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Negotiating Sāṅkhya-Yoga concepts: al-Bīrūnī and Falsafa

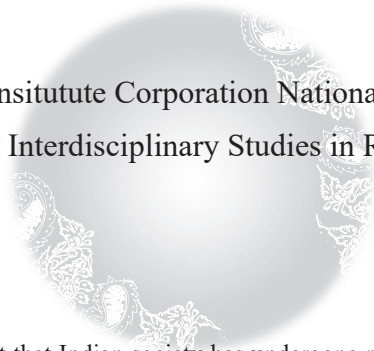
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In many studies, it has been pointed out that Indian society has undergone radical changes since the 1990s. This is seen in the political sphere in the spread and the deepening of democracy. In terms of the economy, changes are remarkable in the development of the market economy, improvements in living conditions and widening of economic gaps, which is one of the negative impacts of such economic growth. Societally, this has been expressed through the appearance and rise of various social movements. Culturally and religiously, it has been expressed through a parallel rise in assertion of identities by diverse communities. These changes can be seen as the results of embryonic fundamental changes in thought and values of people in India and South Asia.

The unified theme of this project is "Fundamental Changes in Thought and Values in South Asia." One perspective being used to approach this theme is genealogical research along the long timeline of philosophy and thought in South Asian societies, using Ryukoku University's extensive accumulation of research. Another is analysis of fundamental changes in values based on fieldwork research of actual conditions. These perspectives are combined in comprehensive research, with the aim of identifying the sources of changes in the foundations of contemporary Indian and South Asian societies, and the driving power behind them. Special attention is paid to the rise of the Dalits, other lower strata people, and religious minorities, a phenomenon that represents dynamic changes in contemporary Indian and South Asian societies. The project examines the background and theory behind this, with relation to the history of philosophy and thought, and investigates and analyzes changes in peoples' living conditions, consciousness, and sense of values, based on fieldwork research.

The "South Asian Area Studies" Project (FY 2016 to 2021) is being operated and conducted by expanding upon the National Institutes for the Humanities' "Contemporary India Area Studies" Project (Phase 1: FY 2010 to 2014, Phase 2: FY 2015). Ryukoku University is one of six institutions working together, conducting joint networked research. It is joined by Kyoto University (the central research hub), the National Museum of Ethnology (the secondary research hub), the University of Tokyo, Hiroshima University, and the Tokyo University of Foreign Studies.

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Negotiating Sāṅkhya-Yoga concepts: al-Bīrūnī and Falsafa¹

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This article examines three passages drawn from al-Bīrūnī's *Taḥqīq mā li-l-Hind (Indica)* and one from his *Kitāb Pātāṅgal (Book Pātāṅgal)*. In these passages, the scholar applied a specific terminology belonging to Islamic philosophy and indebted to Aristotle in order to express technical Sāṅkhya and Yoga concepts. His choices of interpretation are rooted in his intellectual background, as the Falsafa terminology which he used was part of a shared knowledge among Muslim thinkers of his time. This article provides with a comparative analysis of the Arabic translated terms of the Sanskrit original concepts. It discusses the manner in which al-Bīrūnī interpreted these concepts and the possible reasons which led him to make these interpretive choices. Lastly, it highlights the necessity of examining al-Bīrūnī's transmission of Indian thought by way of his intellectual background.

Keywords: al-Bīrūnī, Islamic philosophy, Falsafa, India philosophy, Sāṅkhya, Yoga, transmission of ideas, history of philosophy, strategies of translations

¹ I would like to convey my gratitude to Maria Kli for her careful reading of this article.

1. Introduction

At the turn of the first millennium CE, al-Bīrūnī (973 – ca. 1050) undertook to transmit Indian philosophy, religion, cosmology and astronomy to a Muslim audience. In approximately 1030 CE, he composed the *Tahqīq mā li-l-Hind*, also commonly referred to as the *Indica*. In this work, he quoted numerous Sanskrit works, some of which were completely or partly translated by him into Arabic. For instance, he interpreted the *Bhāgavadgītā*, some *Pūrāṇas* and several passages of the *Brāhmasphuṭhasiddhānta*.² In the philosophical domain, the scholar also abundantly quoted in his monograph the *Kitāb Sānk* (كتاب سائك), i.e., the *Book Sānk*, and *Kitāb Pātāṅgal* (كتاب پاتنجل), i.e., the *Book Pātāṅgal*. Whereas there is no extant entire text of the former, it is possible to connect it to the *Sāṃkhyakārikā* and one of its commentary. The latter text of which a manuscript was discovered in the 1950s constitutes an Arabic translation of a Yoga text which is either identical to the *Pātāñjalayogaśāstra* or highly similar to it.³ The scholar translated both works into Arabic on the basis of two Sanskrit originals, each constituted of two layers of text, i.e., an aphoristic text and its commentary. At the same time, his interactions with Brahmins provided him with an oral commentary of these two works.⁴

Al-Bīrūnī's Arabic translations often diverge a great deal from their possible Sanskrit sources.⁵ There are several reasons for these discrepancies. This article aims to show how al-Bīrūnī transmitted some concepts of Indian thought to his readership by way of a terminology indebted to Falsafa and Greek thought. For instance, al-Bīrūnī made use of the concepts of *potentiality* (*dunamis*) and of *actuality* (*energeia*) in several of his works. The present survey points out different contexts in which this specific terminology occurs and highlights that the scholar did not produce literal translations of Sanskrit texts. On the contrary, his interpretative work was a process during which the form and the content of his sources were highly transformed. Lastly, it emerges that the scholar attempted to transfer a message foreign to his audience; an attempt which was rather pertinent in general. In addition, the article highlights some advantages and problems generated by al-Bīrūnī's strategy of interpretation. In order to demonstrate the above points, the present study analyses three excerpts drawn from the *Tahqīq mā li-l-Hind* and one from the *Kitāb Pātāṅgal*.

² Sachau (1888: xxxix-xl) and Shastri (1975) list other Sanskrit works quoted by al-Bīrūnī in the *Tahqīq mā li-l-Hind*. On al-Bīrūnī's life and works, see the well-grounded studies by Boilot (1955), Kennedy (1970) and Said/Khan (1981).

³ The manuscript was edited by Ritter (1956). On the Sanskrit source of the *Kitāb Pātāṅgal*, as well as on al-Bīrūnī's translational strategies, see Maas/Verdon 2018. For a detailed discussion about the relationship between the two Arabic texts and their possible Sanskrit sources, see Verdon 2015: chapters 4, 5 and 6.

⁴ See Maas/Verdon 2018: 294-301.

⁵ See, for instance, the works by Gonda (1951) and Sharma (1983) with regard to al-Bīrūnī's handling of the *Pūrāṇas* and the *Bhagavadgītā*.

2. Transmission of *potentiality/actuality*: from Aristotle to al-Bīrūnī

The two concepts *dunamis* (*potentiality*) and *energeia* (*actuality*) were originally conceived by Aristotle (384-322 BC), who used them in several of his writings, such as the *Metaphysics*, *De Anima* or the *Physics*. Aristotle utilized these two concepts notably to explain changes occurring in the nature and at the same time he also made use of them as heuristic tools in several of his theories.⁶ As the objective of this article is not to delve into the complexity of Aristotle's different uses of these concepts, it is sufficient to recall here his definition of them found in his *Metaphysics*. In this work, Aristotle defines *potentiality* as the movement principle and as the natural ability – or the built-in possibility – of becoming or doing something *in actuality*.⁷ In other words, *actuality* is a realisation of what was *in potentiality*.⁸

Arabic translations of Greek philosophical writings were available – often via Syriac⁹ – to early medieval Muslim thinkers since the eighth century CE. This period corresponds to the time when the physician and philosopher al-Kindī initiated a vast project of translations at the Abbassid court in Baghdad. In this manner, Aristotle's writings such as the *Metaphysics* were rendered accessible to the intellectual sphere of the time.¹⁰ Thanks to these translations, Islamic philosophers benefited from a technical vocabulary. They were thus able to develop what is known as Islamic philosophy or *Falsafa*. They interpreted Hellenic philosophical thematics, problems, methods and solutions, upon which they built their own models. The interest in translating Greek works also came from the advantage of gaining tools for elaborating further philosophical considerations.¹¹ The time elapsed between Aristotle and al-Kindī, i.e., more than one millennium, and the use of intermediary languages, such as Syriac, also account for the transformations impacting Greek philosophical doctrines in the writings of the Islamic philosophers.¹² A number of Islamic philosophers, such as al-Kindī, al-Fārābī's (ca. 870-950) and Ibn Sīnā (980-1037) developed their ideas based on Greek thinkers, influenced by Platonism, Aristotelianism and Neoplatonism.¹³ Jean Jolivet and Roshdi Rashed recall for instance that al-Kindī accepted Plato's concepts of the soul, of the body and of the divine world, while he endorsed parts of the metaphysics, of the understanding of the phenomenal world and of theories on intellectual perception from Aristotle.¹⁴ According to Mohammed Arkoun, al-Fārābī and Ibn Sīnā reworked

⁶ See Aubry 2006 and Aristote 2008.

⁷ Aubry 2006 115; Aristote 2008: Theta: 1046a 11; Delta: 12.

⁸ Koetschet 2011: 114. See also Boer, Tj. de and Arnaldez, R., *Encyclopaedia of Islam*, Brill Online, 2nd ed., s.v. *Ḳuwwa* (no 7) [accessed May 2018]; Gardet, L., *Encyclopaedia of Islam*, Brill Online, 2nd ed., s.v. *Fi'l* [accessed May 2018].

⁹ On the question of Syriac as an intermediary language between the Greek sources and the Arabic translations see Peters 1996; Daiber 2012: 44-48.

¹⁰ Jolivet, J. and Rashed, R., *Encyclopaedia of Islam*, Brill Online, 2nd ed., s.v. al-Kindī [accessed June 2017]. Plato was also well-known to the Muslims, although the translated versions of his writings into Arabic did not survive as Aristotle's works did (Walker 1994: 5-6). On Plato in the Islamic world, see Rosenthal 1940.

¹¹ Koetschet 2011: 13.

¹² On the influence of Syriac translations in this process of transmission, see Troupeau 1991.

¹³ Arnaldez, R., *Encyclopaedia of Islam*, Brill Online, 2nd ed., s.v. *Falsafa* [accessed June 2017]; Goichon, A.M., *Encyclopaedia of Islam*, Brill Online, 2nd ed., s.v. Ibn Sīnā [accessed June 2017].

¹⁴ Jolivet, J. and Rashed, R., *Encyclopaedia of Islam*, Brill Online, 2nd ed., s.v. al-Kindī [accessed May 2018].

specifically on Plato's politics, Aristotle's logic, Galen's psychology and medicine and Neoplatonist metaphysics.¹⁵

The two concepts of *dunamis* and *energeia*, as many others originating from the Hellenic thought, were reused, reinterpreted and commented upon by Greek, Muslim and western thinkers, philosophers and commentators. These two Greek terms respectively translated into Arabic with the expressions *bi-l-quwwa* (بالقوة), i.e., *in potentiality*, and *bi-l-fi'li* (بالفعل), i.e., *in actuality*. Some other philosophical terms were phonetically transposed from Greek to Arabic, as, for instance, the term *al-hayūlā* (الهيوولى), originating from the Greek *hyle*, signifying matter.

Al-Bīrūnī, when interpreting Indian philosophy, notably used these three philosophical terms, and whatever may have been his actual knowledge of Greek language, he was familiar with Hellenic philosophical terminology and authors. In the *Tahqīq mā li-l-Hind*, he quotes for instance Ptolemy, Plato, Galen, Proclus or Aristotle. More specifically, he quotes from Aristotle's *Physics* and *Metaphysics*.¹⁶ In the *Tahqīq mā li-l-Hind*, al-Bīrūnī also mentions two translations into Indian language (إلى لغة الهند), in most likelihood Sanskrit, from the Arabic versions of Euclid's *Elements* and of Ptolemy's *Almagest*.¹⁷ In 1036 CE, the scholar composed the bibliography of the physician and philosopher Muḥammad Ibn Zakarīyā Rāzī (ca. 854-925/935 CE), which he complemented with a list of his own works he had written by then. In 1955, Jacques-Dominique Boilot translated al-Bīrūnī's auto-bibliography and completed it by adding writings attributed to him after the year 1036, as well as works composed under his supervision. According to Boilot, the Sanskrit translations of the Arabic *Elements* and *Almagest* fall under the second category of works.¹⁸ However, this auto-bibliography constitutes a goldmine of information on al-Bīrūnī's works. It also indicates that the scholar composed works on Ptolemy's *Almagest*, on Aristotle and Galen.¹⁹ Although al-Bīrūnī was not strictly speaking a philosopher, he certainly knew – even superficially – a large number of philosophical doctrines developed by ancient Greek and Islamic thinkers, as well as their debates and the terminology they used.²⁰ As seen in the next section, the scholar made use of this knowledge when transmitting Indian thought to his readership.

¹⁵ Arkoun 2012[1975]: 74.

¹⁶ See Sachau 1888: xli-xlii.

¹⁷ Al-Bīrūnī 1958: 102.5.7; Sachau 1888b: I: 137.

¹⁸ On Boilot's method to list al-Bīrūnī's works, see the introduction to the bibliography (1955: 165-170). These two Sanskrit translations are listed in Boilot under numbers 175 and 176 (1955: 238-239).

¹⁹ Id.: 202, n° 78; 222, n° 129; 226, n° 144.

²⁰ Works considering al-Bīrūnī's possible philosophical inclinations are for instance Nasr 1964: 107-174, Sharma 1983 or Badawi 1979. Only a few works listed by Boilot (1955: 208, n° 97-98; 222, n° 129-130; 237, n° 170; 237-238, n° 172) may be connected to philosophy. However, further investigation into the epistolary exchange between al-Bīrūnī and Ibn Sīnā would enable us to determine some of al-Bīrūnī's philosophical positions. There exists a text, in the form of an epistolary correspondence between al-Bīrūnī and Ibn Sīnā, which exposes a ten questions and answers related to philosophical topics. See Boilot 1955: 227, n° 147; Küyel 1974b; Strohmaier 1991; al-Bīrūnī/Ibn Sīnā 2005. Scholarly world did not pay much attention to this text which may offer us another perspective on al-Bīrūnī's thought. Mühabat Türker Küyel however casts

3. Al-Bīrūnī's use of *potentiality* and *actuality*

These extracts are drawn from a relatively long passage of the *Tahqīq mā li l-Hind* which enumerates twenty-five constitutive principles (*tattvas*), corresponding for the most part to the metaphysics of classical Sāṅkhya tradition.²¹ Al-Bīrūnī attributes this passage to “those [among the Indians] who deviate from allusions [but direct themselves] to investigation” (الذين يعدلون عن الرموز إلى التحقيق).²² Without mentioning any oral or written sources, the scholar concludes the whole passage with the following statement:

Therefore, Vyāsa, the son of Parāśara (بياس بن پراسرا) said: “learn the twenty-five [principles] in detail, with [their exact] definitions and with [their] divisions, by a knowledge [based on] evidence and ascertainment, not by oral instruction. Then, adhere to whatever religion you want, your end will be deliverance (النجاة).”²³

The quotation here attributed to Vyāsa, which states that if one learns the twenty-five constitutive principles, they would obtain deliverance regardless of their religious obedience can be paralleled to a quoted verse occurring in some *Sāṅkhyakārikā*'s commentaries.²⁴ In addition, due to the attribution of this sentence to Vyāsa, son of Parāśara, the alledged author of the *Mahābhārata*, one may argue that al-Bīrūnī based his enumeration of the twenty-five principles on version of the *Mokṣadharmā* section of the *Mahābhārata* that he may have consulted.²⁵ This attribution alone does not however constitute absolute evidence that the passage was drawn from the Epic.

Al-Bīrūnī enumerates the principles in the following way:

1. One *puruṣa* (پُورُش; *pūriṣ*);²⁶
2. One *avyakta* (أَبْيَكْت; *abyakta*), i.e., the absolute matter (المادة المطلقة);
3. One *vyakta* (بَيَكْت; *byakta*), i.e., the shaped one (المتصورة);
4. One *ahaṅkāra* (أَهَنْكَار; *ahangār*);
- 5-9. Five *mahābhūtas* (مَهَايُوت; *mahābūta*);
- 10-14. Five *pañca tanmātras* (پَنْج مَاتَر; *pañja mātara*)
- 15-19. Five *buddhīndriyas* (اِنْذُرِيَان; *indriyān*);

doubt on the authenticity of the contribution of al-Bīrūnī to the discussion (1974a: 83-93). Boilot (1955: 237-238, n°172) lists another work by al-Bīrūnī on Ibn Sīnā.

²¹ Al-Bīrūnī 1958: 30.10-34.4; Sachau 1888: I: 40-45. This passage is found in the third chapter of the *Tahqīq mā li l-Hind* entitled “On their (i.e., the Indians) belief about the intelligible and sensible existents” (في ذكر اعتقادهم في الموجودات العقلية والحسية) (Al-Bīrūnī 1958: 24.4; Sachau 1888b: I: 33).

²² Al-Bīrūnī 1958: 30.10; Sachau 1888: I: 40. Verdon 2015: section 2.5.2.

²³ Al-Bīrūnī 1958: 34.2-4; Sachau 1888: I: 44. My translations are indebted to that by Sachau, Pines and Gelblum.

²⁴ The Sanskrit wordings are different from the Arabic version. See for instance the *Gauḍapādabhāṣya* on *kārikā* 1 and introducing *kārikā* 23 (Sharma 1933: 2; 24), the *Suvarṇasaptati* and the *Sāṅkhyavṛtti* on *kārikās* 2 and 37 (Takakusu 1904: 982; 1023; Solomon 1973: 7; 52). These words are attributed to Pañcaśikha in the printed edition of the *Jayamaṅgalā* in the introduction to *kārikā* 1 (65).

²⁵ Al-Bīrūnī sparsely refers to the *Mahābhārata* under the title *Kitāb Bhārata* (كتاب بهارت), in his book on India. On pre-classical Sāṅkhya ideas, see for instance Edgerton 1924, Chakravarti 1975[1951]: 99-110, Frauwallner 2008[1973]: 228-230; 234-235, Brockington 1999 and Motegi 2013.

²⁶ The Latin transliteration of the Arabic transposition of the technical Sanskrit terms in this list is given as found in the Hyderabad edition of the *Tahqīq mā li l-Hind*.

20. One *manas* (مَنْ; *manu*);

21-25. Five *karmendriyas* (زَم اندريانَك; *karm indryān*).²⁷

The exact origin of this passage would deserve a thorough analysis. However, some preliminary remarks emerge at this stage. Al-Bīrūnī's exposition differs from the one made in the *Mahābhārata* to a great extent.²⁸ For instance, it does not describe *prakṛti* as eightfold and rather tallies with the more systematic presentation of the *Sāṅkhyakārikā*'s tradition. Further, as seen in the foregoing analysis, al-Bīrūnī understood the unmanifest (*avyakta*) in a way similar as the commentaries on the *Sāṅkhyakārikā* elaborated it. This passage, while systematically listing the constitutive principles in a way similar as the *Sāṅkhyakārikā*, yet presenting them in a different sequence, does also relates to principles found in the *Mahābhārata*. This observation might lead to the conclusion that al-Bīrūnī collected his material from Indian informants who were aware of both textual traditions.

In the following paragraphs, the three extracts drawn from al-Bīrūnī's enumeration of the twenty-five constitutive principles (*tattvas*) are examined. The first excerpt describes the *puruṣa* as follows:

- A. [...] the [Indians who deviate from allusions] call the soul (النفس) *puruṣa* (پُورِش). It means the man, because it is alive in the existent. They do not consider it as anything else than life. They ascribe to it the succession of knowledge and ignorance. Indeed, ignorant *in actuality* and endowed with reason *in potentiality* (جاهلة بالفعل و عاقلة بالقوة) it receives knowledge by acquisition. Its ignorance causes the occurrence of the action and its knowledge causes the removal of [the action].²⁹

Al-Bīrūnī uses the Arabic term meaning soul (النفس) to interpret the Sanskrit *puruṣa*. The extralinguistic meanings of the two words overlap. Both concepts can be translated in English by the terms self, soul, mind or person. The two traditions of Falsafa and Sāṅkhya consider the soul or the self to belong to every human being, to be plural and individual. But the concepts also differ from each other. For instance, *puruṣa* is regarded as the inactive spectator of the creation according to the *Sāṅkhyakārikā*'s tradition,³⁰ whereas this conception of the sole observation attributed to the soul is absent from Islamic thought.

In this extract, al-Bīrūnī gives a literal definition of *puruṣa* when he states that it 'means the man', as it is indeed one meaning of the Sanskrit term. The scholar applies to *puruṣa* the two Aristotelian concepts of *actuality* and *potentiality*, stating that it is 'ignorant *in actuality* and intelligent *in*

²⁷ Al-Bīrūnī also misinterpreted or misunderstood some of these concepts as shown below. See Verdon 2015: section 2.5.2.

²⁸ It also diverges from the exposition made in the *Buddhacarita* (12.17-21).

²⁹ Al-Bīrūnī 1958: 30.10-14; Sachau 1888: I: 40.

³⁰ In *kārikā* 19, the qualities of witnessing, isolation, neutrality, of being an observer and a non-agent are attributed to the *puruṣa* (*asya puruṣasya sākṣitvaṃ siddhaṃ kaivalyaṃ mādhyasthyaṃ draṣṭṛtvaṃ akartṛbhāvaśca*). See also the *Gauḍapādabhāṣya* on the same *kārikā* (Sharma 1933: 22). Other characteristics of the *puruṣa* are described in *kārikās* 11, 20-21, 56-57, 62, 65-66, 68. See also Larson 1969: 243-244.

potentiality'. According to this interpretation, the self is endowed with knowledge or not; *potentiality* being what is possible to become or not for a thing.³¹ The *Sāṅkhyakārikā* does not describe *puruṣa* exactly in terms of acquisition of knowledge, but refers to it as the knower (*jñā*).³²

Al-Bīrūnī makes use of the Aristotelian terminology in a similar way in the *Kitāb Pātāṅgal*. The discussion occurs in a passage which has been greatly transformed by al-Bīrūnī in form and content.³³ Therefore, rather than connecting this specific passage to precise verses of the *Pātāñjalayogaśāstra*, it is more relevant to notice the general correspondance of content between the *Pātāñjalayogaśāstra* II.20 to II.24 and the groups of questions/answers 32 to 38 of the *Kitāb Pātāṅgal*.³⁴ The Arabic passage discusses the relationship between the knower, i.e., the self, and its known objects. It elaborates on the reason and the process leading to their union and concludes that ignorance is the reason for this union, which then leads to entanglement in the world (questions 32 to 35). After this passage, it is explained how the union comes to an end and how the knower, i.e., the self, reaches emancipation or deliverance (questions 37 to 38).

The use of the concepts of *potentiality* and *actuality* occurs specifically in the answer to question 36.³⁵ The Arabic words knower (العالم) and known (المعلوم) respectively translate the Sanskrit perceiver (*draṣṭṛ*) and perceived (*dr̥śya*). The passage states that the knower, i.e., the self, is in his essence a knower *in potentiality* and does not go toward *actuality* except through the known object.³⁶ Further, both the Sanskrit and the Arabic versions conclude the discussion by stating that the absence of union between the knower/perceiver and the known/perceived leads to the emancipation from this world. This discussion relates to the Sāṅkhya-Yoga understanding of the self to be isolated and detached from the creation. In Sanskrit, the perceiver, or knower in al-Bīrūnī's words, is to be identified with *puruṣa*. The use of *potentiality* and *actuality* in this passage recalls the description of the *puruṣa* al-Bīrūnī made in the *Tahqīq mā li-l-Hind*, i.e., that the self is endowed with knowledge *in potentiality*.

Al-Bīrūnī however does not explain how exactly *puruṣa* would acquire knowledge. His interpretation is idiosyncratic and diverges from the exact definition of *puruṣa* according to the *Sāṅkhyakārikā*. This specific understanding however may relate to the important question debated in Islamic thought about the relationship between the soul and its knowledge of the world.³⁷ According to al-Fārābī, for instance the soul possesses the capacity to receive intelligible things, which correspond

³¹ Aristote 2008: 201; 203.

³² *Gauḍapādabhāṣya* on *kārikā* 2 (Sharma 1933: 3). The qualification of 'knower' applied to the self also recalls the terminology found in the *Mahābhārata* and *Buddhacarita*, i.e., the knower of the field (*kṣetrājñā*).

³³ It was shown elsewhere that the scholar often took this liberty (Maas/Verdon 2018: section 3; Verdon 2015: chapter 4).

³⁴ Al-Bīrūnī arranged his translation in the form of questions and answers (Maas/Verdon 2018: 301-304; Verdon 2015: 152-153; 156-158).

³⁵ Ritter 1956: 181.10-11; Pines/Gelblum 1977: 525.

³⁶ In this passage, it is also interesting to note that al-Bīrūnī renders relatively literally the concepts of 'one's own form' (*svarūpa*) and 'union' (*saṃyoga*) with the Arabic 'in his essence' (فى ذاته) and 'union' (الاتصال).

³⁷ Koetschet 2011: 78.

to the ‘intellect in potentiality’.³⁸ Al-Rāzī, on his part, considers that the soul is first ignorant, but has the capacity of knowing things under specific circumstances.³⁹ Al-Bīrūnī’s interpretation of the relationship between *puruṣa* and knowledge, which derives from the Sāṅkhya-Yoga understanding, is thus perhaps to be explained in light of this debate on the soul found in Islamic thought.

Furthermore, al-Bīrūnī states that *puruṣa* is nothing else than life. This notion is not found as such in the *Sāṅkhyakārikā*’s tradition, but it is interesting to note that a Sanskrit term meaning life, i.e., *jīva*, is used to refer to the self in the *Mahābhārata*. In Greek and Islamic thought, the soul is similarly considered as the principle which can possess life (*empsychon*).⁴⁰

In his translations, the scholar often chose an interpretation of this sort, i.e., with lexical analogies and partial conceptual overlapping between the two concepts, i.e., between the Indian source-concept and the Islamic target-concept.⁴¹ In other words, there are terminological and conceptual parallellisms in the two types of concepts, which enabled al-Bīrūnī to choose his specific interpretation, whereas there are also discrepancies which render his decision problematic.⁴²

The next two passages, dealing with the unmanifest primary matter and the manifest shaped matter, shall make the present argument clearer. They read:

- B. The absolute matter (المادة المطلقة), i.e. the pure matter (الهيولى المجردة), follows [*puruṣa*]. They call it *avyakta* (أَبْيَكْت), i.e., [something] without shape (بلا صورة). It is dead (موات) [but] it owns the three forces (قوى ثلاث), in *potentiality* without *actuality*; their names are *sattva* (سَتْ), *rajas* (رَج) and *tamas* (تَمْ).⁴³
- C. As for the matter which goes out to *actuality* with shape and with the three primordial forces, they call it *vyakta* (بَيَكْت), i.e., the shaped [one] (المتصورة), and they call the union with the pure matter and the shaped matter *prakṛti* (پُرْكِرْت).⁴⁴

Al-Bīrūnī uses the Arabic term *al-hayūlā* (الهيولى) to designate the concept of *avyakta* (unmanifest), while the shaped matter (المتصورة), in al-Bīrūnī’s words, corresponds to *vyakta* (manifest).⁴⁵ In classical Sāṅkhya, the Sanskrit term *avyakta* is used as a synonym of *prakṛti*, the cause, and of *pradhāna*, the primary source. cause is one and unique. It is undetectable by the organs of perception. It constitutes the only creative source of the world. The cause produces all constitutive principles (*tattva*) of the world, except *puruṣa* which stands separate from the Sāṅkhya evolution. The other principles constitute the

³⁸ Koetschet 2011: 117.

³⁹ Koetschet 2011: 136.

⁴⁰ Koetschet 2011: 78-79.

⁴¹ This strategy of translation has been designated by the term ‘substitution’ by Vladimir Ivir (1987: 41). On this question see Verdon/Maas 2018: 309-310 and Verdon 2015: 171-179.

⁴² Fabrizio Speziale made analogous observations concerning the manner in which later Persian authors, in an intellectual context different from that of al-Bīrūnī, dealt with the Ayurvedic *tridoṣa* (Speziale 2014: 783-785).

⁴³ Al-Bīrūnī 1958: 30.14-16; Sachau 1888: I: 40.

⁴⁴ Al-Bīrūnī 1958: 31.4-6; Sachau 1888: I: 41. Al-Bīrūnī refers to the same idea later in the chapter (Sachau 1888: 46-47).

⁴⁵ The characteristics of *avyakta* and *vyakta* are described in *Sāṅkhyakārikās* 10-11, 15-16, 23, 58, 61.

manifest effects (*kārya*) of this cause (*kāraṇa*) in the phenonemal world. They are multiple and perceptible in this world.

Before further analysing al-Bīrūnī's interpretations of Sāṅkhya concepts through his intellectual background, some of his renderings, which are difficult to explain, are worth mentioning. For instance, he describes the unmanifest (*avyakta*) as dead or inanimate. In *kārikā* 10, the manifest (*vyakta*) is given several qualities, amongst which that of being active (*sakriya*). The last part of the same *kārikā* describes the unmanifest as being the opposite of the manifest (*vyaktaṃ viparītam avyaktam*), that is inactive.⁴⁶ It is perhaps the reason lying behind al-Bīrūnī's definition of *avyakta* as dead. Another example is the designation by al-Bīrūnī of the union of *avyakta* and *vyakta* by the term *prakṛti*. The *Sāṅkhyakārikā* however explains *prakṛti* as a synonym of *avyakta*.⁴⁷ The reasons for these different interpretations remain obscure and may be simply attributed to his misunderstandings or that of his Indian informants.

Both Arabic and Sanskrit texts, however, agree that *avyakta* and *vyakta* possess the three *guṇas* (constituents), which are called *sattva*, *rajas* and *tamas*. These constituents are essential in classical Sāṅkhya metaphysics. They exist in all principles – except *puruṣa*. Their combination occurring in them causes the activity and the multiplicity of the phenomenal world. The constituent *sattva* 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. Al-Bīrūnī provides the Arabic transliteration of these three Sanskrit terms. This transliteration enables us to ascertain his rendering of the Sanskrit *guṇa* by the Arabic word *quwā* (sg. *quwwa*), literally meaning force or faculty.⁴⁸ In the *Sāṅkhyakārikā*'s tradition, the unmanifest and the manifest both possess the three *guṇas*.⁴⁹ The difference lies in the fact that in the unmanifest cause, the three constituents are in perfect balance.⁵⁰ In a passage of the *Sāṅkhyakārikā*, the unmanifest is described as becoming active and proceeds to the phenomenal world, due to the *guṇas*' combination which becomes uneven.⁵¹

Further, al-Bīrūnī describes the pure matter, i.e., the cause, as being 'without shape' (بلا صورة), which corresponds to the Sanskrit term *avyakta*, literally meaning undevelopped or unapparent. In the Sāṅkhya context the word became a technical term signifying unmanifest. In a similar way, the Arabic expression 'shaped [one]' (المتصورة) corresponds to *vyakta*, signifying in Sāṅkhya context manifest. Al-Bīrūnī also states that this shaped matter goes 'out to actuality'. Thus, al-Bīrūnī's rendering of manifest (*vyakta*) by the Arabic shaped (المتصورة) not only presents lexical but also conceptual parallels. The

⁴⁶ See also *Gauḍapādabhāṣya* on *kārikā* 10 (Sharma 1933: 10-12).

⁴⁷ *Sāṅkhyakārikā* 42; *Gauḍapādabhāṣya* on *kārikās* 2-3, 10-11, 22, 66 (Id.: 40; 3-5; 10-14; 24-25; 59-60).

⁴⁸ On the use of the word force or faculty by al-Bīrūnī, see Verdon 2015: 172-174.

⁴⁹ *Sāṅkhyakārikā* 11 (Sharma 1933: 12).

⁵⁰ *Gauḍapādabhāṣya* on *kārikā* 16 (Id.: 19) and on *kārikā* 23 (Id.: 26).

⁵¹ *Sāṅkhyakārikā* 16 (Id.: 19).

Arabic term used here is a past participle derived from a verbal root meaning ‘to shape’, ‘to form’ (صور). The substantive of this verbal root, meaning form (صورة), was the Arabic term used to translated the concept of *eidos*, i.e., form, as understood by Aristotle in his examination of the nature of change and substance.⁵² Al-Bīrūnī interestingly correlates *avyakta* to *hayūlā* (Gr. *hyle*) in the stage of *potentiality* which becomes manifest (*vyakta*) by taking on a shaped visible form *in actuality*.

The correlation between al-Bīrūnī’s rendering of these concepts and philosophical debates rooted in Hellenic ideas and current amongst Islamic thinkers further continues. In Aristotle words, for instance, ‘the *hyle* or matter is unknowable in itself, while some other [matter] is perceptible’⁵³ and, elsewhere, ‘some kind of matter is perceptible and some other kind of matter is intelligible.’⁵⁴ From this perspective, the use of Aristotelian terminology ‘pure matter’ (Gr. *hyle*; Ar. *al-hayūlā*) and matter ‘going out to *actuality*’ reflects the terminological and conceptual parallellisms which the concepts indeed have with Sāṅkhya philosophy. According to Louis Gardet, primary matter became pure *potentiality* in the view of some Islamic philosophers, while form constituted its *actuality*. With Ibn Sīnā in particular, the notions of *potentiality* and *actuality* are reduced to that of matter and form respectively.⁵⁵ Thus, according to al-Bīrūnī’s rendering, the Sāṅkhya concept of the manifest effect corresponds to a matter which has taken shape or form in reality and moved to existence in the world of perception.

It is also pertinent here to recall the emanation theory current in Greek and Islamic thoughts from Plotinus onwards. This theory emerged from the question of how an existent thing occurs from something non-existent,⁵⁶ or, in other words, of how to connect the phenomenal world to an immaterial unperceptible world.⁵⁷ Thinkers elaborated different arguments about an unphysical and eternal cause and its relationship with the physical world.⁵⁸ For instance, Plotinus considered the following: from 1) the One comes 2) the intellect (Gr. *nous*), then 3) the world soul, followed by 4) the individual souls and finally 5) the physical universe.⁵⁹ Al-Fārābī who adapted Plotinus’ theory, described six principles in his version of the emanation theory: 1) the first cause, 2) the secondary cause or the incorporeal intellect, 3) the active intellect, 4) the soul, 5) the form and 6) matter.⁶⁰

Classical Sāṅkhya, on its part, developed the *satkāryavāda* theory, i.e., the doctrine of the effect (*kārya*) [pre-]existing [in its cause (*kāraṇa*)]. A causal link is established between the different

⁵² I am grateful to Assistant Professor Satoshi Ogura for his stimulating comments on this specific question.

⁵³ *Metaphysics*, Book VII, part 10. Translated by W.D. Ross, 1924.

⁵⁴ *Metaphysics*, Book VII, part 11. Translated by W.D. Ross, 1924.

⁵⁵ Gardet, L., *Encyclopaedia of Islam*, Brill Online, 2nd ed., s.v. Hayūlā [accessed May 2018].

⁵⁶ Nabi 1982: 233.

⁵⁷ Genequand 1996: 787.

⁵⁸ See Nabi 1982, Genequand 1996, Arnaldez, R. *Encyclopaedia of Islam*, Brill Online, 2nd ed., s.v. Falsafa [accessed May 2018] and Gardet, L. *Encyclopaedia of Islam*, Brill Online, 2nd ed., s.v. Hayūlā [accessed May 2018].

⁵⁹ Nabi 1982: 234.

⁶⁰ Reisman 2005: 56-57.

constitutive principles (*tattva*) of the creation. According to this doctrine, even if the unmanifest cause (*avyakta*), that is unperceptible by the senses, it is possible to infer it, through its manifest (*vyakta*) effect. Common points are existing between the Aristotelian distinction *actuality/potentiality* and the Sāṅkhya evolution and causation theory. In Aristotle, for instance, the anteriority of the *actuality* on the *potentiality* is claimed because a substance is needed as a support for the *potentiality*.⁶¹ The *satkāryavāda* doctrine in Sāṅkhya advocates that the effect, i.e., what would become *in actuality* according to al-Bīrūnī, pre-exists in the cause, i.e., what would be *in potentiality* in al-Bīrūnī's words.

The exact processes through which the transformation would occur differs in both systems, however. Moreover, the cause (*prakṛti*) in classical Sāṅkhya has a series of characteristics specific to this Indian system of thought, which cannot be associated with the Aristotelian concept of primary matter, and which were not developed by al-Bīrūnī. This process is only described by al-Bīrūnī in Aristotelian terms, when he states that the unmanifest, i.e., *avyakta*, 'owns the three forces, *in potentiality* without *actuality*' and that the manifest, i.e., *vyakta*, 'goes out to *actuality* with shape and with the three primordial forces.'

In the *Kitāb Pātāṅgal*, there is another example of a similar use of the concepts *potentiality* and *actuality* by al-Bīrūnī. The passage, which al-Bīrūnī also highly transformed, corresponds to question/answer 66 and translates *Pātāñjalayogaśāstra* IV.12-13.⁶² In the Arabic version of it, it is asked how merits and demerits, which are void and null, i.e., non-existent, in the ascetic's past and future, can bring about emancipation which is existent. The answer is: merits and demerits are not absolutely inexistent, but are either a transition toward *potentiality* or existent (only) *in potentiality*. These two possibilities apply for both past and future. The answer also states that past and future times have no impact *in actuality* on the present time, which exists *in actuality*.⁶³ The Sanskrit corresponding passage discusses the debated philosophical question of the possibility for a thing to exist, or to be produced, from another thing which is non-existent. The Sāṅkhya-Yoga answer to this question is generally considered to be the *satkāryavāda* theory.⁶⁴ Therefore, even if this specific passage of the *Pātāñjalayogaśāstra* does not here explicitly name this theory, it attempts to connect it to the relationships between past, present and future; which al-Bīrūnī in his turn interpreted in terms of *potentiality* and *actuality*. This example indicates that al-Bīrūnī coherently dealt with the *satkāryavāda* theory, as he explains it in two different contexts with the same terminology of Aristotelian origin.

Further, the scholar made use of these technical concepts whose meaning overlapped that of the Indian concepts and at the same time diverged from them. Despite the divergences, however, the

⁶¹ Aubry 2006: 43.

⁶² On the correspondence of the two passages, see Verdon 2015: 218-219.

⁶³ Ritter 1956: 196.3-6 ; Pines/Gelblum 1989: 269.

⁶⁴ On the passage of the *Pātāñjalayogaśāstra*, see Bronkhorst 2011: 58-59, and on historical considerations of this philosophical debate, see Bronkhorst 2011.

emanationist scheme of the Islamic philosophers and the *satkāryavāda* doctrine of Sāṅkhya both derived the phenomenal and multiple world from an unperceptible and unique cause, by attempting to answer similar questions. Al-Bīrūnī, with his choices of interpretation, appears to have been conscious of this. The observations of the present study do not aim at identifying some aspects of Falsafa and Sāṅkhya as same, nor at drawing influences from one on another, but entail that an analysis of the transmission of Indian thought by al-Bīrūnī must include an examination of his intellectual background. In this case, his knowledge of Islamic philosophical terminology enables to grasp his choices of interpretation better and to explicate divergences between the source-concept and the word used in the target-language.

The last extract is drawn from the *Kitāb Pātāṅḡal*. It highlights a use of the two same concepts by al-Bīrūnī, but in a different context. It deals with the Sanskrit *kleśas*, i.e., afflictions, which have to be reduced and annihilated in order to reach final emancipation from the rebirth's cycle according to Pātāṅjala Yoga. Al-Bīrūnī translates this concept by the Arabic term meaning burden (ثقل). The passage reads:

- D. In the ascetic renunciant, the [burdens] exist *in potentiality*, without manifesting themselves *in actuality*, in the manner of a seed placed in the granary, which does not grow although a [future] plant is hidden in it; or like a frog weakened by a blow while going out of water, [but] which does not come to life on earth although it is alive.⁶⁵

This passage is found in answer 26 of the *Kitāb Pātāṅḡal* and can be broadly linked with the topic discussed in *Pātāṅjalayogaśāstra* II.3 to 4.⁶⁶ There are five afflictions – burdens in al-Bīrūnī's words. The following table shows the Sanskrit terms for each of the afflictions alongside their Arabic renderings:

	Sanskrit afflictions (<i>kleśa</i>)	Arabic burdens (الانفعال)
1	ignorance (<i>avidyā</i>)	ignorance (الجهل)
2	feeling of individuality (<i>asmitā</i>)	[false] supposition (الظن)
3	passion (<i>rāga</i>)	desire (الرغبة)
4	aversion (<i>dveṣa</i>)	enmities (العداوات)
5	will-to-live, attachment (<i>abhiniveśa</i>)	attachment, devotion (العلايق)

Table 1: al-Bīrūnī's translation of the Sanskrit *kleśas* into Arabic.

⁶⁵ Ritter 1956: 178.3-5; Pines/Gelblum 1977: 523. My translation owes much to the very good work of Schlomo Pines and Tuvia Gelblum.

⁶⁶ See Pines/Gelblum 1977: 532-534: notes 20-26 and Verdon 2015: 157-158.

Al-Bīrūnī's translations of these technical Yoga terms are relatively literal, except for number 2. As for the analogy of the seed, a similar comparison is presented in the *Pātañjalayogaśāstra*, in the *Pātañjalayogaśāstravivaraṇa* and in the *Tattvakaumudī*.⁶⁷ The second analogy of the frog could not be found in the Sanskrit texts under review.⁶⁸ Interestingly, here, al-Bīrūnī makes use of the two Aristotelian concepts in a context different from the previous passages under review in this article, as he determines two levels or stages, i.e., *in potentiality* and *in actuality*, at which the afflictions (*kleśa*), or burdens, might stand. His interpretation that 'they exist *in potentiality*, without manifesting themselves *in actuality*' suggests that they are latent, or dormant, and do not reveal themselves in an ascetic renunciant. In *Pātañjalayogaśāstra* II.4, besides being burnt (*dagdha*) as a seed and thus unfruitful, afflictions can exist at four gradual stages, asleep (*prasupta*), thin (*tanu*), interrupted (*vicchinna*) and active (*udāra*).⁶⁹ Further, according to Pātañjala Yoga, the ascetic (*yogin*) can – and has to – weaken these afflictions. Did al-Bīrūnī connect the stages of this graduation when the afflictions are burnt or asleep, to the *potentiality* and the last stage, i.e., when they are active, to the *actuality*? Answering this question may be a conjecture. However, in view of the discussion of the previous sections, this interpretation is likely. If this is accepted, it is possible to understand how al-Bīrūnī adjusted the original Yoga concepts by way of Aristotelian terminology. This fourth example also indicates a different use of this terminology, which is not the rendering the *satkāryavāda* theory.

4. Concluding remarks

This article thus focused on highlighting the role of al-Bīrūnī's intellectual background in order to interpret and transmit Indian thought and led to several observations with regard to his attempt to transmit technical Sāṅkhya-Yoga concepts to his peers.⁷⁰ First, the necessity of analysing his works on India by understanding its cultural background appears essential from this preliminary survey. Second, this article pointed out to three distinct uses of the concepts of *potentiality* and *actuality*: 1) to describe the self (*puruṣa*) as a potential knower (passage A), 2) to explain the evolution and causation theory of classical Sāṅkhya-Yoga (passages B and C), and 3) to characterize the technical concepts of afflictions (*kleśa*) (passage D). Further, although al-Bīrūnī used these Aristotelian concepts, he did not claim that Greek theories had influenced Indian ones, or vice versa. These observations suggest that the scholar made use of this terminology as heuristic tool to transfer Indian ideas to a Muslim audience, rather than as a comparative tool. Third, this article highlighted that, despite differences in the concepts discussed

⁶⁷ On *sūtra* II.4. Rukmani 2001: 216. Woods 1992[1914]: 107-108. See also the article by Karen O'Brien-Kop (2017) which examines the image of the seed as presented in the *Pātañjalayogaśāstra* and the *Abhidharmakośabhāṣya*.

⁶⁸ Pines and Gelblum provide with some parallels and possible interpretations of this analogy, which might be connected in some manner to the so-called R̥gvedic 'Frog Hymn' (1977: 533, endnote 23). See also Jamison 1993. The exact origin of this analogy, that is whether al-Bīrūnī drew it from oral informants or textual sources, would deserve further investigation.

⁶⁹ I base my readings of the *Pātañjalayogaśāstra* on the online edition available of the Göttingen Register of Electronic Texts in Indian Languages (GRETIL: http://gretil.sub.uni-goettingen.de/gretil/1_sanskrit/6_sastra/3_phil/yoga/patyog_u.htm [last accessed June 2017]).

⁷⁰ The observations made in this article are relevant to al-Bīrūnī's transmission of Indian concepts to his peers in general. See Verdon 2015: section 4.4.2.

and in the answers to the formulated questions, there was a similarity in the original problem, i.e. how does a thing which is not existing in the phenomenal word (unmanifest or *in potentiality*) brings into existence visible and phenomenal existents.⁷¹ Fourth, his portrait of Indian thought through Aristotelian lens may also reflect his desire to transmit these Indian philosophical theories as having certain authority.

Fifth, the Aristotelian concepts belonged to the philosophical lexicon of his audience. By using them, al-Bīrūnī was thus able to convey the message with a relative transparency and reduced his audience's unfamiliarity with Sāṅkhya-Yoga concepts.⁷² His choices of interpretation, indeed, entailed a partial overlap between the meanings of the concepts and theories originating from the two distinct intellectual cultures. In this manner, they were rather pertinent, and at the same time problematic, as the Aristotelian concepts were not identical to the Indian ones. It is difficult to know whether he was conscious of this implication of his interpretative choices, and, if yes, to what extent he might have been. Nevertheless, it appears relatively natural that he used such a terminology, as it was part of a shared background of his time. The scholar thus constitutes an interesting example of the general influence of Greek thought on the Islamic intellectual sphere.

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⁷¹ Fernando Dragonetti and Carmen Tola highlighted that up to the 17th century CE there were similar problems in culturally different philosophical systems (Dragonetti/Tola 2004: 19).

⁷² See Vladimir Ivir on ‘substitution’ 1987: 41 and Maas/Verdon 2018: 309-310.

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