The relations between Islamic Philosophy and science, from the viewpoint of Sayyid Muḥammad Ḥusayn Ṭabāṭabāʾī

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The relations between Islamic Philosophy and science, from the viewpoint of Sayyid Muḥammad Ḥusayn Ṭabāṭabā'ī

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ABSTRACT: This paper discusses the relations between philosophy and science based on the theories of Sayyid Muḥammad Ḥusayn Ṭabāṭabā'ī. After providing a definition of both philosophy and science, Ṭabāṭabā'ī shows how and in what areas they can help each other and in what circumstances neither might interfere in the problems of the other. This paper will focus on his arguments in his *Principles of Philosophy and the Method of Realism*, something that has not been investigated in English before.

Ṭabāṭabā'ī criticises science-based philosophies, maintaining that the subject-matter and problems of philosophy and science have often been conflated throughout history. In this paper, I develop and draw implications from Ṭabāṭabā'ī's views concerning relations between philosophy and science to show how philosophical arguments in certain science-based philosophies such as dialectical materialism are, in his view, discredited and compromised on account of their reliance on unconfirmed scientific hypotheses. Islamic philosophy has also suffered from this shortcoming, although the downsides of such reliance have been noticed by Islamic philosophers today, as is the case with drawing upon scientific hypotheses concerning celestial spheres in the arguments of Islamic Peripatetic Philosophy.

KEYWORDS: Subject-matters of philosophy and science, synergy of philosophy and science, Sayyid Muḥammad Ḥusayn Ṭabāṭabā'ī, idealism, realism, principles of philosophy and the method of realism

On ʿAllāmah Ṭabāṭabāʾī

Sayyid Muḥammad Ḥusayn Ṭabāṭabāʾī (1904-1981), known as ʿAllāmah Ṭabāṭabāʾī, was a prominent Shiʿa scholar in the twentieth century, who wrote many works in diverse fields of Islamic studies such as Qur'anic exegesis, philosophy, mysticism, theology, and history. ʿAllāmah Ṭabāṭabāʾī—whose philosophical work is one of the most-cited contemporary philosophical works in the Islamic- Shiʿa world—was particularly interested in the relation between philosophy and science. He presents the bulk of his views on the matter in the first article of his *Principles of Philosophy and the Method of Realism* (Uṣūl falsafa wa-rawish riʾālīsm). The book, written in Persian, contains fourteen articles, and was first published in 1953.[1]

This book was a result of several private philosophical discussion circles which a number of scholars from different backgrounds attended for several years.[2] Murtaḍā Muṭahharī (1919-1979), the most prominent student of Ṭabāṭabāʾī, wrote a commentary on the book which is more of a discussion of issues surrounding what is propounded by Ṭabāṭabāʾī than an exposition of Ṭabāṭabāʾī's deep and carefully chosen words. Muṭahharī tried to present his commentaries on the articles of the book as supplements of some sort for the book, applying its general issues to various intellectual and philosophical movements in twentieth-century Iran, which were influenced by Marxist philosophies and certain philosophies developed in the West, particularly in Europe, during and after the Enlightenment period. He did so by deriving and articulating Ṭabāṭabāʾī's answers to the relevant philosophical questions from his general accounts.

The book has been published in one volume (without Murtaḍā Muṭahharī's footnotes), in three volumes, and in five volumes. Apparently, ʿAllāmah Ṭabāṭabāʾī and his students intended the work to be published in five volumes along with Murtaḍā Muṭahharī's footnotes, but given the disagreements between Muṭahharī and Ṭabāṭabāʾī over certain issues, there was a delay in the publication of the fourth volume with Muṭahharī's footnotes.[3] In his introduction to the book, Muṭahharī gives an account of Ṭabāṭabāʾī's goal for writing the book:

> The author of the present book his excellency ʿAllāmah, may he live long, has devoted years of his life to the study and teaching of philosophy, and has an insightful mastery of the views and

> theories of great Islamic philosophers such as Fārābī, Bū ʿAlī [Avicenna], Shaykh al-Ishrāq, Ṣādr al-Muta'allihīn, and others, and out of his innate love and natural taste, has properly considered the views of the European philosophers. For years, he has been thinking of writing a book of philosophy, which includes both precious works of a millennium of Islamic philosophy and the modern philosophical views and theories so that the *prima facie* gap between classical and modern philosophical theories is bridged, a gap that makes them appear as two diverse and unrelated fields of study. In this case, it will finally take a form that squares better with the contemporary intellectual needs. In particular, the value of divine philosophy, pioneered by Muslim scholars, which is advertised by materialist philosophy as having come to an end, comes to light.

Muṭahharī's claim about ʿAllāmah Ṭabāṭabā'ī's familiarity with Western philosophy requires further consideration. There is no doubt that Ṭabāṭabā'ī did not know English, and hence, he could only read Arabic and Persian translations or writings about Western philosophy. As for ancient Greek philosophy, its major source were its classical Arabic translations. A source about Western philosophy, which was available to ʿAllāmah Ṭabāṭabā'ī, was the book, *Sayr ḥikmat dar Urūpā* (History of philosophy in Europe),[4] which was written in Persian by Moḥammad ʿAli Foroughi (1877-1942) and published in three volumes. The book is frequently cited by Muṭahharī in his commentaries on *Principles of Philosophy and the Method of Realism*. Another source through which Ṭabāṭabā'ī was introduced to Western philosophy was Henry Corbin (1903-1978), professor of philosophy at Sorbonne University in France. ʿAllāmah Ṭabāṭabā'ī's meetings with Corbin began five years after the publication of *Principles of Philosophy and the Method of Realism*, but since Ṭabāṭabā'ī did not present a new edition of the book throughout the rest of his life, it might be speculated that no revisions needed to be made to the book after those meetings, particularly in the parts concerning Western philosophical schools. Their first meeting was in autumn 1958 in Tehran. The frequently meetings often took place on a weekly basis, except when Corbin was not in Iran. The meetings continued a short time before the victory of the Islamic Revolution of Iran in 1979. Although their conversations were mainly about spirituality and mysticism and

certain Shi'a beliefs, they also discussed philosophical issues. This is evidenced by the comments made by Seyyed Hossein Nasr (b. 1933), who attended those meetings:

> In December when he always came to Iran, Corbin brought with him the hottest philosophical and theological issues in France, presenting them to ʿAllāmah Ṭabāṭabāʾī in the form of questions, to which he replied, and then the discussion continued.[5]

The passion for these meetings was not only on Corbin's end. Indeed, the conversations were regarded as valuable by ʿAllāmah Ṭabāṭabāʾī as well. This is evidenced by comments made by Ghulām-Ḥusayn Dīnānī (b. 1934), another student of ʿAllāmah Ṭabāṭabāʾī, who attended some of those meetings. Here is how he explains the reason why the meetings were cancelled on the verge of the Islamic revolution: "Some revolutionary friends told me that it was not a good idea to have such meetings in the first place! They said 'some of your friends in the meeting are such and such, and we do not know who Henry Corbin is! It is on the verge of the revolution, and so it is not proper to have these meetings. So tell ʿAllāmah Ṭabāṭabāʾī to cancel them.' Dīnānī says 'under the pressures by those friends, I told ʿAllāmah Ṭabāṭabāʾī that our friends say it is not a good idea to continue these meetings … Now that I remember those moments, tears come to my eyes … He [ʿAllāmah Ṭabāṭabāʾī] fell ill, the small tremor in his hands worsened, and he blushed. He repeatedly said 'this is strange!' and then said 'as someone who sits in a corner and writes something, the only way I could find into the world and global ideas was this meeting; they cannot even let me have these meetings?' Dīnānī says, 'it was then that I found out that through these meetings he wanted to know what was going on in the world and what were the most recent intellectual issues in the world'".[6]

In his brief account of his first meeting with Corbin, ʿAllāmah Ṭabāṭabāʾī says that when Dr. Jazayeri told him about Professor Corbin's passion for a meeting, he told him: "in fact, I was passionate for such a meeting given the rare moral virtues and academic activities I have heard about him. Thus, I agreed with the request and planned for a meeting. Two or three nights later, the meeting was held in a warm, intimate environment in Dr. Jazayeri's house".[7] He adds: "although the meeting took place at short notice, and Dr. Corbin was departing to Paris, it

established our friendship and provided me with sketchy information about the results of his indefatigable academic and practical activities for several years."[8] Seyyed Hossein Nasr, who saw ʿAllāmah Ṭabāṭabāʾī as "the reviver of the teaching of Islamic philosophy in Qum in Persia after the Second World War and a leading Islamic philosopher of this century whose philosophical works are now gradually becoming known to the outside world"[9], undertook the translation of their conversations.[10]

Also, Aḥmad ʿĀbidī (b. 1960), a student of ʿAllāmah Ṭabāṭabāʾī's students, says the following about ʿAllāmah Ṭabāṭabāʾī's familiarity with Western philosophy: "before the Islamic Revolution, there were frequent communications with the research in Cairo and Al-Azhar [University], and their works were published here. Philosophers in Egypt had frequent communications with the West, they translated the Western thoughts in Egypt, which found their way to Qum, where scholars read them. Accordingly, ʿAllāmah Ṭabāṭabāʾī was introduced to the Western thoughts through Egyptian books as well as his meetings with Mr. Corbin".[11]

ʿAllāmah Ṭabāṭabāʾī's urge to learn about the world outside Iran was not confined to the West and Western philosophy. Dariush Shayegan (1935-2018) who also attended some of Ṭabāṭabāʾī's meetings with Corbin writes in his book, '*Under the skies of the world*':

> I learned a lot from him [ʿAllāmah Ṭabāṭabāʾī]. He never left my questions about the entire spectrum of Islamic philosophy unanswered. He elaborated and explained everything with much patience and clarity. He transmitted his wisdom little by little such that one would feel a transformation within oneself in the long run. With him we had an experience that was probably unique in the Islamic worlds; a comparative study of world religions under the guidance of an Iranian guide, and we investigated the Gospel's translations, Persian translations of the Upanishads, Buddhist Sutras, and Tao Te Ching. With such a revelatory state he engaged in the exegesis of these texts that it seemed as if they were authored by him. He never saw any conflicts in them with the spirit of Islamic mysticism—he was as intimate with the Indian philosophy as he was with the Chinese and Christian worlds.[12]

In addition to historical accounts, what is implied through a study of *Principles of Philosophy and the Method of Realism* is that ʿAllāmah Ṭabāṭabāʾī was probably unaware of some of the more recent details and literature of modern philosophy, but he had an accurate conception of the main modern philosophical movements and their intellectual principles. As for what ʿAllāmah Ṭabāṭabāʾī wrote about modern Western philosophy, three points should be kept in mind:

1. While in this book ʿAllāmah Ṭabāṭabāʾī is particularly concerned with modern Western philosophies, he indeed sought to establish a strong epistemic cornerstone for Islamic philosophy, on which other philosophical problems could rest. After his profound epistemological discussions and his delineation of the subject-matter and method of philosophy and its relation with other sciences and fields of study, ʿAllāmah Ṭabāṭabāʾī builds upon them a number of philosophical issues, most of which were his own novel contributions.

2. During the lifetime of ʿAllāmah Ṭabāṭabāʾī, Iran was an arena of modern and old philosophies, as diverse philosophical schools had found their own advocates among educated Iranians. A popular and influential such school was dialectical materialism.[13] In his introduction to *Principles of Philosophy and the Method of Realism*, Muṭahharī writes:

> This book seeks to clearly show all the deviations of dialectical materialism. Some people who have personally found the unfoundedness of this philosophy might object to us that we have engaged too much in criticising its problems, but let us note that, in this respect, we have not considered its philosophical and logical value. To the contrary, we have considered the fact that there are far too many publications about dialectical materialism in our country, and it has engaged the thoughts of many young people, and perhaps there are people who have actually believed that dialectical materialism is the best philosophical system in the world as well as an immediate result, and an inextricable property, of sciences, and that the time for divine wisdom has come to an end. It was thus necessary to analyse all the philosophical and logical contents of those essays to bring their true value to light. In the footnotes, insofar as we formulate the views and beliefs of materialists, we cite the writings of Dr. Arani.[14]

What Muṭahharī says here about the goal of writing the book seems to be mainly his own goal for writing the footnotes. While ʿAllāmah Ṭabāṭabāʾī talks extensively about dialectical materialism, he is mainly concerned with its intellectual roots and foundations, which go beyond a particular philosophical school. For instance, what he says in rejection of science centred philosophies is concerned both with dialectical materialism and with any other philosophical school that adopts such an approach in one way or another. Another instance of this pattern is that ʿAllāmah Ṭabāṭabāʾī presents two objections to Immanuel Kant's innatism (1935-2018),[15] which are in his view epistemic impasses faced by the view,[16] and yet he never explicitly talks about Kant in *Principles of Philosophy and the Method of Realism*. It is not ʿAllāmah Ṭabāṭabāʾī's practice in this book to criticize views without explicitly mentioning their advocates, as he does in his Qur'anic exegesis *al-Mīzān*. To the contrary, this was probably because his major goal was to accomplish an intellectual project[17] he pursued in philosophy. Hence, he often refrained from making references to specific schools of thought or people in order to preserve the generality of his remarks. In this way, his remarks could apply to all schools of thought, movements, or people who advocated similar theories. This is evidenced by Muṭahharī's remark that the goal of writing the book was not to reject materialism:

> The main goal of this book is to create a great philosophical system by drawing on the precious efforts of a millennium of Islamic philosophy, by utilising the results of the extensive research done by Western scientists, and by making use of the power of innovation. For this reason, in this series of articles [in the book], problems with major roles in ancient philosophy and those with significance in modern philosophy are both discussed, and in the meanwhile, there are parts that have no precedence in Islamic philosophy, nor in European philosophy.[18]

3. Some of the terminologies of Western philosophy used by ʿAllāmah Ṭabāṭabāʾī in the book are not used in their ordinary senses in modern Western philosophy. Rather, they are used in senses that were common in Iran during his time. Instances of this are pointed out in this paper. Sometimes, ʿAllāmah Ṭabāṭabāʾī uses common terminologies in their literal meanings or in their senses in ancient Greek philosophy. In this

way, he seeks to find the roots of modern philosophical ideas. For example, he equates idealism with sophistry, because on his epistemological principles, many idealists fall into the trap of one or another variety of scepticism, a position whose advocates in ancient Greece were dubbed sophists. Sophistry resulted in the denial of, or doubts about, 'reality *simpliciter*'[19] or 'knowledge of the reality' (Which can include both material and immaterial worlds). For Ṭabāṭabā'ī, those who do not deny the reality *simpliciter* and do not advocate a wholesale denial of our knowledge of the reality should not be called idealists (Sophists), even if they might wrongly deny the material world or the properties of material objects, restrict the being to non-material entities, believing that geometrical properties of objects are totally mental, or deny time and space.[20] In fact, history shows that certain extreme branches of idealism led to scepticism, denying or casting serious doubts on the possibility of knowing the external world. Here is how Karl Ameriks (born in 1947) explains the relation between German idealism and scepticism in his account of the relation between enlightenment and idealism:

> The fundamental principles of the Enlightenment were rational criticism and scientific naturalism. While criticism seemed to end in scepticism, naturalism appeared to result in materialism. Both results were unacceptable. If scepticism undermines our common-sense beliefs in the reality of the external world, other minds, and even our own selves, materialism threatens the beliefs in freedom, immortality, and the sui generis status of the mind.[21]

According to Ameriks, what is common to all varieties of German idealism (Kant's transcendental idealism, Fichte's ethical idealism, and the Romantics' absolute idealism) was an attempt to save criticism from scepticism and naturalism from materialism.[22] The fact that, in the late eighteenth century in Germany, the faculty of criticism was one of the two fundamental, common definitions of the notion of reason has led Ameriks to the conclusion that this sense of reason had implausible and inevitable consequences, since "radical criticism seemed to lead of necessity to scepticism."[23] The theory led to an absolute scepticism about science's ability to discover reality. As put by Ameriks, "It seemed to bring down 'a veil of perception,' so that the subject directly knew only its ideas; it was then necessary to infer, somewhat hazardously, the existence of the external world."[24]

Another instance of ʿAllāmah Ṭabāṭabāʾī's peculiar method of the terminologies of Western philosophy, which is relevant to this paper as well, is the use he makes of the term "realism": he equates the term with philosophy. It should be noted that he has his own definition of the term. In fact, the epistemological issues in his book seek to articulate this new sense of the term 'realism', which has remarkable commonalities with its common notion in modern Western philosophy, notwithstanding their divergences. In short, the reason why ʿAllāmah Ṭabāṭabāʾī insists on classifying those concerned with philosophical questions into philosophers (realists in his jargon) and sophists (that is, idealists in the sense above) was to show that the history of human thought witnessed two kinds of people: those who seek the reality (including those idealists who did not advocate a wholesale denial of the reality and the possibility of knowing the reality) and those who escape the reality (those who deny or cast doubts on the reality qua reality or the possibility of having knowledge of the reality).

The conclusion to draw from this discussion is that ʿAllāmah Ṭabāṭabāʾī's peculiar method of using the common philosophical terminologies is not a reason to think that he was not well familiar with modern Western philosophy, as has been suggested by some people;[25] rather, in our assessment of his remarks, we need to note how he uses these terminologies to find his intentions behind their use.

Of the fourteen articles of the book, the first six are particularly concerned with epistemological issues. In ʿAllāmah Ṭabāṭabāʾī's view, given the logical course of philosophical problems, epistemology should be discussed at the beginning of a philosophical work, but since there are many questions and doubts concerning the possibility and validity of knowledge and certainty, he begins with a discussion of epistemological issues before addressing other philosophical questions.[26] Some people believe that ʿAllāmah Ṭabāṭabāʾī was the founder of Islamic epistemology, which is due to his contributions in this book. Ayatollah Misbāh Yazdī (1935-2021), a student of ʿAllāmah Ṭabāṭabāʾī, held that Principles of Philosophy and the Method of Realism was the first epistemological book in Islamic philosophy, suggesting that "[by writing this book] ʿAllāmah Ṭabāṭabāʾī and Murtaḍā Muṭahharī saved Islamic philosophy from failure in the face of Marxism and idealism."[27] Interestingly, as pointed out by Ayatollah Abdollah Javadi Amoli (b. 1933), another prominent student of ʿAllāmah Ṭabāṭabāʾī, after the publication of the book, no

rejections were written in response to the book by advocates of Marxist philosophy in Iran. This was because of negligence on the part of Iranian intellectualists who only saw and tried to imitate the material dimensions and empirical sciences in the West, ignoring the philosophical principles on which Western civilisation rested.[28] This remark by Javādī Āmolī explains why Hamid Algar (b. 1940) casts doubt on the profound impact of Principles of Philosophy and the Method of Realism on rejection of Marxist theories in Iran. Having provided a brief account of how the book was written, he says in a footnote:

> Whether the refutations of Marxism and other forms of materialist thought essayed by Ṭabāṭabāʾī and others were decisive for the defeat of Marxism in Iran may legitimately be questioned. The eclipse of the left in Iran may well have been due in far greater degree to the shallowness of its social roots and the growing clarity and coherence of the Islamic alternative as a vehicle of revolution, not to mention the ultimate collapse of the Soviet bloc.[29]

ʿAllāmah Ṭabāṭabāʾī's Intellectual Project

If one reads the first thirteen articles of *Principles of Philosophy and the Method of Realism*, without prior knowledge of ʿAllāmah Ṭabāṭabāʾī, one cannot guess whether the author was a theist or an atheist.[30] One reason for this is that ʿAllāmah Ṭabāṭabāʾī was seriously committed to the demarcation of sciences, and since he believed that the only proper way of doing philosophy was the argumentative method, he never used religious propositions in his arguments, never appealing to the idea of God to justify what he does not know. Of course, this is not to say that God was an insignificant issue in ʿAllāmah Ṭabāṭabāʾī's philosophy. To the contrary, he refers to the philosophy engaged in the reality and truth as "divine philosophy" that can result in the discovery of many truths. In his view, the findings of reason cannot be incompatible with revelation, where the latter is in line with human nature, because reason and revelation are two windows to a single reality.[31] On the relation between reason and revelation, ʿAllāmah Ṭabāṭabāʾī says:

> In principle, there is no difference between the prophets' method of calling people to the truth and what one grasps through proper logical reasoning, except that the prophets

> sought aid from a hidden source, and … at the same time, they degraded themselves to the level of laypeople, talked to the extent of people's understanding, and asked people to deploy this universal innate power [that is, reason].[32]
>
> This is unfair and obviously unjust to separate divine religions and the divine philosophy.[33]

Interestingly, the same was held by René Descartes (1596-1650), the rationalist French philosopher who is rightly regarded as one of the inaugurators of the modern age.[34] In a letter to Dinet, published in the second edition of his *Meditations*, he writes: "As far as theology is concerned, since one truth can never be in conflict with another, it would be impious to fear that any truths discovered in philosophy could be in conflict with the truths of faith."[35]

ʿAllāmah Ṭabāṭabāʾī believed in *Islamic monotheism* (*al-tawḥīd al-Islāmī*) which is, on his account, a version of monotheism in which, first, the truth of the world is seen as being in a centre; that is, God, and second, all things that we believe to be real are realised, or have a share of reality, in relation to this reality.[36] Accordingly, the place, condition, effects, properties, and all subjective attributes of something exist in its relation with the centre of existence, where the truth (that is, God) is concentrated, and find meaning and clarity in such a relation. In the face of this centre of being, one has but one truth, which is servitude. Servitude toward this centre is the purpose of the entire humanity, and it is with this servitude that one becomes a monotheist. In this kind of servitude, the human eye makes contact with that unique comprehensive, all-inclusive reality. Human vision, hearing, taste, emotions, thoughts, and intentions—in one word, the entire human existence—finds a kind of unity and union with that centre of being. It is at this juncture that one becomes a monotheist. This notion of monotheism is frequently highlighted by ʿAllāmah Ṭabāṭabāʾī in all of his works. Repeatedly he says that the whole existence is one truth, centred on God. Everything turns around this centre and finds a reality in its relation with the centre, and given the type of its relation, it comes to have subjective and objective attributes, place, condition, and effects. What appears in *Principles of Philosophy and the Method of Realism* is part of a greater project accomplished by ʿAllāmah Ṭabāṭabāʾī to show this unity throughout the world.

This project can be characterised as a project of 'reducing plurality to unity and displaying unity in plurality'. However, we cannot do justice to the great project that motivated ʿAllāmah Ṭabāṭabāʾī to write books and essays for many years. In short, the great project he sought to accomplish can be called the 'project of reason'. If reason had a project throughout intellectual history, in ʿAllāmah Ṭabāṭabāʾī's view, the project was to establish a relation between universalism and particularism in the discovery of the truth in all respects. Reason has always tried to relate all pluralities, details, and subtleties with the one thing that runs through the whole being, or philosophically speaking, to reduce the plurality to the unity. On the other hand, in this valuable project, reason seeks to see the presence of the one reality in all those pluralities and details. Accordingly, reason has throughout history pursued the project of reducing the plurality to the unity as well as displaying the unity in the plurality.

On this account, those who believe that ʿAllāmah Ṭabāṭabāʾī wrote the book as a critique of Marxism or dialectical materialism or those who say that he wrote the book for the larger goal of presenting a comparative study of Islamic philosophy and Western philosophy [37] have failed to consider ʿAllāmah Ṭabāṭabāʾī's larger project in which all these goals were pursued. While ʿAllāmah Ṭabāṭabāʾī writes about *Principles of Philosophy and the Method of Realism* in his autobiography that "the book considers eastern and western philosophies,"[38] this is not a reason to think that he pursued a comparative study of eastern and western philosophies. This is because, first, no realistic person would choose such a general description (that is, the study of all philosophical schools and movements in the world since their emergence) for their book, particularly ʿAllāmah Ṭabāṭabāʾī who was so careful in his choice of words, since eastern and western philosophies cannot be investigated in one book, even in five volumes, and second, given the above, the description is because of the particular brand of realism, which refers to a kind of truth-seeking that lies in the nature of all people. This is exactly why he did not say "Islamic and western philosophy," because for him, philosophy was not limited to any social stratum, region, or time, as realism is a characteristic of the whole of humankind.

In what follows, I note two novel contributions of ʿAllāmah Ṭabāṭabāʾī to epistemology, which were very helpful for his greater project.

ʿAllāmah Ṭabāṭabāʾī was one of the few philosophers like Descartes whose philosophy was marked by a bold and fundamental starting point.

Contrary to Descartes who stood on "cogito" in a sea of scepticism, ʿAllāmah Ṭabāṭabāʾī did not consider anything which it was *prima facie* possible to doubt, and thus, he relied on more solid ground, which enabled him to establish the possibility and actuality of human knowledge of an external world through a philosophical method, without a need to prove God as an entity that guarantees the validity of such knowledge. It is by drawing on this contribution that ʿAllāmah Ṭabāṭabāʾī accounts for the subject-matter of philosophy. He believes that philosophy is a veritable science concerned with absolute existence, which is why it is related to other veritable sciences in particular ways. According to ʿAllāmah Ṭabāṭabāʾī, philosophy can draw on conclusive results of other sciences as premises of philosophical proofs, while other veritable sciences need philosophy to prove their subject-matters. This view has advocates in contemporary Western philosophy as well. Such cases increase hopes of finding common ground and problems, and more importantly, a common scholarly language and interaction between the two philosophical traditions. For example, Roger Scruton (1944-2020) writes in an elaborate introduction to his *A Short History of Modern Philosophy*:

> Why is there anything? In the nature of the case, scientific investigation, which takes us from what is given to what explains it, presupposes the existence of things. … It is a question that seems to reach beyond empirical enquiry and yet at the same time to arise naturally out of it. … Such questions have been called metaphysical: they form a distinctive and inescapable part of the subject-matter of philosophy.[39]

Another epistemological contribution of ʿAllāmah Ṭabāṭabāʾī, which was an inextricable part of his great project and is essential for this paper, is his account of the relation between knowledge and certainty. In his essay, '*al-Burhān*' (The proof or demonstrative argument), ʿAllāmah Ṭabāṭabāʾī explains that knowledge only applies to certainty in the specific sense (*al-yaqīn bi-l-maʿnā al-akhaṣṣ*). Accordingly, things like certainty in the general sense (*al-yaqīn bi-l-maʿnā al-aʿamm*), speculation (*ẓann*), and assurance, which are taken by some logicians[40] as being in contrast to ignorance (that is, failure to know), do not count as knowledge. In ʿAllāmah Ṭabāṭabāʾī's view, knowledge is obtained only when there is no possibility of falsehood, in which case knowledge would be a manifestation

of the truth (*ḥaqq*). Alternatively put, knowledge is one's encounter with the truth, where such encounter only takes place in certainty in the specific sense. Such certainty is characterised by the fact that if something other than the relevant predicate were predicated of the subject-matter in question, then that predication would entail a contradiction. Consider the following example: when in plane geometry it is said that a triangle's angles add up to 180 degrees, here "a triangle's angles" is the subject-matter, and "adding up to 180 degrees" is the predicate. "A triangle's angles add up to 180 degrees" is a proposition about which we have certainty in the specific sense, because if a triangle's angles added up to, say, 179 or 181 degrees, it would contradict its subject-matter (that is, being a triangle), which means that the subject-matter of the proposition is no longer the triangle. Thus, even the slightest change in the subject-matter or the predicate leads to a contradiction between them. Knowledge of a such proposition counts as certainty in the specific sense, and it is in this sense that here the truth is obvious or self-evident, without allowing any room for its falsehood, because any changes in the proposition's subject-matter or predicate lead to contradiction and falsehood. Therefore, in ʿAllāmah Ṭabāṭabāʾī's account in his essay "*al-Burhān*," only certainty in the specific sense counts as knowledge, and speculation, assurance, and the like are only figuratively called "knowledge." After his argument for certainty in the specific sense, ʿAllāmah Ṭabāṭabāʾī argues that, of the various types of self-evident propositions in logic, only primary propositions (*awwaliyyāt*) are truly self-evident, maintaining that it was loose talk to refer to the other types as self-evident, because it is only primary propositions that can be sources of certainty in the specific sense. ʿAllāmah Ṭabāṭabāʾī has other contributions in epistemology, such as the theory of constructions, which will be discussed on another occasion.[41]

In the first article of *Principles of Philosophy and the Method of Realism*, Ṭabāṭabāʾī provides definitions of philosophy and science as well as outlines of their methods and problems. He then proceeds to illustrate the areas in which science and philosophy might contribute to each other. He offers two aspects in which we need philosophy, one of which has to do with how factual sciences[42] need philosophy. Next, Ṭabāṭabāʾī discusses how philosophy needs sciences so that he can specify how philosophy and science are related and in which ways their relations are limited. In this paper, I seek to provide a careful analysis of Ṭabāṭabāʾī's

brief remarks in his article by taking into account his philosophical foundations as outlined and elaborated in his philosophical works such as *Bidāyat al-ḥikma* (The beginning of wisdom) and *Nihāyat al-ḥikma* (The ultimate wisdom).

Definition of philosophy and its necessity

As witnessed by its history, philosophy can be approached in different ways. In the Islamic tradition, every discipline begins with a discussion of the 'eight outlines' (*al-ru'ūs al-thamāniyya*),[43] including: (1) the definition of the discipline, (2) its subject-matter, (3) its benefits, (4) its founder, (5) its sections and problems, (6) its place among other sciences, (7) its purpose, and (8) methods of teaching it. Alternatively, philosophical books sometimes began with deep philosophical problems, which stimulated the interest of students, since in this way students learned about certain important ramifications of philosophy and philosophising. In *Principles of Philosophy and the Method of Realism*, Ṭabāṭabā'ī adopts a new way of embarking on philosophy, in which philosophical thinking, or to put it differently, philosophising is taught—an unprecedented approach in work by Muslim philosophers.

In Ṭabāṭabā'ī's espoused approach, when embarking on philosophy an intellectual should take note of three premises, and in his book—*Principles of Philosophy and the Method of Realism*—only the third is elaborated, because he takes the first two as self-evident. Here are the three premises:

> 1. "There is a reality." We recognise that there is a reality, although to understand its properties, features, and laws, further reflection and inquiry are required. However, the very fact that "there is a reality" is a self-evident proposition, which is not in need of proofs. The proposition is so certain that even if someone claims that "all of our perceptions are inaccurate," this very claim will indeed remain an acknowledgement of there being a reality, which our perceptions fail to correspond with.[44] Moreover, any doubt or denial is itself a reality. What is more, there is an acknowledged reality inherent in any voluntary act. In fact, that "there is a reality" is not only self-evident, but primitively self-evident (that is, it is endorsed once it is contemplated, without a need for any middle terms).[45]

> The proposition can be taken as underlying the whole human knowledge, just like the principle of contradiction.[46]
>
> 2. "Knowledge of reality is possible to some extent." This is not to say that knowledge of all realities is available; this is to say, instead, that knowledge of some reality is possible. Moreover, the proposition does not purport to say that full knowledge of various realities is possible, but it says that knowledge of reality is possible, irrespective of the extent of reality represented by such knowledge. In Ṭabāṭabāʾī's view, this much of the possibility of discovering the reality is undeniable, because endorsement of the first premise—that "there is a reality"—is knowledge of reality in one way or another. In this way, this premise is also self-evident.
>
> 3. "We know that errors occur in understanding the reality". This is an empirically self-evident proposition, which is why Ṭabāṭabāʾī puts forth evidence for it: "we often suppose something to be true, to subsist, and to exist, and then we learn that it was false and groundless, and we often suppose that something is non-existent and false, and after a while it becomes clear to us that it was true, with many effects in the world".[47]

Early in this article, Ṭabāṭabāʾī provides the following definition of philosophy, in which he takes the subject-matter and goal of philosophy to be one and the same thing—the reality:

> Since we have, at any rate, the instinct of inquiry and quest concerning that which is available to us and of existential causes of which we are aware, we should discriminate real and genuine beings—realities, in the philosophical jargon—from fictitious beings—constructed and illusory beings— and in addition to such instinctive inquiry, we embark on any discipline of science[48] to meet the needs of our lives. Establishment of any feature of beings for their subjects requires a proof of the prior existence of the subject. A series of discursive issues, which serve to fulfil the above goal, and result in proving the real existence of things[49] and specification of causes and occasions, as well as the manners and degrees, of their existence is called philosophy.[50]

Ṭabāṭabāʾī uses three terms here, which need to be spelled out: reality (*ḥaqīqa*), estimations (*wahmiyyāt*), and constructed (or conventional)

beings (*i'tibāriyyāt*). In his commentary on this passage, Ayatollah Muṭahharī clarifies these terms as follows:

> For the philosopher, perceptions and mental concepts combine to constitute three major classes:
>
> 1. Realities (*ḥaqā'iq*): concepts with real instances in the external world.
>
> 2. Constructions (*i'tibāriyyāt*): concepts that have no real instances in the external world, but reason constructs instances for them; that is, it assumes something which is not a real instance of such a concept as its instance.
>
> 3. Estimations = *wahmiyyāt*): concepts that do not have an instance in the external world and are utterly empty, such as concepts of *ghoul* ('monstrous humanoid' in Arabic and Persian folklore) and *Simurgh* (a mythical bird in Persian literature), chance,[51] and the like.[52]

In the fifth and sixth articles of his *Principles of Philosophy and the Method of Realism*, Ṭabāṭabā'ī provides a detailed elaboration of senses and kinds of constructions, but in order to have a rough idea of what he means by "constructions," let us illustrate it through the following example:

One's body, his bodily faculties, and all of his mental imagery are part of his being, and are possessed by him. Here, possession amounts to his authority in manipulating them in whatever way he chooses—he does not need to obtain permission from someone to deal with them, since they are absolutely under his control. In fact, his mind constructs a concept from this relation to which he refers as "possession." Now when he says "I possess this book", he claims to have the same relation with the book as the one he has with his body and its faculties. This is because he wants to have an exclusive right to manipulate the book. Although the claim is literally false, because the book is not in fact his possession, since it is by no means related to his being—he and the book are separate beings, so to speak. Despite this, since the construction of his possession of the book—assuming that it is an instance of his possessions—has an impact on his life (which he needs), his mind makes such a construction by way of metaphor so that he can deal with the book in appropriate ways.

From this it can be seen that constructions and illusions are both mentally posited—that is, they do not enjoy external reality—except that the former have effects and benefits in our lives, because of which we need

to construct them. In this way, such *constructions* are brought about and accepted by rational agents in order to meet certain social needs. In fact, what is respected in different societies as moral dos and don'ts is a matter of such constructions and social conventions. Moral constructions are elaborately discussed by Ṭabāṭabāʾī in the sixth article.[53]

The human need for philosophy

Since their childhood, human beings have different existential faculties, which can in general be divided into natural-instinctive and rational faculties. Each of these faculties have demands and requirements, and in order to achieve happiness, human beings need to satisfy the needs of these faculties.[54] Although these faculties never cease to exist, some of them might be ignored because of excessive attention to others. The spirit of questioning and the need for knowing and discovering the truths, which exist in all people since their childhood, result from their rational faculty. If someone used to constantly ask "why" questions in their childhood, but ask fewer or no questions and cease to seek the truth when they become adults, this is not because their questions have been answered or there remains nothing unknown to them. This is indeed because they have been indifferent to their rational faculty, being concerned with fulfilling the needs of their instinctive faculties at the expense of their truth-seeking spirit. An indifference to a faculty (such as the rational faculty) occurs when one gives all their attention to their other existential needs, forgetting or failing to care about that faculty. On this account, since the rational faculty is an existential faculty of human beings, what it wants—that is, the discovery and understanding of the truth—is a real human need, and if this innate need is left unheeded, one cannot achieve happiness.[55]

Human and non-human animals have similar instincts. An animal understands the world as it is portrayed by its instincts. In other words, its instincts determine what is beautiful or ugly, what is lovely or fearsome, it sees everything as coloured by its instincts and through its natural needs. It cannot see the world or the reality as it is. In fact, all elements of the world and the order and relations obtaining between them are constituted in an animal mind as required and dictated by its instincts. A deer sees predators as dangers, and grass and leaves as edible things, pure and simple. It never seeks to have further knowledge of the reality of these things.

Human beings are still in an animal realm as long as the world and reality are defined for them by their instincts, although they enjoy greater intelligence. The fact that human intelligence is by far greater than animal intelligence does not on its own constitute evidence that their knowledge of the world is not bound by instincts. This only facilitates the way in which they can fulfil their instinctive needs. Studies of lives of different animal species clearly show that there are different degrees of intelligence among animals as well. Those animals that are endowed with greater intelligence have formed more sophisticated social lives in order to fulfil their needs and experience less dangerous and safer lives. From this it follows that the degree of intelligence is not what distinguishes the human species from other animal species, since both are, more or less, endowed with intelligence.[56]

In Ṭabāṭabā'ī's view, what distinguishes humans from other animals is the concern with the reality *qua* reality. In other words, humans can seek the reality as reality in virtue of their rational faculty, as opposed to the reality as conditioned by what is apt to their desires and instincts. If you reflect upon your own self, you will find that you would like to perceive the reality as reality, and you enjoy its discovery. This is your rational faculty, which needs to discover the reality and brings about a feeling in you to you seek the truth. It is this concern with understanding the reality that leads humans toward a world above the animal realm—toward a genuine world not portrayed by one's instincts, namely the world as it is in reality. As a result, humans and animals are mainly discriminated by virtue of the rational faculty, and when the need of this faculty—that is, knowledge of the reality qua reality—is fulfilled, one will effect an entrance into the genuine world or the human domain into which animals have no means of entry and for which they have no motivation because they are deprived of the rational faculty.[57]

Ṭabāṭabā'ī explains in plain words that humans can embark on a course of reflection and questioning in order to satisfy their rational needs. What can be the primary concerns and questions of a person who seeks the truth? In his first attempt at finding the truth, an inquirer faces the challenge that his purported knowledge of truth might be accompanied by falsehoods, illusions, or constructed delusions. A thinker might well have spent a lifetime seeking to make judgments about something which might not exist at all—a total illusion. Experience shows that there is often a non-existent entity which is deemed existent and there is often

an existent entity which is deemed non-existent. This significant concern demands inquiry into "reality/truth/existence/being."[58] In this account, the subject-matter of the science of philosophy is reality, and its primary goal is to discriminate truths from falsehoods, illusions, and constructed delusions. Therefore, it is necessary to discuss and inquire into reality. Can one imagine an inquiry more valuable than reflection upon the reality itself, which is common to all entities in the world?

From these remarks about our primary need for philosophy we might conclude that in order to attain happiness one needs to meet the demands of their own rational faculty, which is to discover and understand the reality. In this way, we can provide for our existential need, on the one hand, and on the other, try not to fall into falsehoods, illusions, and constructed delusions lest we spend our life seeking nothingness. From this very goal we can discover the way to achieving happiness. The only way in which the truth can be discovered by way of certainty is rational demonstration.[59]

The need of other sciences for philosophy

Different branches of sciences, through which one can obtain knowledge of the variety of facts, are each concerned with particular facts. Thus, calculus is concerned with numbers, and medicine with physical health and disease, and these are indeed the subject-matters of those sciences. Practitioners of each science deal with the characteristics of its subject-matter, but they never discuss whether, say, bodies or numbers exist, and if they do so, they are well aware that this is just a digression. The only science in charge of discussing the existence of things, including subject-matters of other sciences, is philosophy. This is because, as pointed out earlier, Ṭabāṭabā'ī considers the truth as the subject-matter of philosophy, and its primary goal is to discern the reality from falsehoods, illusions, and constructed delusions. Any science needs a subject-matter in order to be what it is; and if philosophy recognises the subject-matter of a science as unreal, illusory, and constructive, then the science will not be what it is. Consider a person who talks about the features of ogres. Even if he publishes all his speeches, they will not qualify as scientific, but will still be mere myths. In fact, the distinction between science and myths is a matter of reality and factuality of their subject-matters. If philosophy concludes that a subject matter is unreal, then all talk about it will be mere myth.[60]

That being so, before venturing into any science, scholars should know the subject-matter into which they seek to inquire; that is, they should have an idea of the subject-matter in question. Next, they should determine whether the subject-matter they have defined and conceived exists or not. The problems of a science, which consist in particular issues about its subject matter, can be addressed only if the subject matter is first defined and endorsed as existent.

Otherwise, no scientific work concerning that subject-matter can get off the ground. Thus, if the subject-matter of a science is the human psyche or soul, then to begin with they need to have an idea of what *psyche* is; next, they should establish its existence so as to form the science of psychology, which investigates the states of psyche. Therefore, according to Ṭabāṭabā'ī, the definition of the subject-matter and the establishment of its existence are tasks taken up by a science other than factual sciences such as physics and chemistry. This other science—philosophy—is more general in its scope than the rest, and it grapples with what is real.

Obviously, however, the definition of a subject-matter does not implicate all of its characteristics, which are indeed addressed by the proper science devoted to that subject-matter. By definition we mean a piece of knowledge required for such a full-fledged discussion of its characteristics and rulings. Moreover, the laws expressed by philosophy for "reality" applies to all particular realities, which are subject-matters of other sciences. Sciences draw upon general rules which are discussed in philosophy, such as impossibility of contradiction, causation, homogeneity of causes and their effects, and so on.

Moreover, having discussed the reality of the subject-matter of a science and its place in the universe, philosophy provides an account of the way in which that reality—that is, the subject-matter in question—can be investigated. For example, 'numbers and quantities' in mathematics can be investigated in rational terms; that is, by proofs, whereas the study of 'body in terms of health and disease' in medicine can be done via observation and experiment.

One might question the claim that sciences depend on philosophy for the establishment of the existence of their subject-matters, since they discern the existence of objects through observation and experience, determining the scopes of their subject matters in accordance with their findings. To this we can reply that the mere fact that something is self-evident or obvious does not exclude it from the scope of the subject-matter

or problems of a science. Every piece of knowledge belongs to a specific science, even if that knowledge is obvious, such as primitive and obvious mathematical propositions. The question of whether things exist is part and parcel of philosophy, even if the answer to it is obvious. Moreover, it is not obviously observable whether subject-matters of all sciences exist. There are, indeed, subject-matters such as moral phenomena whose existence or reality and constructedness are complex philosophical issues which cannot be addressed without philosophical expertise.

The impact of philosophy on sciences

Having clarified why sciences need philosophy, further reflection will reveal how philosophical approaches can affect and reshape all aspects of human life. Consider a philosophical school which regards the material world as mere illusions and mirage, restricting the reality to the immaterial and the supernatural. In this approach, all empirical sciences which take material phenomena as their subject-matters will be invalid in a society in which that approach is dominant. The same is true of a philosophical school which restricts the reality to the material, treating anything beyond matter as illusory and mirage. In this approach, all talk of the supernatural will amount to mere myth.

Not only does philosophy leave an impact on certain empirical sciences such as physics and chemistry, but it also affects art, literature, economics, politics, culture, and in sum it might change everything in a society. In other words, with the change of the philosophical approach dominating a society, the society will change through and through. In the light of Ṭabāṭabāʾī's remarks, we can define and analyse the notion of imported sciences. These are sciences imported from another society in which an alternative philosophical approach is dominant (that is, a different view of how to discern the reality from falsehoods). Once they enter a host society, such sciences will inevitably import their implicit philosophical outlook, which will in turn lead to an encounter and conflict between philosophies (the imported philosophy and the host philosophy), and with this a conflict between cultures, beliefs, and lifestyles will ensue. More plainly speaking, if a society receives an imported science for any reason, it will thereby receive the philosophy of a society in which that science was formed.

From the above remarks about the reason why sciences need philosophy and the impact of philosophy on sciences, we can conclude that for a science to be factual, its subject-matter has to be real, and the

science in charge of discerning what is real from illusory and constructed things is philosophy. In this way, the second reason behind people's need for philosophy lies in the need of other sciences for philosophy—a need that plays a crucial role in people's lifestyles.

The method of research in philosophy

Having discussed the subject-matter of philosophy and the human need for it, we have to seek a method by which the goals of philosophy can be attained; that is, methods for discerning falsehoods from truths. To be sure, the method for such a research should definitely be immune to errors. The possibility of error in the method of knowing the reality preserves the possibility that our research deviates from the truth. According to logical studies, the only method which confers certainty and is immune to errors is demonstration or demonstrative argument (*burhān*). Any logical argument, comprising of at least two premises, has a form and a matter. A syllogism, the form of a demonstration, is an argument which is certain or indubitable in its form[61] and will certainly lead us to an accurate conclusion. Certitudes (*yaqīniyyāt*), as matters of demonstration, are certainly known propositions deployed in the premises of an argument, and for this reason, there will remain no way in which errors might creep into a demonstration. Every end demands its specific means. If the end of philosophy is knowledge of the reality and its discernment from falsehoods and illusions, it should be attained through demonstration, because it is the only rational method which is certainty-conferring and immune to errors.

The question arising here is if the method of philosophy is rational demonstration, and if demonstration is immune to errors, then why is there so much disagreement among philosophers over all sorts of issues? To answer the question, the following pair of considerations should be noted:

1. For an issue to be rational and demonstrative is not for it to be self-evident and generally comprehensible. An issue might be rational and yet be so abstruse that people cannot commonly understand it. It is wrongheaded to think that all people can understand all rational problems just by virtue of their power of reason. Can all people understand complex theories such as Einstein's theory of general relativity just because they live in, and have a notion of, time and space? Can all Arabs comprehend semantic layers of Qur'anic verses just by

dint of their ability to understand Arabic? Such facts can be unveiled by a physicist or an exegete only after years of reflection and hard work. Similarly, how could one imagine that a science dealing with the reality can be easily grasped by people only due to their power of reason?

2. If logical conditions of a demonstration are not fulfilled, then it will no longer be a demonstration; at most, it will be a pseudo-demonstration. Put differently, we should distinguish between an "alleged demonstration" and a "genuine demonstration." Just as Muslim scholars seek to find out about what the Prophet of Islam has commanded, but only some of them arrive at this, chemists do research on an element, but not all of them can discover the element and its features. Likewise, disagreements among philosophers can be traced back to such pseudo-demonstrations.

Definition of science and what distinguishes different sciences

When they discuss the structure of sciences, Muslim philosophers talk about two notions of science (*al-ʿilm*): (1) science as knowledge which consists of conceptions (*al-taṣawwurāt*) and assents (*al-taṣdīqāt*), such as our knowledge of this book or our knowledge of the proposition that "clouds move by wind force," (2) science as a discipline in which a series of interconnected items of knowledge are discussed, such as the science of mathematics and the science of physics. In his discussion of how *ʿilm* needs philosophy, what Ṭabāṭabāʾī has in mind is *ʿilm* in the sense of a discipline, rather than *ʿilm* in the sense of knowledge (consisting of conceptions and assents). The question arising here is why a group of propositions is picked out and labelled as, say, physics, mathematics, medicine, or chemistry? Of course, our question concerns factual sciences such as mathematics and chemistry,[62] rather than conventional or constructed sciences, such as law.

The answer is that a factual science has a subject-matter such that in each problem a judgment (a predicate) is established for it, where the judgment or predicate serves as its essential accident (*al-ʿaraḍ al-dhātī*). In other words, the subject-matter of a science is a reality, of which a series of interrelated judgments are made, which serve as its essential accidents or properties. That is, such judgments are inextricably and necessarily linked to the reality in question—a sort of link they do not have with other subject-matters. In each science, there are various problems which are characteristically detached from subject-matters and problems of other sciences and are linked to their own sciences. This is because there is a

necessary relation between such problems (or judgments) that is just true of a single subject-matter.[63] In this picture, different judgments are made of the subject-matter of a science, which are its essential accidents and are exclusive to them. This is how a science is formed and distinguished from other sciences.

How philosophy needs sciences

Does philosophy need another science to establish its preliminaries? The answer is negative, because the subject-matter of philosophy is general reality which can be self-evidently conceived: it does not need to be defined and is necessarily and undeniably assented. If philosophy does not need other sciences in its preliminaries, is it self-sufficient in its problems as well? In response to this question, Ṭabāṭabā'ī says: "Just as all sciences depend on, and need, philosophy for the firmness of their quests, philosophy depends on certain problems of other sciences in some of its own problems; it deploys their results and abstracts problems therefrom."[64]

To explicate these remarks, we can indicate that any logical argument consists of two premises and a conclusion. The second premise of such arguments is often called the major premise, in contrast to the first which is often called the minor premise. Consider the following schema of an argument, (1) A is B, (2) B is C, therefore, A is C. In the conclusion of this argument, the predicate of (2), C, is predicated on the subject of (1), A. According to Ṭabāṭabā'ī, in philosophy the first or minor premise might be derived from other sciences. However, the second major premise is always a philosophical rule or proposition. Let us now have a look at Ṭabāṭabā'ī's example of scientific conclusions in philosophical arguments. On the assumption that scientists could empirically observe the particles that constitute an atom, ʿAllāmah Ṭabāṭabā'ī writes:

> It is true that, having discerned the judgments and features of a subject-matter through scientific quest, we more often discern how it exists and understand what kind of existence it is and with what causes it is connected. For example, in natural sciences we establish that proton is part of matter which rapidly rotates, then we say that there is circular rotation in the external world. Obviously, these are two separate propositions. For the first talk—that part of matter, the proton which rotates—rests

> upon natural proof and scientific experiment. And the second talk—that there is circular rotation in the external world—relies on the first talk, rather than having been directly derived from proofs and experiments.[65]

Ṭabāṭabāʾī's example consists of two premises and a conclusion. The first premise: proton is part of matter with rotatory motion. The second premise: each part of matter is real (that is, when matter is real, each of its parts is also real). Conclusion: rotation (which is a feature of matter) is real. As can be seen, the philosopher discusses the existence of a subject-matter (rotation), except that the first premise is an argument from the science of physics, and the second is a problem of the science of philosophy, and the conclusion is philosophical in that it makes a judgment about whether or not a subject-matter exists.[66]

The extent to which philosophy needs other sciences

It should be noted that a premise derived from another science should be well-established by that science, rather than being a mere unestablished hypothesis therein. When drawing upon scientific propositions, philosophy always defers their establishment to the relevant sciences because their consideration falls outside the scope of philosophy. In this way, philosophy assumes the composition of physical objects from subatomic particles as "axioms," just as it used to treat the Ptolemaic theory of nine celestial spheres in a similar vein. Whenever there is a development in theories of empirical sciences by modification or falsification, the conclusions of philosophical arguments in which such scientific theories are exploited will also change. In fact, a criterion for the firmness of a philosophical approach is its ability to stand on its own feet and be as less dependent on other sciences as it might be. An advantage of the philosophical approach of "Transcendent Philosophy" which was founded by Mullā Ṣadrā (1572-1640) over Islamic Peripatetic philosophy, whose major practitioner was Avicenna, is that the former draws much less upon empirical findings, whereas the latter relies heavily on such findings, which is why it had to undergo revisions in many respects because of developments in natural sciences.[67]

According to Ṭabāṭabāʾī, in the first instance, philosophy is analogous to other scientific disciplines[68] in that it is a research about a real subject-matter,[69] and its relation with other disciplines is considered in terms

of its subject-matter. Secondly, in this way, Ṭabāṭabā'ī comments on those philosophical approaches which allegedly relied on scientific conclusions. Such schools rebuke other philosophical trends that tend to draw less upon the findings of empirical sciences. Ṭabāṭabā'ī began with an elaboration of the respective subject-matters of sciences and philosophy and their mutual exchanges in order to show the extent to which this claim is unreasonable.[70]

Philosophy and science are not mutually exclusive

Importantly Ṭabāṭabā'ī emphasizes that Islamic philosophy does not view philosophy and science as mutually exclusive. According to Islamic philosophers, philosophy is just a science just as mathematics, chemistry, and physics are.

This is why they do not treat philosophy in line with other human cultural products, such as religion,[71] art, and literature so as to discuss the relation between philosophy and sciences. Instead, they subsume philosophy under and besides other factual sciences.

Just like any other sciences, philosophy has a subject-matter and it is with features of this subject-matter that it is concerned. To be sure, any science can deal with its own subject-matter, and if the practitioner of a science discusses the subject-matter and problems of another science, he or she has thereby engaged in another science, departing from his or her scope of expertise, in which case his or her view will be rendered as unscientific and non-expert. There are, undoubtedly, relations between philosophical and scientific problems, either of which can in certain cases draw upon certitudes of the other.

The relation between problems of philosophy and those of sciences

From the above remarks about Ṭabāṭabā'ī's view of the subject-matter, method, and goal of philosophy and science, one might glean his view of the relation between philosophical and scientific problems. In the first article of his *Principles of Philosophy and the Method of Realism*, Ṭabāṭabā'ī draws a sharp line between the problems of philosophy and those of sciences. He articulates the relation between the two types of problem by way of objections he levels at proponents of what he calls science-based philosophies. By "science-based philosophy" he means a

philosophy whose arguments rest upon scientific conclusions and which is committed to exploitation of scientific hypotheses in its arguments, maintaining that philosophical problems should be thus related to scientific problems. Ṭabāṭabāʾī levelled his objection against dialectical materialism, since during his lifetime this philosophical school had put forth challenges to Muslims in Iran, to which Ṭabāṭabāʾī, as the most prominent Muslim philosopher of the twentieth century, tried to respond. That said, Ṭabāṭabāʾī's objections are not limited to dialectical materialism. Instead, they are directed at any such philosophical conception of the relation between philosophy and science. As we shall consider in what follows, such claims about the relation between science and philosophy have been very frequent in recent centuries and have been articulated in different ways.

ʿAllāmah Ṭabāṭabāʾī's critique of science-based philosophies

Ṭabāṭabāʾī begins his discussion with elaborate articulations of objections raised by certain proponents of science-based philosophies against philosophy as defined by Ṭabāṭabāʾī. Below is a succinct formulation of these objections.

According to proponents of science-based philosophies (dialectical materialists, positivists, and empiricists), metaphysical philosophers sit in an armchair, trying to discover the truths of the world through reasoning, while empirical sciences are at work, discovering the truths of the world one after another through sophisticated tools and convoluted techniques in advanced laboratories and workshops. To put it the other way round, knowledge of the reality takes place where scientific-empirical activities and sophisticated tests are being done. They even go so far as to claim that there is a philosophy that is built upon sciences, drawing on the most recent scientific findings. They refer to their preferred philosophy as science-based, as opposed to a philosophy merely based on rational arguments and a series of abstract concepts. Their claims can be encapsulated as follows: (1) empirical sciences can clarify facts, (2) philosophy should widely deploy empirical sciences, and (3) the method of philosophies that are unrelated to science does not amount to a careful scientific study of facts in the world.

As pointed out before, Ṭabāṭabāʾī's remarks are not limited to dialectical materialism, and indeed they can be extended to a wide range of philosophical approaches as they adopt somewhat similar positions.

Thus, his objections apply *mutatis mutandis* to the work of those like Auguste Comte (1798-1857) who espoused positive philosophy[72] as well as other positivists who have conflated scientific problems with philosophical problems, holding that the latter should be derived from the conclusions of the former. Ṭabāṭabā'ī's remarks in rejection of such claims can be outlined as follows:

> (a) Philosophy is a science besides (rather than resting upon) other sciences, though its issues are different in kind from those of other sciences, (b) philosophy sometimes (and under certain conditions) deploys the conclusions of other sciences in minor premises of its demonstrative arguments, (c) scientific conclusions are informed by a series of rational principles which are established by philosophy, (d) philosophies such as dialectical materialism have universal rational principles which they have not derived from sciences; instead, they substantiate them through philosophical discussion (in the sense outlined above), (e) the very claims (universal propositions) they make about metaphysical and science-based philosophies are not scientific as they do not rest upon scientific conclusions, and (f) if dialectical materialism rested upon science, and if its theories were in constant change, just like science, then their claim that "philosophy is accurate and efficient insofar as it rests upon science" would not be constant and accurate; it would instead be in constant change or at least would be changeable.

To elaborate, sciences discuss the features of their subject-matters, as pointed out before, and the answer to what exists and what does not lies not in the jurisdiction of sciences, but in that of philosophy. Hence, from the outset, Ṭabāṭabā'ī suggests that philosophical issues are different in kind from scientific issues, as the former are concerned with absolute reality and "what exists," whereas the latter seeks to discover the features of its subject-matter, which it presupposes, if it is not already self-evident. More technically speaking, philosophy is concerned with existential "is" while sciences are concerned with copular "is."[73] On this account, it is never possible for a philosophical problem to be subsumed under problems of physics or mathematics, and on the other hand, it is never possible for a scientific problem to be subsumed under problems

of philosophy. In this respect, there is no difference between materialistic and metaphysical philosophies. If a philosopher does scientific work or a scientist does philosophical work, they are thereby led out of their areas of expertise and engaged in a foreign field. No philosophical issues can in this way turn into a scientific problem, or vice versa.

Ṭabāṭabāʾī quotes proponents of science-based philosophy as saying that the conclusions arrived at in metaphysical philosophy rely on a series of rational premises and suppositions that are neither confirmed nor disconfirmed by experience. However, a science-based philosophy relies on science, where science makes constant progress through empirical and sensory methods, from the results of which people benefit in their lives. For this reason, in such philosophies, only what is established by senses and experiences are endorsed. Moreover, they attack metaphysical philosophy because of its stalemates in certain issues; for example, they persist in saying that "contradiction is impossible" for over a thousand years, whereas science-based philosophies make progress and change their principles and ancillaries along with the progress made in science, discarding old principles and replacing them with new ones.

Ṭabāṭabāʾī replies to these objections in a short passage, which I elaborate as follows: the main question to be answered is which of the two philosophies (metaphysical and dialectical materialism or science-based philosophy) derives its premises in an accurate and proper manner. In other words, dialectical materialism also has primary principles, which it has not derived from sciences, and it is with those principles that we take issue, as these determine which of the two philosophies is correct. Ṭabāṭabāʾī argues that remarks made by his opponents about his brand of philosophy and their own brand of philosophy are self-refuting. They say of metaphysical philosophy that (i) it is nothing but simple rational assumptions uncorroborated by evidence, and (ii) it has principles that have remained unchanged for a thousand years and have faced a standoff. And then from these two premises, they jump to the conclusion that metaphysical philosophy is inaccurate and futile. Moreover, of their own philosophy they say (i) it rests upon sciences, and (ii) evidence for accuracy of sciences is the multitude of products it produces on a daily basis. Then they jump to the conclusion that dialectical philosophy is accurate. Now Ṭabāṭabāʾī asks which science establishes these claims about metaphysical and dialectical philosophies. Are these self-evident? There is no doubt that no science yields, or even considers, such premises. In sum, none of

the propositions about metaphysical and science-based philosophies are derived from other sciences such as mathematics and physics, because these are not part of natural or mathematical problems. If there is a science that deals with these principles, that science is philosophy.

The reason why metaphysical philosophy is not as changing as other sciences is that most other sciences tend to work on the basis of hypotheses, whereas philosophy works on the basis of self-evident propositions. The difference between hypotheses and self-evident propositions should be noted: the latter are constant and never change, while the former are not constant as they are not proved by sciences; instead, they are assumed as they are helpful for scientific calculations and are compatible with extant evidence. Specific sciences proceed by such assumptions, and as long as they do not encounter counter-examples in their empirical observations, they continue to work with those hypotheses. In fact, many of what scientists propose as laws are hypotheses. For instance, Newton's law of universal gravitation was a hypothesis which was later dismissed by Einstein's theories, as some people said that Newton's law is only true of things not too small and not too large, but it is not true in too small or too large worlds. Since Newton's hypothesis worked for the sensible and the ordinary, scientists assumed it as true and proceeded with it.

A hypothesis is neither self-evident nor speculative in the sense that it is deduced from a self-evident principle. A hypothesis is a principle whose truth is neither obvious nor explanatory; instead, it is merely assumed and might be provisionally accepted.[74] Such hypotheses develop with the development of experiments, but a theory is a proposition that is, unlike a hypothesis, well-established and certain.

This sheds light on the inaccuracy of another part of these claims. Many advocates of dialectical materialism assume that utility and efficiency are criteria of the truth of their remarks, saying that since science has proved itself by way of its efficiency, leading to our increasing mastery over, and our domination of, the nature, then if our philosophy becomes science-based, it will be efficient, where efficiency will be evidence of the truth of such philosophy. It should be known, nevertheless, that first of all, efficiency is more general than truth in the sense that a hypothesis might work for a while on a particular scale and concerning certain things, although it proves false in other cases and is replaced by another hypothesis. To be sure, even if such a method works in empirical sciences, it does not in philosophy because philosophy is concerned with

absolute reality judgments which are universal and invariable. Moreover, to presuppose the possibility of errors in philosophical propositions (in order to attain provisional efficiency) will undermine their philosophical validity, in which case it will fall outside the scope of philosophy.

Philosophy never undergoes changes and developments in that it works not with hypotheses, but with self-evident propositions It should be noted that here we talk about philosophy as defined, rather than philosophies that deny self-evident propositions. Such philosophies rest in turn on certain assumptions.[75]

Homogeneity of philosophical and scientific problems with their subject-matters and methods

Early in this paper, it was pointed out that the subject-matter of the science of philosophy is absolute in the sense that it has no constraints, while subject-matters of other sciences are constrained or qualified. Philosophy discusses absolute reality (or existence), and judgments it makes about existence are made insofar as it is absolute and unqualified, which is why its judgments are always universal. Subject-matters of other sciences are qualified in one way or another, such as material being, moving material being, etc. From this it follows that practitioners of other sciences cannot as such comment on the subject-matter and problems of philosophy. If a scientist whose expertise is optics is concerned as such with stem cells, his or her remarks will not count as scientific and in this he or she is not better-positioned than a layperson. The same is true if a scientist talks about what is and what is not. If he or she says that matter is the only thing there is, these words should not be heard as such and are merely expressive of a hypothesis, since the area of his or her expertise consists in material beings, and he or she is not thus in a position to make a judgment about the whole universe or about what exists or does not exist. From this it also follows that since sciences are concerned with particular realities, their scientific conclusions are limited to the reality in question, rather than applying across the board or without qualification.

It should be noted that what determines the method to be deployed in a science is its subject-matter. If the subject-matter of a science is material, and the proper method for dealing with the problems of the science is empirical, then this science cannot validly deal with subject-matters in which the empirical method is not viable. That being so, an empirical scientist is never in a position to answer questions concerning the origin,

the formation, and the fate of the world, since these and similar things are not matters of experience. However, philosophical studies whose subject-matter is absolute reality and whose method is demonstration are not similarly constrained, and the conclusions of such studies can apply to all factual subject-matters, regardless of whether they are empirical or not.

In this account, Ṭabāṭabā'ī believes that science might well judge that something exists, but since judgments of existence and non-existence lie within the jurisdiction of philosophy, its existence might be affirmed or rejected in philosophy. Similarly, when science judges that something does not exist, it is philosophy that determines whether it exists or not. No doubt, philosophy might subscribe to a judgment made in a science for its respective (qualified) subject-matter if it is made through a certainty-conferring method. However, if science extends a judgment it has discovered for its qualified subject-matter to the unqualified subject-matter (that is, absolute reality), that judgment cannot be deployed in philosophy. This is, indeed, another objection raised by Ṭabāṭabā'ī against the claim that philosophy should rest upon sciences.

Ṭabāṭabā'ī goes on to offer two examples, the first of which is a major philosophical issue, which had previously been discussed by Avicenna in his *al-Ishārāt wa-l-tanbīhāt* (Remarks and admonitions) with Khwāja Naṣīr al-Dīn al-Ṭūsī's commentaries[76] priori to Ṭabāṭabā'ī.

First example: According to Ṭabāṭabā'ī, old and modern physicians believe that when you think, certain events take place in a certain region of your brain. For example, when light comes to your eyes or smell comes to your nose or a sound comes to your ears, all these impinge upon your nervous system, and each will leave impacts on parts of your brain. For this reason, when there is a lesion in a certain region of one's brain, for instance one's hearing or vision will be destroyed, while one's ears and eyes are intact. It is proven in medicine that when thinking or undergoing emotions, parts of the brain begin to change. This much can be proved by an expert in medicine or neuroscience. Our question now is as follows: is such a physician or neuroscientist in a position to say that the nature of perception or cognition is exhausted by such neural events? Can he claim that there is nothing immaterial attendant with the process he or she has discovered for perception or cognition? There are many claims of this sort made by scientists or those who have founded their philosophies upon scientific findings. To be sure, based on what

we have said so far, the answer to these questions is negative. Ṭabāṭabā'ī concedes that whatever such scientists have proven for their respective subject-matters are true, but whether such events and processes within the human nervous system exhaust the nature of perception or cognition is a problem that lies in the jurisdiction of philosophy, since all these nervous processes might well be just preparatory grounds for perception or cognition, rather than its nature.

As a matter of fact, in each science existence is deemed equivalent to the subject-matter of that science, and when an empirical scientist affirms or rejects the existence of something, say, when a brain tumour specialist observes a human head and says "there is nothing there," what he means is of course that there does not exist the thing that he was looking for; that is, a tumour, in the patient's head. In this way, even though affirmations and negations are sometimes asserted without a qualification, they are indeed qualified by constraints of the subject-matter and method of the relevant science. Similarly, when a philosopher says that "there is no immaterial entity," it does not mean that there is no such entity in, say, human beings, but there is such a thing in heavens. Since the philosopher is concerned with absolute reality, when he or she judges that something does not exist, this amounts to saying that it does not absolutely exist, neither in the heavens, nor in human beings, nor in anything else.

Second example: On both sides of a mathematical equivalence, there might be positive or negative numbers, where the mathematician takes a positive number from one side of the equivalence, makes it negative, and then transfers it to the other side. For example, if "A = B + C" then "A – B = C." If 7 = 5 + 2, then 7 – 2 = 5. Although both of these propositions are correct, it does not imply the reality of negation and non-existence or conversion of a number of existences to non-existence, because non-existence is nothingness, which is not characterized by quantity, number, and reality. A non-existent entity (what does not exist) cannot give rise to a diminution in an existent entity (what exists). Despite all this, a mathematician conceives all these in the practice of mathematics whose subject-matter is numbers. Philosophy makes the same judgment about numbers, which have external reality that it does about other realities, since rational judgments admit of no exceptions. In this way, philosophy judges that both propositions above are correct, although the process imagined by the mathematician to do so does not correspond to reality.[77]

Conclusion

At the end of the first article of his *Principles of Philosophy and the Method of Realism*, ʿAllāmah Ṭabāṭabāʾī says, "a school of thought that seeks to prove the existence and non-existence of things is divided by a primary division into philosophy and sophistry (realism and idealism)". For Ṭabāṭabāʾī, such a division is only of historical value, which is why he writes, "all these divisions are of significance only in point of the history of philosophy, but they are not of much value to someone interested in discussion and critique, having no goal or ideal other than discernment of the right from the wrong and the true from the false".

Of course, Ṭabāṭabāʾī is not the inventor of the word "philosophy". In ancient Greek philosophy, the word has been used with different meanings and notions. Ṭabāṭabāʾī began his discussion of philosophy from the innate human need for finding the truth, suggesting that the starting points of any thoughts about the existence and non-existence of things are two self-evident propositions: (1) "there is a reality," (2) "we know this reality to some extent." He then concluded that the subject-matter of philosophy is reality without any qualifications, which is not discussed by any science other than philosophy. Next, drawing on the rule that the method of research about a science is determined by its subject-matter, he explained that the only method that can provide us with certitude about the absolute reality is that of demonstration. It was in terms of this subject-matter and method that he determined the scope and characteristics of philosophical problems, delineating their relation with scientific problems.

In this picture, realism shares a notion with philosophy. Ṭabāṭabāʾī does not contrast idealism with materialism, although in the history of philosophy they came to be known in contrast, and consecutively, to each other. What is worthy of consideration in these remarks by Ṭabāṭabāʾī is that he takes the "realist" as equivalent to "philosopher," rejecting that there may be two groups of philosophers: realist and idealist. Indeed, he believes that it is essential to being a philosopher to be a realist.

Endnotes

1 Given what Muṭahharī says in his detailed introduction to *Principles of Philosophy and the Method of Realism*, before the book's publications, articles in the book were passed around. In 1953, Muṭahharī manages to finish his footnotes on the first four articles of the book, and the book was published with his footnotes. He gradually finished his footnotes on the rest of the book, except the articles in the fourth volumes, which were delayed because of his disagreements over Ṭabāṭabā'ī's views.

2 Ibid.

3 Sayyid Hādī Khusrawshāhī, a contributor to the book's compilation and a student of Ṭabāṭabā'ī, writes in his note to the one-volume publication of the book (published under *The Principles of the Philosophy of Realism*) that "later, according to the master [Ṭabāṭabā'ī], Shahīd Muṭahharī invited ʿAllāmah Ṭabāṭabā'ī to Tehran. For several days and nights, they discussed those articles in Muṭahharī's house, and after solving the problems, Muṭahharī began to write his commentaries and exegesis of those four articles [in the fourth volume]" (Ṭabāṭabā'ī 2008a, 11).

4 The book was a major source of introduction to Western philosophy in Persian: "it is the first philosophical text that opened the doors of formal introduction to Kant's philosophy to Iranians" (Omid 2010).

5 Khusrawshāhī 2016, 133.

6 Ibid, 135.

7 Khusrawshāhī 2008, 29.

8 Ibid.

9 Nasr & Leaman 2013, 76.

10 For more about the details of conversations between Ṭabāṭabā'ī and Corbin, see Algar 2006.

11 See Iqna Website: www.iqna.ir/fa/news/4012829/

الميزان-مؤثرترين-كتاب-تاريخ-اسلام-علامه-طباطبايى-چگونه-با-فلسفه-غرب-آشنا-شد

12 Shayegan and Jahanbaglou 2016, 70.

13 On this, ʿAbdollah Javādi Amolī says: "the first works of Western philosophy entered our [Iranian] written culture in 1940s, which was the decade when enlightenment declined in Iran. A major characteristic of enlightenment or "intellectualism" was its inspiration from Marxism. Accordingly, the philosophy of dialectical materialism with all of its human and social implications and consequences became the focal philosophical concern of those in the Iranian society who were infatuated with Western productions" (Javadi Amoli 2008, 19).

14 In his introduction to *Principles of Philosophy and the Method of Realism*, Muṭahharī gives the following introduction to Dr. Arani:

As he himself acknowledges, Dr. Arani was a follower of dialectical materialism and one of the best scholars in this school of thought. See his editorial in the January-February 1949 issue of *Mardum* (People) magazine—the theoretical periodical of Tudeh Party of Iran. He was unique in the width of his knowledge and scholarly comprehension. In addition to the articles he published in *Dunya* magazine, his posthumous works were

frequently published by his advocates as pamphlets, including his pamphlet on dialectical materialism, the one on mysticism and material principles. Moreover, he published independent books, the most important of which is perhaps his work on psychology. Although about fifteen years have passed since Dr. Arani's death, advocates of dialectical materialism in Iran could not write better than him. Because of his familiarity with Persian language and literature and his rough familiarity with Arabic, Dr. Arani gave a better formulation of dialectical materialism, even better than what was proposed by Marx, Engels, which why his philosophical works surpass those of his predecessors. This is why although there are many writings and translations in this regard, we have mostly relied on Dr. Arani's words.

15 Roughly speaking, innatism is the philosophical and epistemological doctrine that the mind is born with ideas, knowledge, and beliefs. There has been a long-standing dispute among philosophers, especially between the rationalists and the empiricists, over whether and how we should count Kant as an advocate of innatism. Undoubtedly, Kant disagrees with the innatism introduced by rationalists such as René Descartes. Discussions about Kant's version of innatism revolve around what Kant did mean by the terms a priori knowledge and categories.

Explaining the meaning of innate knowledge, Murtaḍā Muṭahharī writes in the *Principles of Philosophy and the Method of Realism*:

Terminologically speaking, innate things (*fiṭriyyāt*) are used in two meanings and in reference to two cases. First, the knowledge that directly comes from reason, which reason naturally possesses without a need for the five senses or anything else. Second, widely accepted truths on which all minds agree and which no one can deny or have doubts about, and even if someone denies them or casts doubts about them on his tongue, he practically accepts them. (Muṭahharī 1985, pp. 58-59)

On the innatist interpretation of Kant, see Strawson 1989, p. 68; Scruton 2001, pp. 72-73. Against innatist interpretations of Kant, see Carus 1912, pp. 181-82; Talebzadeh 2010, pp. 79-95.

16 See Omid 2010; Ibid, 2002.

17 More on this later.

18 Muṭahharī 2016, 6:240.

19 By 'reality simpliciter' (*al-wāqi'iyyat al-muṭlaqa*) I mean reality as unrestricted by any constraints. This is in contrast to constrained or restricted realities such as humans, particular trees, mental reality, material reality, all of which are restricted by certain constraints.

20 'Allāmah Ṭabāṭabā'ī is not content with excluding these positions from the scope of idealism, adding "those who engaged in the discovery of the reality with a method other than the argumentative method used in philosophy, such as mystics," as well as "another group of philosophers who believe that, as per the scholarly method, the world consists of two kinds of entities: material and immaterial, and as per the scholarly method, call to purification from the mortal material world and promotion and attraction to the immortal rational world, as has been quoted from the like of Hermes, Apollonius, Pythagoras, Plato, and Plotinus. These people should not be deemed advocates of idealism who deny the reality since, based on their knowledge and insight, they are lovers of the truth and devoted to the reality, wishing nothing but to accomplish knowledge, practice, and service to humanity. They laid the foundation of this great palace, and it is improper for one to curse his father's loins and his mother's womb with the same tongue and

mouth that were created from his parents' bodies. In fact, to curse a research is just like the claim to be knowledgeable while displaying one's ignorance" (Ṭabāṭabā'ī 1985, article II).

21 Ameriks 2017, 21.

22 Ibid.

23 Ibid, 23.

24 Ibid.

25 See Dabashi 2017, 278-79.

26 Ṭabāṭabā'ī 1985, article III.

27 See Rasa News at: www.rasanews.ir/fa/news/243578/

علامه-طباطبایی-و-شهید-مطهری-فلسفه-اسلامی-را-از-سقوط-نجات-دادند

28 See Javādi Amolī 2008, 18-19.

29 Algar 2006, 326-51.

30 Note that the last article of the book is concerned with the issue of God.

31 For more on the relation between reason and revelation, see Pakdin Asl 2021.

32 Ṭabāṭabā'ī 2009, 17.

33 Ibid, 16.

34 Parkinson 2003, 187.

35 Cottingham, Stoothoff, and Murdoch 2013, 2:392.

36 For more about this view of ʿAllāmah Ṭabāṭabā'ī, see the first three essays of the following: Ṭabāṭabā'ī 2007b, 37-214.

37 See www.mehrnews.com/news/4144493/

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38 Ṭabāṭabā'ī 2008b.

39 Scruton 2002, 4.

40 See Muẓaffar 2013, 15, 17-18.

41 For an introduction to ʿAllāmah Ṭabāṭabā'ī's theory of constructions, see Pakdin Asl 2020.

42 In this paper, "factual sciences" are contrasted to conventional or "constructed sciences" such as law. The former include empirical sciences such as physics. Further elaboration of factual sciences is provided below.

43 About the "right outlines" see Masʿūd Taftāzānī 1991, p. 119.

44 This is because a proposition is inaccurate (or false, for that matter) if it does not correspond with the reality.

45 That is, the presentation of an argument for this proposition is not only unnecessary, but also impossible.

46 In the second article of the book, ʿAllāmah provides a rather detailed discussion of varieties of skepticism and the correspondence of knowledge with the reality, replying to questions concerning the problem.

47 Ṭabāṭabā'ī 1985, 1:34.

48 By this he means factual sciences. The difference between factual and constructed sciences will be clarified below.

49 The subject-matter of philosophy is the reality or existence. Its method is discursive (deployment of demonstrations or proofs), and its goal is to discriminate real beings from fictitious beings, or to prove real existence of things and specify their causes, as well as their manners and degrees of existence. It should be noted here that the subject-matter and the goal are the same.

50 Ibid.

51 Islamic philosophers hold that every single effect has a cause, and nothing can come to existence or change without a cause. This law is incompatible with the idea that things can happen arbitrarily or randomly (i.e., chance).

52 Ibid, p. 35

53 It is difficult and subtle to distinguish realities and constructions. The conflation of the two leads to many errors. In his commentaries on the first and the sixth articles of *Principles of Philosophy and the Method of Realism*, Muṭahharī mentions cases of such conflation between realities and constructions.

54 See Ṭabāṭabā'ī 1996a, 1:371-73; 8:80-81; Ṭabāṭabā'ī 2009, 1:78, 92.

55 As a Muslim philosopher and scholar, Ṭabāṭabā'ī sees this-worldly and afterlife happiness as dependent on actualisation of one's internal aptitudes. According to him, happiness is to actualise all potentialities within the nature of a being and to establish balance between them (see Ṭabāṭabā'ī 1996, 13, p. 190). The main such potentiality in humans is their intellectual faculty which needs to be actualized in order for them to achieve happiness.

56 See Ṭabāṭabā'ī 1996a, 1:413, 2:148, and 11:271-72; Ṭabāṭabā'ī 1999, 71.

57 As pointed out before, Ṭabāṭabā'ī draws a distinction between reason and intelligence, where he takes the latter to be shared by humans and animals, though humans are more intelligent than animals, and the former to be distinctively human.

58 Although there are slight differences between these terms, I will use them almost interchangeably in this paper.

59 In what follows, I elaborate more upon the method of philosophy.

60 There are two kinds of existence: mental and external, both of which are real or true insofar as they exist. Those who inquire into myths do something scientific in that they deal with certain mental images which do exist in minds. However, if someone claims that imaginary forms such as ogres and Peris exist outside of our minds, then that will be pure myth, which is not scientifically valuable. Moreover, although some philosophers point to the distinction between reality and myths under epistemological issues, it should be noted that Ṭabāṭabā'ī was strongly opposed to the separation of philosophy from epistemology, as he has made explicit in the introduction of the third article of his *Principles of Philosophy and the Method of Realism*. There, he says that the method of

demonstration in philosophy requires epistemological issues to be discussed subsequent to many ontological issues, although in this book he discusses epistemological issues prior to ontological issues because here he mainly aims to criticize dialectical materialism. In his philosophical books, such as *Nihāyat al-ḥikma*, he discusses epistemological issues after ontological issues as integral parts of philosophy.

61 For instance, if the first premise of our argument is "every A is B" and the second is "every B is C," then the conclusion will indubitably be "every A is C." The form of a syllogism is how its premises are arranged and conjoined. In this example, the form of the argument consists in the universality of both premises and the recurrence of the middle term (B) as the predicate of the first premise and the subject of the second.

62 Those that provide us with knowledge of the reality.

63 For example, judgments made in calculus such as evenness or oddness of a number, being a prime number, square roots, and integrals are irrelevant to subject-matters and problems of medicine and physics; they are just properly linked to numbers, which are subject-matters of calculus.

64 Ṭabāṭabā'ī 1985, 1:42.

65 Ibid, p. 41.

66 Propositions that belong to a science but are assumed true and deployed in another science are called "axioms."

67 As pointed out earlier, philosophy is concerned with general features of existence, which is not susceptible to any changes in that general features of existence are universal and invariable. More on this toward the end of the paper.

68 More on this in the next section.

69 That is, philosophy is not like art and literature or an intermediary technique between science and literature.

70 I will discuss Ṭabāṭabā'ī's view of the matter in the section on "problems of philosophy and science."

71 Here, "religion" refers to what tends to be regarded as a cultural product, rather than religion as conceived by Ṭabāṭabā'ī.

72 See Auguste Comte (1855) for his Law of Three Stages, which Comte believes is the best way to bring out what positive philosophy is.

73 In an existential "is" (or in Arabic, "*kān tāmma*), the predicate is existence (or reality) itself, such as *there is a physical object*, and in a copular "is" (or in Arabic, "*kān nāqiṣa*), the predicate is a state or feature of the subject matter, such as *The Earth is spherical*.

74 In the same book, Ṭabāṭabā'ī makes significant remarks about hypotheses; see the fifth article in Ṭabāṭabā'ī 1985, 2:103-113.

75 Toward the end of the first and second articles of *Principles of Philosophy and the Method of Realism*, ʿAllāmah elaborately discusses the views of those who deny self-evident propositions.

76 See Khwāja Naṣīr al-Dīn al-Ṭūsī 1996, 2:349-51.

77 ʿAllāmah Ṭabāṭabā'ī believes that quantity is an accidental category, which is to say that, in his view, numbers are not abstract or mental entities that do not have a reality in

the external world; rather, they are existing entities that are found both in material things and in immaterial things. For more on ʿAllāmah Ṭabāṭabāʾī's account of the category of quantity, see Ṭabāṭabāʾī 2007a, 2:413-23; and for more on the terminology of categories, see ibid, 2:337-44.

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