also translated the Sanskrit "lack of desire" (Skt. *vairāgya*) with precisely this Arabic word in the *Kitāb Sānk*. Second, the *Kitāb Sānk*, the *Suvarṇasaptati*, the *Gauḍapādabhāṣya*, the *Sāṃkhyasaptativṛtti*, the *Māṭharavṛtti*, the *Jayamaṅgalā*, and the *Tattvakaumudī* all mention on *kārikā* 45 that "lack of desire" is insufficient to reach emancipation if it occurs without "knowledge" (Skt. *jñāna*). Similarly, al-Bīrūnī stated "[w]hoso lives in this world piously but without knowledge will [… not be] liberated […]." Leaves of the *Sāṃkhyavṛtti*'s manuscript are missing in this place. Yet the *Yuktidīpikā* expresses a similar idea in the passage discussing the concept of "knowledge", though not when explaining that of "lack of desire".

The last portion of the Arabic passage, stating "[w]hoso is content and acquiesces in possessing the faculty of practicing the above-mentioned eight commandments, whoso glories in them, is successful by means of them, and believes that *they* are {emancipation}, will remain in the same stage" (Sachau 1888b: I: 83-84; و القانع المستغنى إذا اقتدر على الثمانية الحال المذكورة و اغتزَّ بها و تَنجَّح و ظنَّها الخلاص بقى عندها), constitutes al-Bīrūnī's explanation of the concept of "mastery" (Skt. *aiśvarya*). In this passage, the scholar referred to "the eight above-mentioned commandments" (الثمانية الحال المذكورة). In the preceding lines of the same chapter of the *Taḥqīq*, al-Bīrūnī enumerates eight powers that one gains when mastering concentration, and nine rules of conduct prescribed by religious law.[870] All commentaries on *kārikā* 45, except the *Jayamaṅgalā* and the *Tattvakaumudī*, refer to these eight powers of "mastery" (Skt. *pūrvam aiśvaryam aṣṭavi\<dha\>m aṇimādi*).[871] Thus, these observations not only indicate that the Arabic passage is based on a Sanskrit work commenting upon *kārikā* 45, but also that al-Bīrūnī may have used a commentary that also referred to the eight powers resulting from "mastery".

A further indication that al-Bīrūnī's translation is here based on kās 44 and 45 rather than kā 50, contrary to Takakusu's conclusion, lies in his particular phrasing at this point for Sanskrit word "mastery", or more literally "state of being master" (Skt. *aiśvarya*). It appears as though he translated it with the expression "the content one having no need" (القانع المستغنى). This concept of "mastery", or "being without need" in al-Bīrūnī's words, does not appear in the commentaries on *kārikā* 50. The connection between this Arabic passage and a commentary on *kārikā*-s 44 and 45 is also supported by the fact that the second part of the whole Arabic passage (XIX) is unequivocally taken from kā 46 and its related commentaries. If one accepts my argument that the first part is indebted to kās 44 and 45, it would then be possible to trace the source for this passage to the three consecutive kās (44, 45, and 46) and

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[870] Al-Bīrūnī 1958: 52.11-17; 56.13-16; Sachau 1888b: I: 69; 74.
[871] For instance in the *Sāṃkhyasaptativṛtti* (Solomon 1973a: 60).

their commentaries, rather than to have to posit that al-Bīrūnī drew from two separate passages of his Sanskrit source.

However, this quotation summarizes the corresponding Sanskrit passages and was extensively reworked by al-Bīrūnī. Because of al-Bīrūnī's adaptations, the analysis of this first part (XVIII) makes it impossible to retrace its specific Sanskrit source. However, some elements discussed above provide hints in this regard. This passage does not appear to be based on the *Jayamaṅgalā* and the *Tattvakaumudī*, because these two commentaries do not refer to the eight powers originating from "mastery". As for the *Yuktidīpikā*, its explanation that "lack of desire" without "knowledge" does not lead to emancipation contrasts to all other texts. This quotation, in parallel with most examples mentioned in this chapter, indicates that al-Bīrūnī's source was closest to commentaries such as the *Sāṃkhyasaptativṛtti*, the *Gauḍapādabhāṣya*, and the *Māṭharavṛtti*. These additional clues to the evidence already discussed in this chapter makes it possible to further tease out the most plausible source for al-Bīrūnī's text.

Al-Bīrūnī also made several adaptations in his translation. It appears, as discussed, that al-Bīrūnī defined the concepts of "virtue", "lack of desire", and "mastery" in his own words, rather than literally translating these terms. Other than these definitions, which constitute addition to his original source, most adaptations he made were omissions. For instance, in contrast to the *Sāṃkhyakārikā*, al-Bīrūnī did not refer to the binary notions opposed to "virtue", "knowledge", "lack of desire", and "mastery", that is, "lack of virtue" (Skt. *adharma*), "lack of knowledge" (Skt. *ajñāna*), "desire" (Skt. *rāga*), and "lack of mastery" (Skt. *anaiśvarya*). He also does not devote a special portion of text to the concept of "knowledge" in this quotation, whereas all Sanskrit commentaries explain this notion separately.

The reasons behind al-Bīrūnī's omission of this concept of "knowledge" are not completely clear. He perhaps deemed it unnecessary and redundant to mention "knowledge" as a means to emancipation at this juncture in the text, as he earlier broached the topic when dealing with "asceticism" (الزهد) corresponding to the "lack of desire". In this passage, he explicitly says "[w]hoso lives in this world piously but without knowledge will be raised and be rewarded, but not be liberated" (و الزاهدُ فى الدنيا من غير علم يفوز بالاعتلاء و الثواب و لا يتخلّص).

The type of knowledge in question is defined by the commentaries in different ways. The *Yuktidīpikā* does not specify what type of knowledge leads to emancipation, whereas, according to the *Jayamaṅgalā* and the *Tattvakaumudī*, it consists of the "discriminative knowledge" (Skt. *vivekakhyāti*) which distinguishes the "substrative cause" (Skt. *prakṛti*) from the "passive self" (Skt. *puruṣa*). The *Suvarṇasaptati*, the *Sāṃkhyasaptativṛtti*, the *Gauḍapādabhāṣya*, and the *Māṭharavṛtti* define this type of knowledge as that of the twenty-five "elements" (Skt. *tattva*) constituting the world. This conception is technical, specific to classical Sāṃkhya, and completely unknown to the Muslims. If he had used a commentary akin to these four commentaries, al-Bīrūnī may have decided to forego such technical discussion at this particular point of the narrative in order to adjust the content of the *Kitāb Sānk* to his readership.

Al-Bīrūnī also omits other technical concepts that were probably present in his source in this passage. When explaining "virtue" (Skt. *dharma*; حسن السيرة) the Sanskrit commentaries specify that "upward movement" signifies reaching the land of the gods, while "downward movement" leads to the land of animals. Al-Bīrūnī makes no mention of this at all here. However, as seen in section 6.3.1., the scholar addressed this matter when explaining that births depend upon vices and virtues. He thus probably decided not to include it in this place to avoid being redundant.

With regard to "lack of desire" (Skt. *vairāgya*; الزهد), the result of this conduct or practice is the dissolution into eight of the constitutive "true elements", the "primary source", the "conscious perception", the "individualization", and the five "subtle elements" (Skt. *pradhānabuddhyahaṁkāratanmātra*). This again is not rendered by al-Bīrūnī. According to Yoga and Sāṃkhya, the "subtle body" (Skt. *sūkṣmaśarīra*) is the element that transmigrates from one corporeal body to the other. It is referred to several times by the Sanskrit commentaries in the passage al-Bīrūnī plundered for his Arabic text, but no mention of it was made in the related passage from the *Kitāb Sānk*.

The above elements, i.e., the knowledge of the twenty-five "elements" leading to emancipation, the land of gods and that of animals, the dissolution into eight elements, and the subtle body, are all very technical Indian and/or Sāṃkhya conceptions. It appears that these elements are not dealt with – or are very sparingly – by al-Bīrūnī, probably because he regarded them as too culturally loaded to transmit to his readership, or to emphasize them in the way the Sāṃkhya system does.

The Sanskrit commentaries on kās 44 and 45, except the *Tattvakaumudī* and the *Yuktidīpikā*, stress categorizing the discussed notions in terms of "causes" (Skt. *nimitta*) and "effects" (Skt. *naimitika*);[872] "virtue" being the "cause" of the "upward movement" that constitutes the "effect" of being virtuous; conversely, while "lack of virtue" being the "cause" of the "downward movement", and "knowledge" being the cause of the "end [of further transmigration]", etc. This discussion is not included as such in the quotation from the *Kitāb Sānk*. However, the Arabic phrase "[f]or in reality good fortune is a recompense for former deeds, done either in the same shape or in some preceding shape" (فإنّ حقيقة الدولة انّها مكافاة على الأعمال السابقة فى ذلك القالب أو غيره) reflects a similar idea. Al-Bīrūnī's phrasing clearly refers to karmic retribution, which is however not directly mentioned in the Sanskrit works. Al-Bīrūnī

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[872] The *Jayamaṅgalā* only specifies this for the description of "virtue" (Skt. *dharma*) and "lack of virtue" (Skt. *adharma*).

may have substituted the Sanskrit notions of "cause" and "effect" with this paraphrased description.

The second part of this passage (XIX) considers four levels of "knowledge" (المعرفة) exemplified by four different disciples who are asked to ascertain the identity of an object they see from far. The same illustration related to four divisions of "cognition" (Skt. *buddhi*) appears in some commentaries on *kārikā* 46. Three of these four levels of knowledge are respectively called in Sanskrit and Arabic "mistake" (Skt. *viparyaya*) and "ignorance" (الجهل), "inability" (Skt. *aśakti*) and "disability" (العجز), "satisfaction" (Skt. *tuṣṭi*) and "indolence" (التراجى). The fourth, "accomplishment" (Skt. *siddhi*) in Sanskrit, is paraphrased by al-Bīrūnī at the end of the illustration.[873]

The same illustration is referred to in some commentaries on kā 30, notably in the *Gauḍapādabhāṣya*, as Sachau and Garbe highlight, yet is not explained at length, as it is on *kārikā* 46.[874] Moreover, the example does not illustrate the four divisions of "cognition", but rather is aimed to expound the role and the functioning of "cognition" in relation to "individualization" (Skt. *ahaṃkāra*), the "mind" (Skt. *manas*), and the sense-organs in determining external objects. Takakusu thus correctly connects this passage to kā 46 and its commentaries, providing a detailed analysis of the variants of this illustration in the *Suvarṇasaptati*, the *Gauḍapādabhāṣya*, and the *Kitāb Sānk*.[875]

These three works, as well as the *Sāṃkhyasaptativṛtti*, the *Sāṃkhyavṛtti*, and the *Māṭharavṛtti*, indeed record this illustration, explain it, and contextualize it in a similar way as al-Bīrūnī does. The *Yuktidīpikā*, the *Jayamaṅgalā*, and the *Tattvakaumudī*, however, do not mention this *exemplum*, which stands as an additional indication that al-Bīrūnī did not use any of these three commentaries to compose the *Kitāb Sānk*.

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[873] It must be noted that *siddhi* in this context does not have the same meaning as the *siddhi*-s described in the *Pātañjalayogaśāstra* and signifying "supernatural powers".
[874] Sachau 1888b: II: 288; Garbe 1894: 64-65.
[875] Takakusu 1904a: 31-34.

The other commentaries that utilize this illustration do not deal with it in the exact same way. The *Suvarṇasaptati*, the *Sāṃkhyavṛtti*, and the *Kitāb Sānk* narrate the analogy in a similar manner, as opposed to the way it is presented in the *Gauḍapādabhāṣya*, the *Sāṃkhyasaptativṛtti*, and the *Māṭharavṛtti*. The *Sāṃkhyavṛtti* reads:

"<Before sunset, a teacher reached a town with four young boys>. A young boy <said> to [his] teacher: "This, [which] is seen on this path, is it a pole or a thief?" This boy had a doubt about the pillar. <The teacher said to the second boy: "Let [me] know what this is. It is too far [for me] to see it>. He said to the teacher: "I am not able to approach, and therefore I am unable [to ascertain what] it is. The teacher <said> to the third boy: "Let [me] know what this is." The third boy, having looked in its direction, said to the teacher: "Let us approach it, at sun<rise>, with the caravan which is as yet too far [from us]." Having [thus] spoken, and having not ascertained [what it is], he fell asleep in the growing darkness. Thus, the third boy [exemplifies], reaching the state of satisfaction (*tuṣṭi*). Again, the teacher asked to the fourth boy: "Let [me] know what this is." This one, having looked in the [object's] direction, sees a plant climbing on this pole, and a bird on top of it. Therefore, having approached [the object], having touched the pole with his foot, he returned to the teacher and said: "This is a pole". <This is [the state of] accomplishment (*siddhi*)>."

<*kaścit kila upādhyāyaḥ anudite sūrye caturbhir baṭubhiḥ saha nagaram abhiprasthitaḥ*>. *kaścid baṭuḥ upādhyāyaṃ* <*bravīti*> *eṣo'tra pathi dṛśyate kiṃ sthāṇuḥ syāt coraḥ syād iti. tasya baṭoḥ sthāṇau saṃśayaḥ.* <*upādhyāyena dvitīyo baṭuḥ uktaḥ jñāyatāṃ ko'ayam iti, durāt nirīkṣate?* > *tataḥ upādhyāya uktaḥ nāhaṃ śakto vyupagantum*[876] *iti. ma evaṃ asyāśaktir*[877] *utpannā. upādhyāyena tṛtīyo baṭuḥ* <*uktaḥ*> *jñāyatāṃ ko'ayam iti. sa tṛtīyo*[878] *baṭuḥ nirīkṣya upādhyāyaṃ bravīti*[879] *kim anenācchinnena,*[880] *sūrye* <*udite*> *sārthena saha yāsyāmaḥ iti. uktvā ajñātveṣattame prasuptaḥ. evaṃ tṛtīyasya baṭoḥ tuṣṭir utpannā upādhyāyo bhūyaś caturthaṃ baṭuṃ bravīti jñāyatāṃ ko'<ya>m iti. sa nirīkṣya tasmin sthāṇau*

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[876] Instead of *yuyegantum.*
[877] Instead of *evasya.*
[878] Instead of *stayor.*
[879] Instead of *bratīti*, my emendation.
[880] Here Solomon's emendation (*kimanenā<va>cchinnena*) does not appear to be correct.

vallīm[881] *paśyati sthāṇunārūḍhāṃ*[882] *tatrārūḍhaṃ śakunam* [*ca*]. *tato gatvā pādena sthāṇuṃ spṛṣṭvā punar āgata upādhyāyaṃ*[883] *bravīti sthāṇur ayam iti*. <*eṣā siddhiḥ*>. (Solomon 1973b: 56-57)

The emendations and additions of Solomon are not all certain. However, if these emendations are omitted, the passage still resembles that of the *Kitāb Sānk* in several respects. First, it presents the illustration in the form of a dialogue between a teacher (Skt. *upādhyāya*) and four young boys (Skt. *baṭu*) in the same way as the *Kitāb Sānk* does. Similarly, the *Suvarṇasaptati* specifies that the discussion occurs between a "Brahmin" (Fr. *brahmane*) and his "disciples" (Fr. *disciple*).[884] The *Gauḍapādabhāṣya*, the *Sāṃkhyasaptativṛtti*, and the *Māṭharavṛtti* remain relatively concise. They do not for instance provide the illustration as a story involving an erudite and four young people, but only narrate through impersonal pronouns, such as "somebody" (Skt. *kaścit*) or "he" (Skt. *sa*).

It may be argued that the specific form of this quotation from the *Kitāb Sānk* was due to al-Bīrūnī's own creativity, as the scholar reshaped his Sanskrit source into a dialogue, as he did with the *Kitāb Pātanǧal*. However, in this case, the dialogue is between one master and four young people, or disciples, rather than between a wise man and an ascetic.[885] It is therefore interesting to note the concordance between the *Kitāb Sānk,* the *Suvarṇasaptati*, and the *Sāṃkhyavṛtti* in this respect.

Another common point between these three texts lies in the details they provide. For instance, they specify that the fourth disciple touches the object with his foot in order to ascertain the identity of the object. Although being a free translation, the *Kitāb Sānk* describes the situation in a way that can be paralleled to the *Suvarṇasaptati* and the *Sāṃkhyavṛtti*. In addition, if one accepts Solomon's addition of the first sentence in the above quotation of the

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[881] Instead of *valliṃ*.
[882] Instead of *sthāṇunārūḍhaṃ*.
[883] Instead of *āgatopādhyāyaṃ*.
[884] Takakusu 1904a: 1033.
[885] See appendix 1, numbers I, XVII. And XX.s

Sāṃkhyavṛtti, these three commentaries are also the only ones that introduce the illustration by explaining that a master is travelling with his pupils.

The *Sāṃkhyavṛtti* and the *Suvarṇasaptati*, however, also differ from al-Bīrūnī's version, chiefly in terms of narrative scheme. For instance, as compared to the *Sāṃkhyavṛtti* and the *Suvarṇasaptati*, the quotation in the *Kitāb Sānk* is structured in a slightly different way. In the quotation of the *Kitāb Sānk*, the teacher himself asks the disciples once for the identification of the object, whereas in the *Sāṃkhyavṛtti* and in the *Suvarṇasaptati* the exchange is first introduced by a speech of the first disciple, and the question by the teacher repeated for each pupil. These two latter commentaries also mention a caravan (Fr. *caravane*; Skt. *sārtha*) when the third disciple tries to identify the object, an element that is absent from the *Kitāb Sānk*.

Conversely, the Arabic translation supplements the story with descriptions that do not appear in any of the Sanskrit commentaries under scrutiny. For instance, they lack two of al-Bīrūnī's explanations about the fourth type of knowledge: "he knew that a living man, endowed with free will, would not stand still in his position until such a thing is entangled around him, and he recognized at once that it was a lifeless object standing erect" (علم انّ الانسان الحيّ المختار لا يبقى فى موضعه قائما إلى أن يحصل عليه ذلك الالتفاتُ و تحقّق انّه موات منصوب); and "[h]e could not be sure if it was not a hidden place for some dunghill" (لم يأمن أن يكون مخبئا لمَزبلِةٍ شئ). The question of whether these additions and omissions are really due to al-Bīrūnī's creativity and interpretation, and not him having used a different Sanskrit source than the commentaries under consideration, is perhaps impossible to settle once and for all. However, in my opinion, the similarities between the *Kitāb Sānk*, the *Sāṃkhyavṛtti*, and the *Suvarṇasaptati* are too important to be explained as a mere coincidence.

6.3.4. <u>The traveller who observes the working villagers</u>

Chapter 4 of the *Taḥqīq mā li-l-Hind*, entitled "From what cause action originates, and how the soul is connected with matter" (فى سبب الفعل و تعلّق النفس بالمادّة),[886] is devoted to the cause of the action of a man and the connection between the soul and matter. It generally references, both implicitly and explicitly, passages of the *Kitāb Sānk* that are intimately connected to metaphysical concepts developed in the Sāṃkhya philosophy. The next extract (VI) is not exactly a quotation from the *Kitāb Sānk*, but constitutes an explicit reference to its understanding of "action" (الفعل).

The first part of this reference (a) constitutes a relatively accurate summary of the role of the three "constituents" (Skt. *guṇa*) in classical Sāṃkhya metaphysics, and thus could refer to the content of several *kārikā*-s.[887] Therefore, his section analyzes in depth only the last part of this reference (b) that includes an illustration, which is described in commentaries on *kārikā* 19, as was rightly noted by Takakusu.[888] It aims to exemplify the relationship between the "three primary forces" (القوى الثلاث الأول), or the three "constituents" (Skt. *guṇa*), the "soul" (نفس), or the "passive self" (Skt. *puruṣa*), and action. This *kārikā* and its commentaries attempt to define the "passive self" (Skt. *puruṣa*):

> "It is established that the passive self is a witness, separated, neutral, seeing, and inactive because of being opposed [to the three *guṇa*-s]"[889] (kā 19).
>
> *tasmāc ca viparyāsāt siddhaṃ sākṣitvam asya puruṣasya. kaivalyaṃ mādhyasthyaṃ draṣṭṛtvam akartṛbhāvaś ca.* (*Yuktidīpikā*'s reading. Wezler/Motegi 1998: 280)

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[886] Al-Bīrūnī 1958: 34.4-38.2; Sachau 1888b: I: 45-49.
[887] See for instance *Sāṃkhyakārikā* 11 to 13, 16, 19, 27, and 54. Sachau suggests that this first part is linked to kā 12 and 25 (Sachau 1888b: II: 274-275). However, the topic of *kārikā* 25 is different from that of this Arabic passage.
[888] Takakusu 1904a: 29; also in Sachau 1888b: II: 275.
[889] This opposition is made explicit in kās 17 and 18, as well as in the comments on kā 19.

The analogy of the spectator observing the working villagers is used in different commentaries to illustrate one or several of the five qualities ascribed to the "passive self" in this *kārikā,* though the *kārikā* itself does not provide the illustration. This fact confirms the observation that the *Kitāb Sānk* is based on a basic text resembling the *Sāṃkhyakārikā* as well as on a commentary. Moreover, the *Yuktidīpikā*, the *Jayamaṅgalā*, and the *Tattvakaumudī* do not make use of this illustration at all. A deeper analysis of the different versions of this passage in the remaining five commentaries under consideration and the *Kitāb Sānk* is particularly puzzling. In fact, the analysis does not indicate clear-cut correspondence between the Arabic translation and any one single possible Sanskrit source. However, when joined with previous observations made in the present chapter, it would be conducive to parallel the source of the *Kitāb Sānk* with a specific Sanskrit commentary. Analyzing this excerpt also constitutes a representative example of the problems one encounters when comparing the extracts of the *Kitāb Sānk* found in the *Taḥqīq mā li-l-Hind* with the extant Sanskrit commentaries on the *Sāṃkhyakārikā*. Therefore, several elements are examined here.

First, the ways in which the commentaries invoke the analogy slightly differ from each other. The *Kitāb Sānk* uses this analogy to enlighten its audience only with regard to the "observing" quality (نظّارة) of the "soul", which may either refer to the "faculty of witnessing" (Skt. *sākṣitva*), or the "faculty of seeing" (Skt. *draṣṭṛtva*) attributed to the "passive self" in kā 19. The *Suvarṇasaptati* and the *Gauḍapādabhāṣya* make use of this analogy in order to explain the "neutral quality" (Skt. *mādhyasthya*) of the "passive self", and therefore are least likely to constitute al-Bīrūnī's source for this passage. As for the *Sāṃkhyavṛtti*, it positions the analogy at the end of its comment on kā 19, referring to the qualities of being separated (Skt. *kaivalya*) and neutral (Skt. *mādhyasthyaṃ*) of the "passive self". The *Sāṃkhyasaptativṛtti* and the *Māṭharavṛtti* could have inspired the *Kitāb Sānk* here, as they both narrate this analogy at the beginning of their discussion to evidently explain the "faculty of witnessing" (Skt.

sākṣitva) of the "passive self". However, al-Bīrūnī's choice to explain the "observing" quality of the "soul" through this illustration may also be due to the adaptations he made when interpreting his Sanskrit source.

Second, al-Bīrūnī's quotation labeled the person involved in the events "a traveller" (أحد السابلة), yet this exact qualifying term cannot be found in any other commentary under scrutiny here. The *Sāṃkhyasaptativṛtti* and the *Māṭharavṛtti* both use the term "religious mendicant" (Skt. *bhikṣu*), while the *Suvarṇasaptati* refers to this person as an "ascetic mendicant" (Fr. *ascète mendiant*). The *Gauḍapādabhāṣya* and the *Sāṃkhyavṛtti* employ the term "wandering religious mendicant" (Skt. *parivrājaka*). The idea of "wandering" or "travelling" is associated with the Sanskrit *parivrājaka* used in the *Gauḍapādabhāṣya* and the *Sāṃkhyavṛtti,* rather than with *bhikṣu* used by the other commentaries. The "traveller" of al-Bīrūnī is thus perhaps a free translation of *parivrājaka*.

Third, the narrative takes place in a village (القرية) in al-Bīrūnī's version, as it does in both the *Gauḍapādabhāṣya* (Skt. *grāmīṇeṣu*) and the *Sāṃkhyavṛtti* (Skt. *grāme*). In contrast, the *Sāṃkhyasaptativṛtti* and the *Māṭharavṛtti* locate the story in a city (Skt. *nagara*). The *Suvarṇasaptati* does not specify in which place the event occurs. Although these elements constitute minor hints, they may be indicative of the identification of al-Bīrūnī's source with a commentary similar to the *Gauḍapādabhāṣya* or the *Sāṃkhyavṛtti*.

The last element that may lead to connecting the *Kitāb Sānk* to one of the Sanskrit commentaries is the way the activities of the villages are described. Though the *Kitāb Sānk* does not specify the types of activities, the *Sāṃkhyasaptativṛtti* enumerates various activities the citizens are involved in, such as worshipping, studying, ploughing, and trading[890] and the *Sāṃkhyavṛtti* describes the villagers' activities by saying that "some villagers are farming and some are not" (Skt. *te grāmyā lokāḥ kṣetrakarmaṇi pravartante nivartante ca*).[891] On the

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[890] Solomon 1973a: 34.
[891] The emended reading proposed by Solomon is accepted here (1973b: 31).

other hand, the *Suvarṇasaptati*, the *Gauḍapādabhāṣya*, and the *Māṭharavṛtti* do not specify what type of activities are meant, paralleling al-Bīrūnī's version. However, it is possible that al-Bīrūnī simply summed up the content of his source here.

The above observations may be summarized in the following way. The manner in which the analogy was used indicates similarities between the *Kitāb Sānk*, the *Māṭharavṛtti*, and the *Sāṃkhyasaptativṛtti*. The description of the person involved in the illustration, as well as the place of the event, rather relates the *Kitāb Sānk* with the *Sāṃkhyavṛtti*, and the *Gauḍapādabhāṣya*. The description of the villagers' activities indicates resemblance between the Arabic version and the *Gauḍapādabhāṣya*, the *Māṭharavṛtti*, and the *Suvarṇasaptati*. However, the use of the analogy and the summary of the description of the activities are elements particularly liable to al-Bīrūnī's adaptations. If this is accepted, this entails that the elements linking the *Kitāb Sānk* to the *Sāṃkhyasaptativṛtti*, the *Māṭharavṛtti*, the *Gauḍapādabhāṣya*, and the *Suvarṇasaptati* are less significant than the other elements. Moreover, analyzes of previous excerpts of the *Kitāb Sānk* excluded the *Sāṃkhyasaptativṛtti*, the *Gauḍapādabhāṣya*, and the *Māṭharavṛtti* from possibly being the source of al-Bīrūnī's translation. This extract therefore not only indicates that the *Yuktidīpikā*, the *Jayamaṅgalā*, and the *Tattvakaumudī* could not constitute al-Bīrūnī's source, but also illustrates resemblance between the *Kitāb Sānk* and the *Sāṃkhyavṛtti*.

6.3.5. The water whose taste is altered

The last excerpt under review also consists of one of the analogies made by al-Bīrūnī in chapter 4 of the *Taḥqīq* (VIII). This analogy, as the preceding one, was used to illustrate the property of the soul (النفس). It is referred to in *kārikā* 16 with the Sanskrit phrasing *salilavat*, meaning "just like water", which however applies to the "unmanifested" (Skt. *avyakta*) in contrast to al-Bīrūnī's version, which compares the "soul" with water. Other than the

Yuktidīpikā, this analogy is further explained in all commentaries on this *kārikā*. The *Yuktidīpikā* is thus not considered in the following analysis, nor are the *Tattvakaumudī* or the *Jayamaṅgalā,* which could, on the basis of the preceding sections, be excluded with confidence from being possible sources of al-Bīrūnī's translation. Amongst the other commentaries, the *Gauḍapādabhāṣya,* for instance, does not mention the role of the receptacle.[892] The comments upon this *kārikā* in the *Sāṃkhyasaptativṛtti* and the *Māṭharavṛtti* do not diverge much from each other. They both explain that water, when reaching the soil, has different tastes, depending upon the receptacles in which it falls to, but they do not specify the types of these receptacles, as al-Bīrūnī does.[893] The *Suvarṇasaptati* specifies different tastes of the water, stating: "it [i.e., the water] has various tastes, depending upon the receptacles [in which it falls]. If it is in a golden vase, its taste is very sweet; if it is in the earth, its taste varies depending upon the quality of the earth."[894] The reading of the first compound of this passage in the *Sāṃkhyavṛtti* is uncertain. However, Solomon proposes two possible emendations. Her two proposals are the following:

1) "water, received from the sky *in a receptacle [made for the purpose of] retaining water*, is transformed into sweetness"

   <ākāśād udandhāraṇa>bhājanena parigṛhītam ambhaḥ madhurabhāvena pariṇa<mate>

2) "water, received from the sky *in a golden receptacle*, is transformed into sweetness"

   <ākāśāt suvarṇa>bhājanena parigṛhītam ambhaḥ madhurabhāvena pariṇa<mate>. (Solomon 1973b: 28)

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[892] Sharma 1933: 19.
[893] Solomon 1973: 30; Vaṅgīya 1970: 21.
[894] From the French: "Elle devient d'un gout varié selon les différents receptacles. Si elle est dans un vase d'or, son gout est très doux ; si elle est dans la terre, son goût diffère selon la qualité de la terre." Takakusu 1904b: 1001.

The second proposal, although relatively different from the original reading in the manuscript (*ākāśādondhāraṇa*), appears possible, as it is close to that of the *Suvarṇasaptati*. If one is willing to accept this emendation, then the *Kitāb Sānk* bears some similarities with the *Suvarṇasaptati* and the *Sāṃkhyavṛtti*. At any rate, even if al-Bīrūnī had a version of this analogy resembling that found in these two commentaries, the scholar added elements in his enumeration of receptacles, and did not solely mention gold as a type of receptacle.

6.4. Concluding remarks

The *Kitāb Sānk* constitutes a free translation of the *Sāṃkhyakārikā* and one of its commentaries. It appears to have been reshaped into a dialogue form. Al-Bīrūnī also substantially transformed his Sanskrit source and adapted his translation to meet the needs of his Muslim, eleventh-century readership. Three specific types of substantial transformations emerged in light of the present chapter: omission, addition, and substitution. As mentioned, al-Bīrūnī frequently made these specific adaptations of content when dealing with technical and/or abstract ideas elaborated by classical Sāṃkhya. Moreover, it appears that the scholar handled the source of the *Kitāb Sānk* and that of the *Kitāb Pātanǧal* in comparable ways. A comparison between his Arabic translations and his Sanskrit sources, without considering his hermeneutics and creativity, is thus insufficient to comprehend his work.

The content of the *Kitāb Sānk* shows major discrepancies from the *Yuktidīpikā*, the *Jayamaṅgalā*, and the *Tattvakaumudī*. This chapter thus enables us to exclude these three latter commentaries from being considered possible Sanskrit sources of the *Kitāb Sānk*. On this other hand, it matches the content of the commentaries belonging to the group of five described in section 3.1.2 in a striking manner.[895] Its source is therefore affiliated in some way to this group. The *Gauḍapādabhāṣya*, although it bears some resemblance to the *Kitāb*

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[895]

Sānk, was also probably not its source. This Sanskrit commentary has fewer commonalities with the *Kitāb Sānk* than other commentaries, and its style is probably too condensed to have constituted al-Bīrūnī's source. The fact that the scholar knew a book by the name of Gaura, which could have been the *Gauḍapādabhāṣya*, different from the *Kitāb Sānk*, also rules out this possibility. The *Māṭharavṛtti* and the *Sāṃkhyasaptativṛtti* resemble each other in a striking manner and share several commonalities with the *Kitāb Sānk*. They are both, however, composed in a relatively condensed manner as well, which minimizes the possibility of one of these texts having constituted the source of the *Kitāb Sānk*. However, the *Sāṃkhyasaptativṛtti*, with the word *sāṃkhya* in its title, constitutes a better possible candidate than the *Māṭharavṛtti*. The *Suvarṇasaptati* resembles the *Kitāb Sānk* relatively well in both style and content. Yet, as it is a Chinese translation, and was itself probably subject to adaptations by Paramārtha, it remains problematic to equate its source with that of the *Kitāb Sānk*. A comparison between these two translations only enables us to hypothesize that their respective Sanskrit sources were similar to each other, without any further definitive conclusion.

In the present state of Indological research, the *Sāṃkhyavṛtti* is the most appropriate Sanskrit commentary to be considered as the source of the *Kitāb Sānk*. The style is similar in both works. The *Kitāb Sānk* provides more descriptions and details than this commentary, but these may be now easily explained by al-Bīrūnī's creativity and desire to adapt his source for his readership. The title of this Sanskrit work also contains the term *sāṃkhya*, which can constitute an additional hint that it may have been the source of the *Kitāb Sānk*. However, as many passages of the *Sāṃkhyavṛtti* corresponding to the quotations from the *Kitāb Sānk* are missing, or uncertain, due to the impaired condition of its manuscript, it is difficult to ascertain this last hypothesis.

7. Conclusion

The first pole of this dissertation, which focuses on al-Bīrūnī's socio-historical and intellectual surroundings, enables us to contextualize the way in which the scholar became acquainted with Indian science. It also sheds light on the different locales in which the scholar dwelt and highlights the fact that al-Bīrūnī resided in flourishing commercial and/or intellectual centers and, for the most part, benefited from the support of a ruler. These circumstances were conducive for him to not only devote himself to his research, but also to engage with scholars from different cultural and intellectual milieus.

Considering the specific geographical distribution of the different sites where he lived, both within, and beyond al-Bīrūnī conceptualization of al-Hind's frontiers, helps distinguish the differing historical and cultural contexts in which the scholar evolved. Khwarezm (Kāt̲ and Jūrjānīya), Ray, and Jūrjān shared similar features in terms of their pre-Islamic traditions. For instance, Zoroastrianism was the prevailing religious trend before Islam was established in these provinces.

In Kabul and Ghazna the situation was different in several ways. First, the two locales were situated on a passage between Persia and India. Second, families of craftsmen, slaves, and possibly interpreters had been gathering in these two towns at least since Maḥmūd's reign. Third, the Indian Šāhis ruled the area in pre-Islamic times. Brahmanical traditions thus existed in northeastern Afghanistan until the last quarter of the 10th century CE. Surviving traditions may still have been present there when al-Bīrūnī arrived in 1017. However, Kabul and Ghazna were no longer part of early medieval India by al-Bīrūnī's time.

Al-Bīrūnī lived in eastern Afghanistan between the years 1017 and 1030, but also travelled to some parts of al-Hind. This dissertation further argues that the scholar's visits to early medieval India were most likely confined to what is present-day northern Pakistan. Evidence pointing to him having made actual direct observations beyond the abode of Islam

remains scanty. On the basis of analysis of al-Bīrūnī's writings, only five locales emerge as having been visited or seen by him: Laghman, Peshawar, Fort Rājagirī, Fort Lahūr, and Fort Nandana. Although al-Bīrūnī's significant mathematical treatise, *al-Qānūn al-Masʿūdī*, has not been used in this dissertation as a primary source, references to it are made regarding al-Bīrūnī's travels in northern Pakistan.

Thanks to investigations of archaeological and literary sources, the socio-historical situations of these five locales are discussed. When al-Bīrūnī visited these places, he encountered the society of the Indian Šāhis, who used Sanskrit as an official language, worshipped Brahmanical deities, and whose temples and coinage shared common features with those found in other parts of north-western India.

This dissertation examines the available data regarding the Indian Šāhis. However, new information may arise from archaeological excavations in the region of Ghazna, Kabul, and northern Pakistan, as well as from further investigations into the question, and such findings may add to our knowledge of these kings, their origins, and their society. For instance, they are generally considered the heirs of the so-called Turkish Šāhis in Kabul. This assumption, as well as the circumstances under which Kabul shifted from Buddhism to Brahmanism before the advent of Islam, deserves a rigorous investigation, which would complement our understanding of the history of the relationship between Buddhism and Brahmanism.

Further, al-Bīrūnī's scientific interests evolved over the course of his life. He indeed began writing on mathematics and astronomy, and later opened his fields of research to history, sociology, mineralogy, pharmacology, and others. As for his knowledge of Sanskrit and Indian science, al-Bīrūnī had access to some Arabic translations of Indian literature before he actually visited regions in early medieval India. Assessing exactly which sources were available to him at this time, as well as their origins, remains challenging.

Al-Bīrūnī's knowledge of Sanskrit, which was rather good at the time he composed the *Taḥqīq mā-li-l-Hind*, was the result of a long process of development that lasted at least 30 years (1000-1030). His skills in Sanskrit probably first originated primarily from literature, and later from direct collaborations with Indians. At Maḥmūd's court, he indeed encountered Indian scholars, with whom he entered into dialogue. In order to reach the level of Sanskrit that enabled him to translate several works from Sanskrit into Arabic, he also needed to work with literate people well-versed in Sanskrit, who may also have had some comprehension of Arabic, Persian, or a vernacular language to serve as an intermediary language.

Notwithstanding, al-Bīrūnī collaborated with Brahmins, some of whom were astronomers and/or philosophers in Maḥmūd's court. The sultan encouraged the scholar to learn Sanskrit and to become acquainted with Indian culture for political reasons. However, the type of literature al-Bīrūnī studied rather depends upon his own interest for astronomy and upon the interest of these Brahmins with regard to religious and philosophical works. For instance, the *Bhagavadgītā* and different *Purāṇa*-s were amongst the texts read by these Brahmins, whereas the *Veda*-s did not occupy a prominent place in al-Bīrūnī's monograph on India. With regard to philosophy, two schools of thought, classical Sāṃkhya and Yoga, emerged as prevailing currents amongst some of these Brahmins, as opposed to other classical systems of Indian philosophies.

The first pole of this dissertation is based on the accumulation of hints, and additional data would be welcomed so as to complement or adjust its results. However, this study has the privilege of shedding light on relatively unknown materials and exploring the circumstances of al-Bīrūnī's encounter with early medieval India, by connecting his personal and intellectual journey to historical, social and political events of his time.

The second pole of this dissertation takes a textual approach, examining the question of the relationship between al-Bīrūnī's translations of the *Kitāb Sānk* and the *Kitāb Pātanǧal*, and literature of classical Sāṃkhya and Yoga on several planes.

First, a philological survey constituted the first necessary step to encompass this question, and further also enlightened us as to how he, or his Indian informants, regarded the two works. Al-Bīrūnī's translations, both, are based on a text and a commentary. The *Kitāb Pātanǧal*'s source was considered one entity that included a commentary and was penned by one author, which agrees with the ongoing discussion about the authorship of the *Pātañjalayogaśāstra*. This combination reflects the fact that the two layers of a text, frequently dissociated by modern scholarship, were not necessarily seen as two distinct entities by Indian thinkers. The information al-Bīrūnī provides about his translations, such as the authors, titles, and descriptions wholly reflect the Sanskrit textual tradition on classical Sāṃkhya and Yoga.

Al-Bīrūnī's conception of his two translations, however, is not particularly revealing on the question of the exact nature of the relationship between classical Sāṃkhya and Yoga. Despite the early spread of Yoga and Sāṃkhya ideas through Sanskrit literature, it seems that between the early 11th and 16th centuries they lost vitality amongst Indian scholars, in contrast with other schools, which flourished during the time, as indicated by the number of commentaries they produced. Therefore, al-Bīrūnī's translation of works related to these specific systems of Indian philosophy in the early 11th century CE deserves some attention, as they designate these schools of thought as living traditions passed on through the oral informants al-Bīrūnī encountered.

Second, al-Bīrūnī's hermeneutics played an important part in his transmission of these two Indian schools of thought. He transformed his source in different ways, in both form and in substance. These observations appear from the study of the *Kitāb Pātanǧal* and the *Kitāb*

Sānk, as the scholar similarly dealt with these two Sanskrit sources.

In both cases, the many discrepancies between al-Bīrūnī's translations and their possible Sanskrit sources are due either to the scholar's hermeneutics or to the influence of the Brahmins who assisted him. A mere comparison thus does not lead to significant results. Instead, viewed from the Translation Studies perspective, it is possible to highlight the underlying causes behind these discrepancies. This method enabled me to conclude that al-Bīrūnī's desire to reduce the complexity of his sources accounts for the many omissions he made with regard to his sources. His idiosyncratic understanding and interpretation resulted in him having substituted Indian concepts with Islamic and philosophical concepts, while his pre-existing worldly knowledge related to his own culture and to Indian culture enabled him to define some of the concepts and add other elements in his Arabic translations. It must be noted that this explanation works with regard to some passages or concepts, but fails to explain other discrepancies.

Third, with this approach in mind, it has been possible to discern several of al-Bīrūnī's transformations – formal and substantial –, and the potential candidates for al-Bīrūnī's original Sanskrit sources emerged with some confidence. Thus, the *Kitāb Pātanğal* is based on the *Pātañjalayogaśāstra*, or a text very similar to it, and the *Kitāb Sānk* was based on a commentary resembling the source of the Chinese *Suvarṇasaptati* or the *Sāṃkhyavṛtti.* Overall, the *Kitāb Sānk* and the *Kitāb Pātanğal* represent original works of Sāṃkhya and Yoga, as viewed and transmitted by a Perso-Muslim scholar, rather than pure translations of Sanskrit work.

Three facts, however, may jeopardize these conclusions. First, with regard to the *Kitāb Pātanğal*, an obscure passage introducing the actual philosophical discussion and corresponding to a laudatory strophe is as-of-yet unidentified. In most probability, it is a creation of al-Bīrūnī's and/or his informants, although this cannot be definitively confirmed.

Second, in the case of the *Kitāb Sānk*, the discovery of the complete manuscript of its text would corroborate or refute the above conclusions. Third, complete critical editions of the *Pātañjalayogaśāstra* and of the *Sāṃkhyavṛtti* may complement this discussion.

Further, it has been possible to propose explanations for al-Bīrūnī's interpretations of some Sāṃkhya-Yoga concepts, such as Īśvara, "absorption" (Skt. *samādhi*), "substrative cause" (Skt. *prakṛti*), "passive self" (Skt. *puruṣa*), "afflictions" (Skt. *kleśa*), "constituents" (Skt. *guṇa*), "mental activities" (Skt. *cittavṛtti*), and his understanding of the *satkāryavāda* theory. Other important themes that could not be dealt with in this dissertation, such as karma, "emancipation" (Skt. *kaivalya*), and "valid means of knowledge" (Skt. *pramāṇa*) may be the object of a further study.

This dissertation is thus intended to fill some gaps in our understanding of al-Bīrūnī's transmission of classical Sāṃkhya and Yoga, and at the same time it raised some new questions, which may constitute paths for further reflection on this subject.

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Appendix 1: extracts attributed to the *Kitāb Sānk* by Takakusu in the

Taḥqīq mā li-l-Hind

I. Six opinions about action and the agent

The {Indians} differ among themselves as to the definition of what is action. Some who make <God> the source of action consider him as the universal cause (السبب الأعمّ); {because} the existence of the agents derives from him, he is the cause of their action, and in consequence it is his own action coming into existence through their intermediation. Others do not derive action from <God>, but from other sources, considering them as the particular causes (الوجود الأدنى) […].

In the {*Kitāb Sānk*, the ascetic}[896] speaks: "Has there been a difference of opinion about *action* and the *agent*, or not?"

The sage speaks: "Some people say that the soul is not {active} and the matter not living; that {Allah}, who is self-sufficing, is he who unites them and separates them from each other; that therefore in reality he himself is the *agent*. *Action* proceeds from him in such a way that he causes both the soul and the matter to move, like as that which is living and powerful moves that which is dead and weak.

"Others say that the union of *action* and the *agent* is effected by nature, and that such is the usual process in everything that increases and decreases.

"Others say the agent is the soul, because in the Veda it is said, 'Every being comes from {*pūruša*}.'

According to others, the agent is time, for the world is tied to time as a sheep is tied to a strong cord, so that its motion depends upon whether the cord is drawn tight or slackened.

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[896] الناسك. Sachau translates the Arabic term by "devotee".

Still others say that action is nothing but a recompense for something which has been done before.

"All these opinions are wrong. The truth is, that action entirely belongs to matter, for matter binds the soul, causes it to wander about in different shapes, and then sets it free. Therefore matter is the agent, all that belongs to matter helps it to accomplish action. But the soul is not an agent, because it is devoid of the different {forces}."[897]

This is what educated people believe about {Allah}. They call him {īšfara}, i.e. self-sufficing, beneficent, who gives without receiving. They consider the unity of <God> as absolute, but that everything beside <God> which may appear as a unity is really a plurality of things. The existence of <God> they consider as a real existence, because everything that exists exists through him. It is not impossible to think that the existing beings are not and that he is, but it is impossible to think that he is not and that they are. (Sachau 1888b: I: 30-31)[898]

II. Enumeration of the twenty-five "elements" (Skt. *tattva*)

I. Those [Indians] who prefer clear and accurate definitions to vague allusions call the soul {*pūriša*}, which means man, because it is the living element in the existing world. Life is the only attribute which they give to it. They describe it as alternately knowing and not knowing, as not knowing {*in actuality*}, and as knowing {*in potentiality*}, gaining knowledge by acquisition. {Its ignorance is the cause and grounds for action}, and its knowing is the cause why action ceases.

II. Next follows the {the absolute matter (المادّة المطلقة), i.e., the pure primordial matter (الهيولى المجرّدة)}, which they call {abyakta}, i.e. a shapeless thing. It is dead, but has {three forces (قوى ثلاث), in potentiality, not in actuality}, which are called {*sattu, raju*, and *tamu* (سَتُ; رجُ; نَمُ)}. I have heard that Buddhodana (*sic*) [i.e., Śuddhodana], in speaking to his adherents the {Šamaniyya} calls them {*budda, dharma*, and *sanga* (بُدّ دهرم سنگ)}, as it were *intelligence, religion*, and *ignorance* (*sic*). The first <power> is rest and goodness, and hence come existing and growing. The second is exertion and fatigue, and hence come firmness and

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[897] Here, the Arabic term قوى (*quwan*) refers to the three "constituents" and therefore is translated by the English "forces". On al-Bīrūnī's different uses of the Arabic term "forces", see pp. 172-174.
[898] Al-Bīrūnī 1958: 22.9-23.10.

duration. The third is languor and irresolution, and hence come ruin and perishing. Therefore the first <power> is attributed to the angels, the second to men, the third to the animals. The ideas *before*, *afterwards*, and *thereupon* <may be predicated of all these things only> in the sense of a certain sequence and on account of the inadequacy of language, but not <so as to indicate any ordinary notions> of time.

III. Matter {emanating into actuality with shapes} and with the three primary forces is called {*byakta* (بْيَكتَ), i.e., the shaped one}, whilst the union of {pure primordial matter (الهِيولى المجرّدة)} and of the *shaped matter* is called {*parkirti* (يَرْكِرت)}. This term, however, is of no use to us; we do not want to speak of <an *abstract* matter>, the term *matter* alone being sufficient for us, since the one does not exist without the other.

IV. Next comes *nature*, which they call {*āhangāra* (آهَنگَار)}. The word is derived from the ideas of *overpowering*, *developing*, and *self-assertion*, because matter when assuming shape causes things to develop into new forms, and this growing consists in the changing of a foreign element and assimilating it to the growing one. Hence it is as if *Nature* were trying to overpower those other or foreign elements in this process of changing them, and were subduing that which is changed.

V.—IX. As a matter of course, each compound presupposes simple elements from which it is compounded and into which it is resolved again. The universal existences in the world are the five elements, *i.e.* according to {them}: heaven, wind, fire, water, and earth. They are called {*mahābhūta* (مهابوت), i.e., great natures (كبار الطبائع)}. They do not think, <as other people do,> that the fire is a hot dry body near the bottom of the ether. They understand by fire the common fire on earth which comes from an inflammation of smoke. The {*Bāğ Purāna* (باج پران)} says: "In the beginning were earth, water, wind, and heaven. {*Brāhma* (براهم)}, on seeing sparks under the earth, brought them forward and divided them into three parts: the first, {*pārtibu* (پارتِبُ)},[899] is the common fire, which requires wood and is extinguished by water; the second is {*dabtu* (دَبْتُ)},[900] *i.e.* the sun; the third, {*bidut* (بِدُت)},[901] *i.e.* the lightning. The sun attracts the water; the lightning shines through the water. In the animals, also, there is fire in the midst of moist substances, which

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[899] This transliteration corresponds to the Sanskrit *pārthiva* meaning earthly, terrestrial.
[900] Probably from the Sanskrit *divya*, i.e., divine, heavenly.
[901] From *vidyut*, meaning lightning.

serve to nourish the fire and do not extinguish it."

X.–XIV. As these elements are compound, they presuppose simple ones which are called {*panğ mātar* (پَنج مائَر)}, *i.e.* five mothers. They describe them as the functions of the senses. The simple element of heaven is {*šabdu* (شَبدُ)}, *i.e.* that which is heard; that of the wind is {*sayiras* (سَيِرَس)}, *i.e.* that which is touched; that of the fire is {*rūp* (رُوپْ)}, *i.e.* that which is seen; that of the water is {*rasu* (رَسُ)}, *i.e.* that which is tasted; and that of the earth is {*ganda* (گَنْد)}, *i.e.* that which is smelled. With each of these {elements} they connect, firstly, one of the {*panğ mātar* elements and secondly the totality of these *panğ mātar* which are located below}. So the earth has all five qualities; the water has them *minus* the smelling (= four qualities); the fire has them *minus* the smelling and tasting (*i.e.* three qualities); the wind has them *minus* smelling, tasting, and seeing (*i.e.* two qualities); heaven has them *minus* smelling, tasting, seeing, and touching (*i.e.* one quality).

[…]

XV–XIX. The senses are five, called {*indryān* (اندْرْیان)}, the hearing by the ear, the seeing by the eye, the smelling by the nose, the tasting by the tongue, and the touching by the skin.

XX. Next follows the will, which directs the senses in the exercise of their various functions, and which dwells in the heart. […T]hey call it {*manu* (مَنُ)}.

XXI.—XXV. The animal nature is rendered perfect by five necessary functions, which they call {*karma indriyān* (کَرْم اندریان)}, *i.e.* the senses of action. The former senses bring about learning and knowledge, the latter action and work. We shall call them the {necessities}. They are: 1. To produce a sound for any of the different wants and wishes a man may have; 2. To throw the hands with force, in order to draw towards or to put away; 3. To walk with the feet, in order to seek something or to fly from it; 4, 5. The ejection of the superfluous elements of nourishment by means of the two openings created for the purpose.

The whole of these elements are twenty-five, viz. :—
1. The general soul.
2. The {pure primordial matter}.

3. The shaped matter.

4. The overpowering nature.

5–9. The simple mothers.

10–14. The primary elements.

15–19. The senses of apperception.

20. The directing will.

21–25. The instrumental {necessities}.

The totality of these elements is called {*tatwa* (تَتَو)}, and all knowledge is restricted to them. Therefore {Byāsa, the son of Parāšara (بياس بن پراشر)} speaks: "Learn twenty-five by distinctions, definitions, and divisions, as you learn a logical syllogism, and something which is a certainty, not merely studying with the tongue. Afterwards adhere to whatever religion you like; your end will be salvation. (Sachau 1888b: I: 40-44)[902]

III. Five vital breaths

When, now, the various bodies, being from their nature compounds of different things, come into existence, being composed of *male* elements, viz. bones, veins, and sperma, and of *female* elements, viz. flesh, blood, and hair, and being thus fully prepared to receive life, then those spirits unite themselves with them, and the bodies are to the spirits what castles or fortresses are to the various affairs of princes. In a farther stage of development five winds enter the bodies. By the first and second of them the inhaling and exhaling are effected, by the third the mixture of the victuals in the stomach, by the fourth the locomotion of the body from one place to the other, by the fifth the transferring of the apperception of the senses from one side of the body to the other.

The spirits here mentioned do not, according to the notions of the {Indians}, differ from each other in substance, but have a precisely identical nature. However, their individual characters and manners differ in the same measure as the bodies with which they are united differ, on account of the three forces which are in them striving with each other for supremacy, and on account of their harmony being

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[902] Al-Bīrūnī 1958: 30.10-34.4. This excerpt has been studied supra pp.104-109. Takakusu counts twenty-four *tattva*-s although al-Bīrūnī enumerates twenty-five elements.

disturbed by the passions of envy and wrath. (Sachau 1888b: I: 46)[903]

IV. The soul, as a female dancer

On the other hand, the *lowest* cause, as proceeding from matter, is this : that matter for its part seeks for perfection, and always prefers that which is better to that which is less good, viz. proceeding from δύναμις into πραξις. In consequence of the vainglory and ambition which are its pith and marrow, matter produces and shows all kinds of possibilities which it contains to its pupil, the soul, and carries it round through all classes of vegetable and animal beings. {Indians} compare the soul to a dancing-girl who is clever in her art and knows well what effect each motion and pose of hers has. She is in the presence of a sybarite most eager of enjoying what she has learned. Now she begins to produce the various kinds of her art one after the other under the admiring gaze of the host, until her programme is finished and the eagerness of the spectator has been satisfied. Then she stops suddenly, since she could not produce anything but a repetition; and as a repetition is not wished for, he dismisses her, and action ceases. (Sachau 1888b: I: 47)[904]

V. The blind person and the lame person

The close of this kind of relation is illustrated by the following similec: A caravan has been attacked in the desert by robbers, and the members of it have fled in all directions exceptca blind man and a lame man, who remain on the spot in helplessness, despairing of their escape. After theycmeet and recognise each other, the lame speaks to the blind: "I cannot move, but I can lead the way, whilst the opposite is the case with you. Therefore put me on your shoulder and carry me, that I may show you the way and that we may escape together from this calamity." This the blind man did. They obtained their purpose by helping each other, and they left each other on coming out of the desert. (Sachau 1888b: I: 47)[905]

VI. The traveller who observes the working villagers

a) The {*Kitāb Sānk*} derives action from matter, for the difference of forms under which matter appears depends upon the *three primary forces*, and upon whether one or two of them gain the supremacy over the remainder. These forces are

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[903]   Al-Bīrūnī 1958: 35.2-12.
[904]   Al-Bīrūnī 1958: 35.12-36.3.
[905]   Al-Bīrūnī 1958: 36.3-8;

the *angelic*, the *human*, and the *animal*. The three forces belong only to matter, not to the soul.

b) The task of the soul is to learn the actions of matter like a spectator, resembling a traveler who sits down in a village to rest. Each villager is busy with his own particular work, but he looks at them and considers their doings, disliking some, liking others, and learning from them. In this way he is busy without having himself any share in the business going on, and without being the cause which has brought it about. (Sachau 1888b: I: 48)[906]

VII. The innocent man amongst thieves

{It} brings action into relation with the soul, though the soul has nothing to do with action, only in so far as it resembles a man who happens to get into the company of people whom he does not know. They are robbers returning from a village which they have sacked and destroyed, and he has scarcely marched with them a short distance, when they are overtaken by the avengers. The whole party {is} taken prisoner, and together with them the innocent man is dragged off; and being treated precisely as they are, he receives the same punishment, without having taken part in their action. (Sachau 1888b: I: 48-49)[907]

VIII. The water whose taste is altered

{They say} the soul resembles the rain-water which comes down from heaven, always the same and the same nature. However, if it is gathered in vessels placed for the purpose, vessels of different materials, of gold, silver, glass, {clay, argile, and salt},[908] it begins to differ in appearance, taste and smell. Thus the soul does not influence matter in any way, except […] by being in close contact with it. (Sachau 1888b: I: 49)[909]

IX. Production of light from oil, wick, and fire

When, then, matter begins to act, the result is different, in conformity with the one of the *three primary forces* which happens to preponderate, and conformably to the mutual assistance which the other two latent forces afford to the former. This

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[906] Al-Bīrūnī 1958: 36.16- 37.4.
[907] Al-Bīrūnī 1958: 37.5-9.
[908] The Arabic *sabaḫa* (سبخة) refers to natural salt flats which can be found in deserts.
[909] Al-Bīrūnī 1958: 37.9-13.

assistance may be given in various ways, as the fresh oil, the dry wick, and the smoking fire help each other to produce light. (Sachau 1888b: I: 49)[910]

X. The chariot's driver

The soul is in matter like the rider on a carriage, being attended by the senses, who drive the carriage according to the rider's intentions. But the soul for its part is guided by the intelligence with which it is inspired by <God>. This *intelligence* they describe as that by which the reality of things is apprehended, which shows the way to the knowledge of {Allah}, and to such actions as are liked and praised by everybody. (Sachau 1888b: I: 49)[911]

XI. Reward from heaven as not being of special gain

Here now the <Hindus> quit the path of philosophical speculation and turn aside to traditional fables as regards the two places where reward or punishment is given, *e.g.* that man exists there as an incorporeal being, and that after having received the reward of his actions he again returns to a bodily appearance and human shape, in order to be prepared for his further destiny. Therefore the author of the {*Kitāb Sāng*} does not consider the reward of paradise a special gain, because it has an end and is not eternal, and because this kind of life resembles the life of this our world; for it is not free from ambition and envy, having in itself various degrees and classes of existence, whilst cupidity and desire do not cease save where there is perfect equality. (Sachau 1888b: I: 62)[912]

XII. Births depending upon virtues and vices

In the {*Kitāb Sānk*} we read: "He who deserves exaltation and reward will become like one of the angels, mixing with the hosts of spiritual beings, not being prevented from moving freely in the heavens and from living in the company of their inhabitants, or like one of the eight classes of spiritual beings. But he who deserves humiliation as recompense for sins and crimes will become an animal or a plant, and will wander about until he deserves a reward so as to be saved from punishment, or until he offers himself as expiation, flinging away the vehicle of the

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[910] Al-Bīrūnī 1958: 37.13-16.
[911] Al-Bīrūnī 1958: 37.16-17.
[912] Al-Bīrūnī 1958: 47.10-16.

body, and thereby attaining salvation. (Sachau 1888b: I: 64)[913]

XIII. Eight powers

The author of the {*Kitāb Pātanğal*} says: "The concentration of thought on the unity of {Allah} induces man to notice something besides that with which he is occupied. He who wants {Allah}, wants the good for the whole creation without a single exception for any reason whatever; but he who occupies himself exclusively with his own self, will for its benefit neither inhale, breathe, nor exhale it […]. When a man attains to this degree, his spiritual power prevails over his bodily power, and then he is gifted with the faculty of doing eight different things by which detachment is realised; for a man can only dispense with that which he is able to do, not with that which is outside his grasp. These eight things are :—

"1. The faculty in man of making his body so thin that it becomes invisible to the eyes.
"2. The faculty of making the body so light that it is indifferent to him whether he treads on thorns or mud or sand.
"3. The faculty of making his body so big that it appears in a terrifying miraculous shape.
"4. The faculty of realising every wish.
"5. The faculty of knowing whatever he wishes.
"6. The faculty of becoming the ruler of whatever religious community he desires.
"7. That those over whom he rules are humble and obedient to him.
"8. That all distances between a man and any faraway place vanish." (Sachau 1888b: I: 68-69)[914]

XIV. Three types of knower

Further, the {Indians} think that a man becomes *knowing* in one of three ways :—

1. By being inspired, not in a certain course of time, but at once, at birth, and in the cradle, as, *e.g.* the sage Kapila, for he was born knowing and wise.
2. By being inspired after a certain time, like the children of {Brāhma}, for they were inspired when they came of age.
3. By learning, and after a certain course of time, like all men who learn when their

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[913] Al-Bīrūnī 1958: 48.16-49.2.
[914] Al-Bīrūnī 1958: 52.5-17.

mind ripens. (Sachau 1888b: I: 72)[915]

XV. Nine rules of conduct

Virtuous behaviour is that which is described by the religious law. Its principal laws, from which they derive many secondary ones, may be summed up in the following nine rules :—

1. A man shall not kill.

2. Nor lie.

3. Nor steal.

4. Nor whore.

5. Nor hoard up treasures.

6. He is perpetually to practise holiness and purity.

7. He is to perform the prescribed fasting without an interruption and to dress poorly.

8. He is to hold fast to the adoration of {Allah} with praise and thanks.

9. He is always to have in mind the word {awm}, the word of creation, without pronouncing it. (Sachau 1888b: I: 74)[916]

XVI. Man cannot go beyond his hand

The holding fast to meditation on God and the angels means a kind of familiar intercourse with them. The {*Kitāb Sānk*} says: "Man cannot go beyond anything in the wake of which he marches, it being a scope to him. (Sachau 1888b: I: 75) [917]

XVII. The wheel's movement

The anchorite asks in the {*Kitāb Sānk*}, "Why does not death take place when action ceases?" The sage replies, "Because the cause of the separation is a certain condition of the soul whilst the spirit is still in the body. Soul and body are separated by a natural condition which severs their union. Frequently when the cause of an effect has already ceased or disappeared, the effect itself still goes on for a certain time, slackening, and by and by decreasing, till in the end it ceases

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[915] Al-Bīrūnī 1958: 54.17-55.2.
[916] Al-Bīrūnī 1958: 56.12-16.
[917] Al-Bīrūnī 1958: 57.5-6.

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totally; *e.g.* the silk-weaver drives round his wheel with his mallet until it whirls round rapidly, then he leaves it; however, it does not stand still, though the mallet that drove it round has been removed; the motion of the wheel decreases by little and little, and finally it ceases. It is the same case with the body. After the action of the body has ceased, its effect is still lasting until it arrives, through the various stages of motion and of rest, at the cessation of physical force and of the effect which had originated from preceding causes. Thus {emancipation} is finished when the body has been completely prostrated." (Sachau 1888b: I: 81-82)[918]

XVIII. Those who do not reach emancipation

The [*Kitāb*] {*Sānk*} says: "He who enters into the world with a virtuous character, who is liberal with what he possesses of the goods of the world, is rewarded in it in the following way: he obtains the fulfillment of his wishes and desires; he moves about in the world in happiness, happy in body and soul and in all other conditions of life. For in reality good fortune is a reward for former deeds, either effected in the same shape or in some preceding shape of being. Whoso lives in this world piously but without knowledge will be raised and be rewarded, but will not be liberated, because the means of attaining it are wanting in his case. Whoso is content and acquiesces in possessing the faculty of practicing the above-mentioned eight commandments, whoso glories in them, is successful by means of them, and believes that *they* are {emancipation}, will remain in the same stage." (Sachau 1888b: I: 83-84)[919]

XIX. Four levels of knowledge

The following is a parable characterizing those who vie with each other in the progress through the various stages of knowledge: a man is travelling together with his pupils for some business or other towards the end of the night. Then there appears something standing erect before them on the road, the nature of which it is impossible to recognize on account of the darkness of night. The man turns towards his pupils, and asks them, one after the other, what it is? The first says: "I do not know what it is." The second says: "I do not know, and I have no means of learning what it is." The third says: "It is useless to examine what it is, for the rising of the day will reveal it. If it is something terrible, it will disappear at daybreak; if it is

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[918] Al-Bīrūnī 1958: 62.1-10.
[919] Al-Bīrūnī 1958: 63.7-13.

something else, the nature of the thing will anyhow be clear to us." Now, none of the three had reached knowledge, the first, because of ignorance; the second, because of disability and damage of organ; the third, because of indolence and of satisfaction in ignorance.

The fourth pupil, however, did not give an answer. He stood still, and then he went on in the direction of the object. On coming near, he found that it was pumpkins on which there lay a tangled mass of something.

Now he knew that a living man, endowed with free will, would not stand still in his position until such a thing is entangled around him, and he recognized at once that it was a lifeless object standing erect. Further, he could not be sure if it was not a hidden place for some dunghill. So he went quite close to it, kicked it with his foot till it fell to the ground. Thus all doubt having been removed, he returned to his master and gave him the exact account. In such a way the master obtained the knowledge through the intermediation of his pupils. (Sachau 1888b: I: 84-85)[920]

XX. Different categories of beings

The subject of this chapter is very difficult to study and understand accurately, since we Muslims look at it from without, and the {Indians} themselves do not work it out to scientific perfection. As we, however, want it for the further progress of this treatise, we shall communicate all we have heard of it until the date of the present book. And first we give an extract from the {*Kitāb Sānk*}.

"The anchorite spoke: 'How many classes and species are there of living bodies?'

"The sage replied: 'There are three classes of them—the spiritual ones in the height, men in the middle, and animals in the depth. Their species are fourteen in number, eight of which belong to the spiritual beings : {Brāhma, Indra, Praǧāpati, Saumya, Gāndharba, Ǧakša, Rākšasu, and Pīšācha}. Five species are those of the animals—cattle, wild beasts, birds, creeping things, and *growing things, i.e.* the trees. And, lastly, *one* species is represented by man.' "

The author of the same book has in another part of it given the following enumeration with different names : {Brāhma, Indra, Praǧāpati, Gāndharba, Ǧakša,

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[920] Al-Bīrūnī 1958: 63.14-64.8.

Rākšasa,

Pitra, and Pīšācha}.

The {Indians} are people who rarely preserve one and the same order of things, and in their enumeration of things there is much that is arbitrary. They use or invent numbers of names, and who is to hinder or to control them? (Sachau 1888b: I: 89-90)[921]

XXI. Criticism on a list of spiritual beings

However, we can learn from the extract from {*Sānk*} that his view [i.e., a popular view on the category of spiritual beings] is not correct. For {Brārma, Indra, Praǧāpati} are not names of species, but of individuals. {Brārma and Praǧāpati} very nearly mean the same, but they bear different names on account of some quality or the other. Indra is the ruler of the worlds. (Sachau 1888b: I: 92)[922]

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[921] Al-Bīrūnī 1958: 67.11-68.1.
[922] Al-Bīrūnī 1958: 69.15-18. This passage was unnoticed by Takakusu.

Appendix 2: plates

Plate I, statue of Khair Khaneh, Kabul (Hackin/Carl 1936: Pl. XIV).

Plate II, statue of Khair Khaneh, Kabul (Hackin/Carl 1936: Pl. XV).

Plate III, statue of Khair Khaneh, Kabul (Hackin /Carl 1936: Pl. XV).
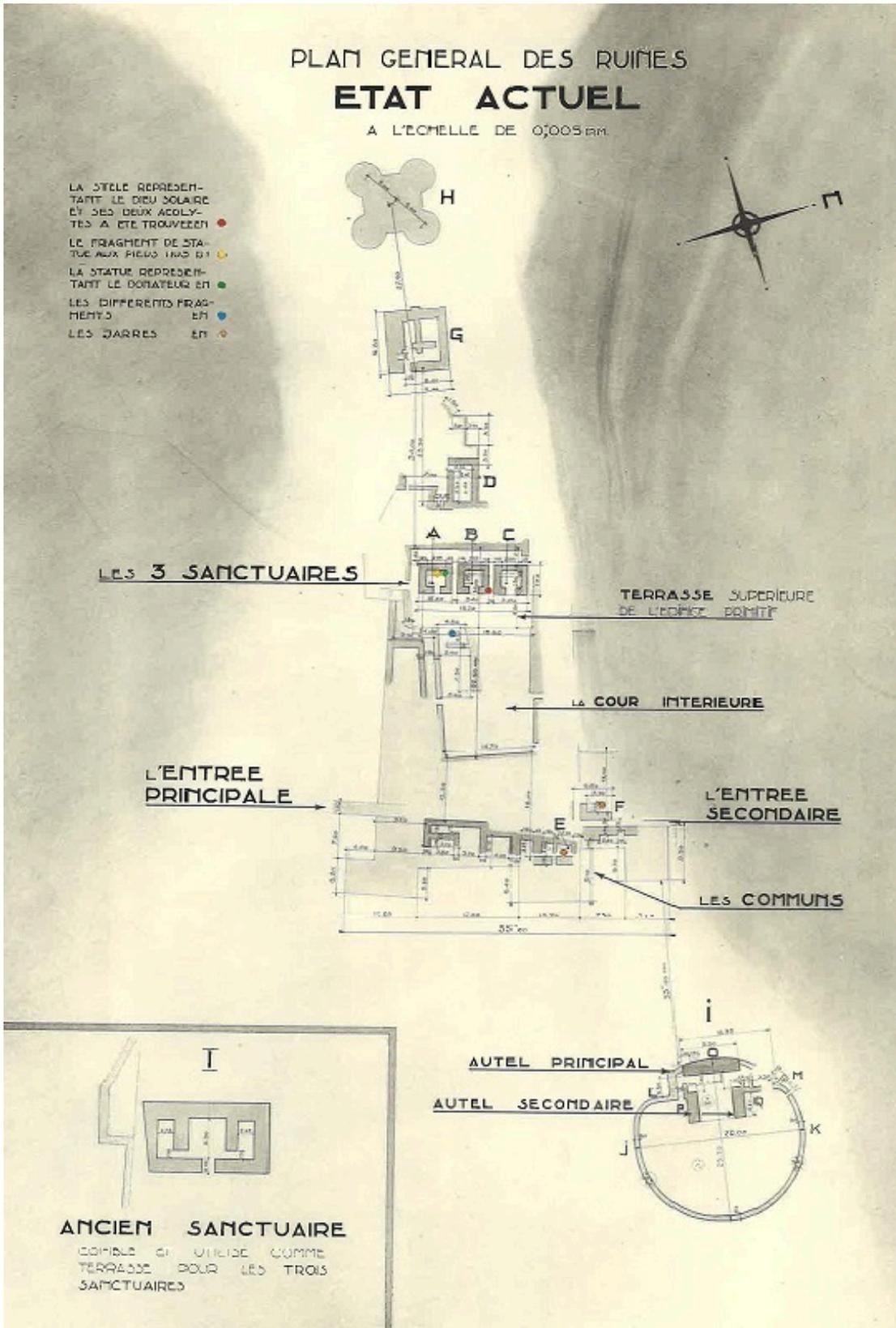
Plate IV, map of the site of Khair Khaneh (Hackin/Carl 1936: Pl. I).

Plate V, the Indian Subcontinent (map prepared by the author).

Plate VI, the land's roads as described by al-Bīrūnī (map prepared by the author, first published in Verdon 2015: 42).

Plate VII, example of Maḥmūd's bilingual coins
(http://coinindia.com/galleries-ghaznavid.html; 418 AH ; 1027-1028 CE).

Plate VIII, temple A, Nandana (Meister 2010: fig. 52).

ACTIVE   INACTIVE

unmanifested   substrative cause   passive self

(*avyakta*)   (*prakṛti*)   (*puruṣa*)

$\downarrow$

cognition

(*buddhi*)

or great

(*mahat*)

$\downarrow$

individualization

(*ahaṃkāra*)

manifested

(*vyakta*)

$\downarrow$

11 senses   5 subtle elements

(*indriya*)   (*tanmātra*)

$\downarrow$ $\downarrow$

5 gross elements

(*mahābhūta*)

5 sense-organs   5 organs of action   mind

(*buddhīndriya*)   (*karmendriya*)   (*manas*)
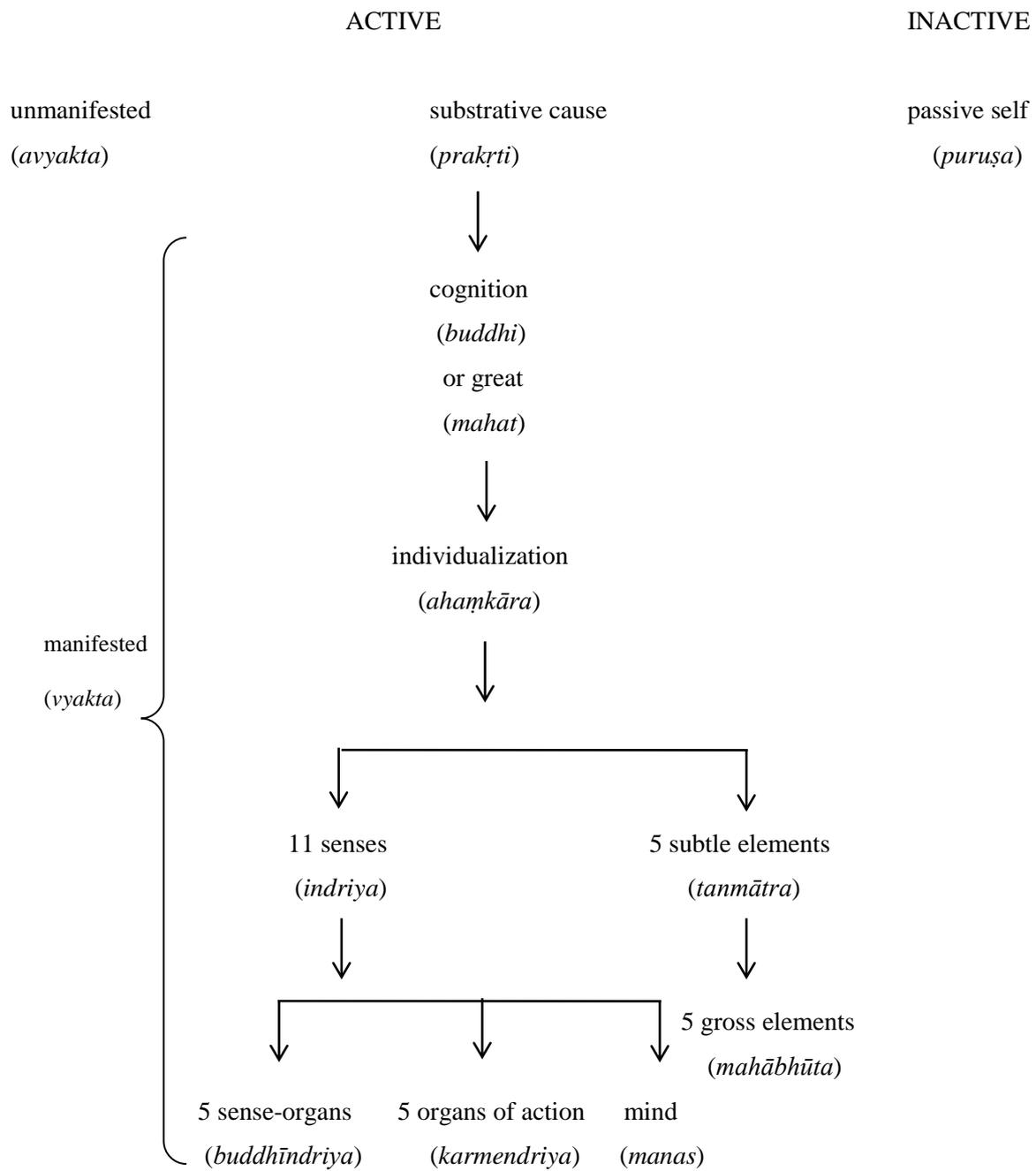
Plate IX, the twenty-five Sāṃkhya's elements (scheme prepared by the author).

Year : 2015

Al-Bīrūnī's *Kitāb Sānk* and *Kitāb Pātanğal*:
A Historical and Textual Study

Verdon, Noémie