A Comparative Study on the Theory of Form and Matter and Its Role in Aristotle and Avicenna's Cosmology

Hossin Zamaniha

Department of Islamic Philosophy and Wisdom, Shahed University, Iran

zamaniha@gmail.com

Abstract

Aristotle's cosmology, especially his viewpoint about generation, is deeply rooted in the theory of form and matter. Although Avicenna accepts the Aristotelian theory of form and matter, he makes some alterations in this theory and redefines it in a new manner. His theory of form and matter despite its Aristotelian background is mostly influenced by his own metaphysical bases which are originally inspired by the monotheistic spirit of Islamic teachings. As a result, while in Aristotelian cosmology the prime matter of the world is eternal and uncreated, Avicenna by making a distinction between temporal eternity and essential eternity of the world, rejects the former while accepts the latter. Accordingly, the prime matter is essentially in need of an efficient cause to bring it to existence. Besides, since prime matter as the mere potentiality cannot exist without any actuality or form, necessarily the efficient cause at the same time bestows forms upon it. Consequently, while in Aristotelian viewpoint, forms are emerged in the prime matter due to its eternal motion toward the full actuality, or as he occasionally calls it, unmoved mover, in Avicenna's philosophy forms are bestowed upon matter by an external cause and the internal motion of matter just plays a preparatory role for its actualization.

Keywords: Aristotle; Avicenna; Form, Matter; Cosmology; Theory of Generation

Introduction

The theory of form and matter, usually referred to as *hylomorphism*, is one of the most controversial theories in the history of philosophy. This theory plays a vital role in Aristotelian philosophy, especially his cosmology and theory of generation. The term *hylomorphism* which is a combination of two Greek words: *Hule (matter) and Morphe (form)* connotes an idea upon which all things in the natural world are constituted from two different elements or to be more precise two modes of being. Although one can trace back the roots of this theory to the origins of Greek philosophy, especially in the ideas of Pre-Socratic philosophers, it was Aristotle who for the first time systematized and used it as one of his fundamental theories for philosophical interpretation of physical phenomena. Aristotle specifically applied this theory to explain the phenomenon of "change" or "motion" and founded his cosmology upon this theory. He used this theory not only in his cosmology but also by making some generalizations, expanded the usage of this theory to other fields of inquiry such as epistemology and psychology. He also took this theory as a key to solve the mysterious and puzzling problem of the reality

of the soul and its relation to the body. This theory had a great impact on the later philosophers, specifically his commentators and interpreters. By translation of his works into the Arabic language, Islamic philosophers like Farabi and Avicenna took his theory for granted, but they made some alterations to fit this theory into their whole system.

In this article, I am going to show that how Avicenna as one of the most influential Islamic philosopher changed the Aristotelian theory of form and matter, especially its metaphysical and cosmological consequences and fit it into his monistic philosophical framework.

1- Form and Matter and its role in Aristotle's cosmology

Aristotle begins his *Physics* by saying that "*when the objects of an inquiry, in any department, have principles, causes, or elements, it is through acquaintance with these, that knowledge and understanding is attained*" (Aristotle, 1995: 184a9-13). Then he asserts that in the science of nature again, our first task is to determine its principles and their fundamental characteristics. Later on, he says: "*The principles in question must be either one or more than one. If one, it must be either motionless... or in motion.*" (Aristotle,1995: 184b12-15). It is clear that in this work, Aristotle gets involved with two fundamental questions: first, what are the main (first) principles of nature? This question, in its turn leads to a more fundamental question, which is the question of unity or multiplicity of the principles of nature. The second question that Aristotle tries to answer is: whether we believe in the unity of principles of nature or not, is the ultimate principle of nature in motion or motionless?

These two questions arose due to the deep contemplations of Pre-Socratic philosophers, specifically Parmenides and his pupils. According to Parmenides' school what there is, is one and at the same time fixed and unchangeable. It means that for Parmenides plurality and change are nothing more than illusions of our sense organs and they have no reality at all. Although at first glance, these two ideas, namely the idea of monism and impossibility of change seem as two independent and unrelated matters, further contemplation shows that they are closely related to each other. Precisely speaking, we can say that the idea of the impossibility of change is deeply rooted in the Parmenides' misunderstanding about the oneness of being or the idea of monism. Therefore, in the first step, Aristotle disproves the idea of monism and explicitly criticizes it as being based on a kind of misunderstanding (Ackrill, 1981: 42).

To reveal this misunderstanding and refute the idea of monism, he resorts to a kind of lingual and semantic analysis of the verb "to be". He argues that things are said to be in many ways and it can't be said that all things, to be in the same way. Substances, qualities, quantities, and all other characteristics of these substances are said to be, but not with the same meaning (Ackrill, 1981: 43). When, for example, we say that Socrates exists it is different from saying that his skin color or his sense of humor exists. When we say Socrates exists, we are talking about a substratum that takes on different characteristics, but skin color is a kind of trait that inheres in Socrates as its subject. As a result, this claim that all the things that are said to be, are one is meaningless and vain. This directs Aristotle into more fundamental analysis, namely, the analysis of affirmative statements. When we say, for example, Socrates is tall, it does not imply the identity between Socrates and its tallness; rather, it shows a kind of relation between them. In other words, the verb (to be) and its derivatives in English as well as (to on) and its derivatives in the Greek language when is used as a copula in statements do not necessarily imply the identity of the subject with the predicate (Ackrill, 1981: 43).

After refuting the idea of monism, Aristotle tries to show the relationship between this idea and the idea of the impossibility of change. To explain the relationship between these two issues, one should analyze the Parmenides argument against the possibility of change. Aristotle himself mentions the Parmenides' argument as follows:

"*The first of those who studied philosophy were misled in their search for truth and the nature of things by their inexperience, which as it was thrust them into another path. So they say that none of the things that are, either comes to be or passes out of existence because what comes to be must do so either from what is or from what is not, both of which are impossible. For what is, cannot come to be (because it is already), and from what is not, nothing could have come to be*

(because something must be underlying). So too they exaggerated the consequence of this, and went so far as to deny even the existence of a plurality of things maintaining that only what is itself is." (Aristotle, 1995: 191a25-35).

We can explain the Parmenides' argument as follows: If there would be any real change at all, then something new comes into existence as a result of that. But we know that nothing new can come into existence because it comes into existence from nothing or it comes to existence from a thing which already exists. We know that it is not possible that something comes into existence from nothing or *ex-nihilo* and also it is not possible that something comes to existence from existence because if it exists, it does not make any sense to come to be again. By this baffling argument, Parmenides intended to show the impossibility of change. According to Parmenides and his school, when it is not possible that something new comes to existence, then there would be no change at all.

Aristotle tries to reveal the weakness of Parmenides argument against the possibility of change by showing the relationship between this argument and the idea of the univocity of being claimed by Parmenides and his school. According to Aristotle Parmenides rejects the possibility of change due to his lack of insight to distinguish between two different meanings of "to be":1- The existential meaning of "to be" upon which when we say something comes to be it means that something comes to existence after its nonexistence. 2- The predicative meaning of 'to be' upon which when we say something comes to be it means that something already exists, acquires or loses a trait or characteristic. (Shield, 2014: 62) For example, when we say there is a tree, or we say a tree comes to be, we are referring to the former meaning and when we say 'the tree is green' or 'the tree comes to be green' we are alluding to the latter sense of 'to be'. Aristotle himself confirms the difference between these two meaning of coming to be as follows:

"Things are said to come to be in different ways. In some cases, we do not use the expression 'come to be', but 'come to be so-and-so'. Only substances are said to come to be without qualification."(Aristotle, 1995: 190a31)

So Aristotle distinguishes clearly between two different meanings of change related to the two different senses of "to be": 1- change as generation 2- qualitative change. (Shields, 2014: 63) Aristotle contends that firstly because Parmenides reduces two meanings of 'to be' to the former one, then he rejects the possibility of qualitative change which is related to the second meaning of 'to be'. Secondly, because coming to be in the former meaning merely is possible if something comes to existence from inexistence or *ex-nihilo* and because in Greek philosophy especially in Pre-Socratic philosophy this kind of coming to be namely coming to existence from inexistence was absurd and meaningless, Parmenides rejects the second kind of change too. That's why in Parmenides' philosophy remains no room for any kind of change.

The analysis of coming to be and its dual meaning helps Aristotle to open a room for the qualitative change as an independent and irreducible kind of change. After glossing the Parmenides's misunderstanding, Aristotle turns back to his argument and analyzes its two main premises which are referred to in this text as p1 and p2. These two premises can be summarized as follows.

P1: It is not possible that something comes into existence from nothing or *ex-nihilo*.

P2: Nothing can come to existence from existence because if something already exists, it makes no sense to come to existence again.

In the case of qualitative change, although Aristotle accepts p1, he mentions that in this kind of change it is clear that something comes to be from something already exists and the p1 is not applicable to this kind of change (Aristotle, 1995: 190a31). Because in this kind of change when, for example, something like a tree comes to be green, there is a tree as a substratum which turns to be green.

But to explicate the other kind of change, namely the change as generation or substantial change, Aristotle resorts to his innovative theory. He introduces for the first time the theory of form and matter

(*hylomorphism*) in his *Physics* to explicate this kind of change and show that even in this kind of change there should be something as substratum.

> *"But that substances too, and anything that can be said to be without qualification, come to be from some underlying thing, will appear on the examination. For we find in every case something that underlies from which proceeds that which comes to be; for instance, animals and plants from seed."* (Aristotle, 1995: 190b1-3)

So Aristotle emphasizes that in every kind of change, there should exist a substratum which persists during the change and plays the role of the subject in every kind of change. In addition to this substratum two other things are necessary: firstly, an actuality which is acquired and actualized through the change and secondly a lack or deprivation which is the opposite side of this actuality (Aristotle, 1995: 190a13-191a22). Having said that, Aristotle makes a clear distinction between two modes of being which elsewhere refers to these two modes as the potential and the actual being. (Aristotle, 1995: 1046a1-20) Referring to his own example, we can say when a nonmusical man becomes musical there exist a substratum which here is a man and an actuality which is acquired during this change namely being musical and the opposite side of this mode of being which is deprivation or lack of being musical. (Aristotle, 1995: 190a1-15). This opposite side of actuality which is rooted in the lack or deprivation of something in the subject of change and can be fulfilled during the process of becoming is the mode of being which is called by Aristotle potential being. Although this line of analysis applies to all kinds of change, Aristotle specifically applies it to show that even in substantial change, there should be something as substratum. In his viewpoint, all the kinds of substantial change can be summarized as follows and in all of them there exist a thing from which change starts, and it plays the role of subject of the change at the same time.

> *"Things which come to be without qualification, come to be in different ways: by change of shape, as a statue; by addition, as things which grow; by taking away, as the Hermes from the stone; by putting together, as a house; by alteration, as things which turn in respect of their matter"* (Aristotle,1995: 190b4-8).

By making this distinction, namely the distinction between two different modes of being, Aristotle shows the weakness of p2 as one of the premises of Parmenides argument in another way. By this distinction, he intends to show that coming to existence from existence is possible if we consider the first existence as the potential and the second one as actual. Before the emergence of the actuality, there is a substratum which is deprived of this actuality but ready to achieve it through the change. This is what Aristotle calls it potential being and defines motion as a special kind of change as the fulfillment of what is potential as potential. (Aristotle, 1995: 201b4-5)

Aristotle calls this potential being which ceased to be as such after being fulfilled and actualized, matter and its opposite side namely the fulfillment or actuality which is achieved through the change, form (Aristotle, 1995: 192a25-35). But if we consider the matter itself, in its turn it has a kind of actuality, and it is potential just in respect of what it might achieve through the change. For example, when a seed comes to be as a tree, it is potential in respect of being a tree, although as a seed it is actual. So Aristotle concludes that everything which is the subject of change is the combination of these two elements: matter and form.

Aristotle takes one step forward and claims that because everything in this natural world can turn into one another whether mediately or immediately, everything in this world can be subject to change and consequently consists at least of two metaphysical elements: potential element(matter) and actual element(form). Aristotle elsewhere calls them as the two causes of the real object. (Aristotle, 1995: 194b23-35). These two causes which are usually called as material and formal causes along with two other causes, namely efficient and final cause constitute the theory of four causes in Aristotle philosophy. Aristotle uses these causes as sufficient explanatory factors to explain everything in the world. (Shields, 2014: 52-53; Ross, 1995: 45)

As we have already mentioned, Aristotle believed that everything in the natural world consists of form and matter. But it would be misleading if one takes them as physical elements like atoms in Democritus philosophy or four primary elements in Anaxagoras philosophy. Rather it would be adequate to call them metaphysical elements because in Aristotle's viewpoint, these are just two aspects of the real object which can be understood and analyzed merely through deep contemplation. Aristotle does not take form as the constituting element of the concrete object; rather, there is an explicit inclination in his philosophy to reject this idea. He believes that form is the actuality of the concrete object which is actualized and comes to be as a result of the combination of some basic elements or components and it cannot be itself one of these components. For example, the form of a house as a shelter cannot be taken as its constituting component or the arrangement of letters in a syllable or word as its form is not the part of that syllable or the word itself. (Aristotle, 1995: 1035a19-33; Ibid: 1023b4-6). Aristotle prefers to consider form as the function or structure of the combination instead of its internal component.

In the next step, to complete his explanation about different phenomena in the natural world, Aristotle puts forward a new and somehow bizarre idea in his philosophy. This idea, namely the idea of prime matter (*proto hule* or *proton hupokeimenon*) has always been the subject of long debates and controversies between Aristotle scholars. To explicate what Aristotle means by prime matter, we should follow his thread of analysis. If we take a statue as an example, it consists of form and matter. Its actuality, which in this case is its shape and function can be taken as its form, and its materials like bronze or plaster can be taken as its matter. Now if we go one layer downward and take one of these materials, for example, bronze, as the subject of our inquiry, again we can see that the new subject in its turn consists of form and matter. How far can we continue this chain of inquiry? Aristotle believes that by continuing this chain, we ultimately reach a prime matter from which all the things in the natural world emerge. In his metaphysics, he calls this prime matter the nature of things (Aristotle,1995, 1015a7-11) and he mentions that the nature of things might be one of the four main elements: earth, air, fire and water(Aristotle, 1995: 1014b32-35; Ibid: 1015b10-15). This could not be considered as the end of this chain; because according to Aristotle these basic elements can change to each other, there must be an ultimate or prime matter lurking beneath these fundamental elements. This prime matter is a pure potentiality which plays the role of persisting substratum for all changes in the natural world and can take on different forms one after another(Ainsworth, 2016).

According to Aristotle, prime matter does not have any specific determination. It is the mere potentiality which takes on different forms (Aristotle, 1995: 1014b31-34) and because as we mentioned before things that come to be are always preceded by a substratum then we are not justified to say that prime matter as the ultimate substratum of the natural world comes to be after it has not existed *(Aristotle, 1995: 251a8-16).* So it means that prime matter is permanent and has no starting point in time and as we go back in time we cannot reach a point in which the prime matter has not existed. Additionally, it is not possible to search for bare prime matter in outer world because the prime matter is always concomitant with forms in objects and as the mere recipient of actualities it cannot exist with no form or actuality.

Contrary to prime matter, there is another pole in the world, which is mere actuality or perfection (*Aristotle,1995:* 1071b4). According to Aristotle, all other beings in the world are somehow between these two extremes or poles: the mere potentiality or the mere actuality. The mere actuality is the source and origin of all changes in the world but not as efficient cause or even as the transmitter of change or motion to other beings. Since this mere actuality does not have any kind of potentiality, it cannot be subject to any kind of change or motion that's why Aristotle calls it as unmoved mover. (Aristotle,1995: 1072a22)

Here a new question might arise how such a being which does not change and move in itself can be the origin of all changes in the world? Aristotle resorts to a very creative and yet seemingly odd idea to answer this question. He emphasizes that this being is the origin of all changes in this world as the *telos* or final cause not as the efficient cause. In other words, because of its perfection, all the beings in the world as imperfect beings have a kind of eternal and essential tendency or inclination toward it. It is this inclination which is sometimes metaphorically called love by Aristotle. Accordingly, the unmoved mover is like a magnet that draws all the beings in the world toward itself. (Aristotle,1995: 1072a22)

2- *Metaphysical Foundation of the Theory of Form and Matter in Avicenna's Philosophy*

Before dealing with form and matter as two elements in the concrete beings, Avicenna is involved with a more fundamental distinction in his philosophy. This distinction which is usually considered as one of the specifications of Farabi and Avicenna's philosophy is the real distinction between essence and existence or as it is sometimes called being and quiddity (Izutsu, 1990: 52). This distinction is believed to be the most infrastructural principle in Avicenna's philosophy and what makes his philosophy different from that of Aristotle (Izutsu, 1990: 49-50). Although some late scholars try to find the roots of this distinction in the works of the *Mu'tazilah* especially what they assert about the generality of the concept of thing in comparison to the concept of existent (Wisnovsky, 2005: 105-108), we should not forget that the way Avicenna used this distinction as one the cornerstones of his philosophy is one of the specifications of his philosophy, and no one else had preceded him in this respect.

According to Farabi and Avicenna, when we see a concrete object, for example, a tree, we can understand what it is and also that it exists. All of our knowledge about a thing can be summarized under these two general titles: essence or existence or let's say quiddity and being. In Avicenna's viewpoint, essence and existence are not just two distinct concepts in our mind; rather, they are two metaphysical aspects of the outer object.

Although among Islamic philosophers it was Farabi who explicitly introduced this kind of distinction in his works and extended it from the simple distinction between two notions in our mind to the real distinction in the concrete object (Farabi, 1984: 47), it was Avicenna who used this idea as the cornerstone of his philosophy upon which established all of his metaphysical system and elaborated carefully on the idea.

It is clear that Aristotle has Addressed the distinction between essence and quiddity in his works especially what he has mentioned in his posterior analytics(VII):"what a man is and that a man exists are two different matters"(Aristotle,1995: 92b10). This sentence explicitly shows that Aristotle believes that essence or whatness of a thing is different from its existence. However, we are not justified in concluding that Aristotle believed in the real distinction between essence and existence as two metaphysical elements. The only thing we can infer from Aristotle's statement is that they are two concepts corresponding to the one real object in the world. This conclusion is more confirmed when we see that at the beginning of the same phrase mentioned above he says: "It is necessary for anyone who knows what a man or anything else is to know too *that* it is" (Aristotle,1995: 92b5). This sentence implies that in Aristotle's philosophy, essence and existence could not be considered as two separate elements in the real object. Elsewhere when he is talking about the relationship between "existence", "essence" and "unity" he endorses this idea again by saying that: *"for one man and a man are the same things and existent man and a man are the same things, and the doubling of the words in 'one man' and 'one existent man' does not give any new meaning (it is clear that they are not separated either in coming to be or in ceasing to be.)"*(Aristotle, 1995: 1003b26-29). Despite of Aristotle's emphasis on the real unity between essence and existence in the concrete object, he does not reject another kind of distinction between them, which is distinction by definition. (Aristotle, 1995: 1003b24) This kind of distinction is usually called a conceptual or logical distinction.

Contrary to Aristotle, Avicenna believes in the real distinction between essence and existence and used this idea as the cornerstone of his philosophy. Accordingly, Avicenna believes that essence and existence not only are two different concepts in our mind, but also they refer to two metaphysical elements of the concrete object. By two real metaphysical elements, he does not mean that an object is at the same time two objects or even he does not mean that an object like a tree is a combination of two elements just like what we say for example about the water as a combination of oxygen and hydrogen. Rather, metaphysical here means that these are two different aspects of a real object that we distinguish them by reasoning and intellectual contemplation. Avicenna himself confirms this kind of distinction by saying that: "sometimes you know the meaning of triangle but at the same time you doubt whether it exists or not. You know, for example, the triangle is what which is constituted from line and plane but you do not know that it exists."(Avicenna, 1996, V3: 13). Avicenna in *The Book of Healing(Shifa)* confirms this claim where he says: "Verily, it is clear that everything has a specific reality which is its

essence(quiddity) and the proper reality of everything is different from its existence which is the equivalent to the proof of the thing (Avicenna, 1983: 31).

In other words, Avicenna claims that since being and quiddity are two different concepts that we abstract them from the real object in the world and then assign them to the very same object, there ought to be two corresponding aspects in the object itself from which these two different notions are drawn. (Avicenna, 1996, v3: 11)

3- *Avicenna's cosmology and his divergence from Aristotle*

Avicenna takes one step forward and draws one of the results of this simple idea by saying that if existence and quiddity are two real aspects of the concrete object, then our reason can analyze and separate them. So we are justified to consider quiddity without being. For example, if we suppose a concrete tree in the outer world, our reason by intellectual analysis can separate its existence from its quiddity. In that case, we come up with a mere and bare quiddity that in itself is neither existent nor inexistent (Avicenna, 1996, V3: 61). Accordingly, existence is a non-essential and as Avicenna sometimes calls it accidental predicate for quiddity. "The existence is neither the quiddity of thing nor parts of the quiddity of the thing namely those things which have quiddity, the existence is not included in their quiddity, rather it is an accidental predicate" (Avicenna,1996, V3: 61).

For Avicenna, everything which its quiddity (essence), can be considered separately from its being, is essentially contingent (Avicenna, 1996, V3: 18). It means that being is not a part of its essence, and as he occasionally affirms, being is an accidental description for such a thing. So, such a thing, for coming to existence needs an efficient cause who bestows being upon it. In this way, Avicenna puts forward the concept of efficient cause as the begetter and applies it as one of the main elements in his philosophy. As a result, in Avicenna's philosophy, we come up with a new division in the realm of being. This division, which has no background in Aristotelian philosophy, is the classification of beings into two categories: necessary and contingent being. (Avicenna, 1996, V3: 18; 1983: 37; 2000: 546) Although in this respect, he was in great debt to *Farabi* as his predecessor, It was Avicenna who systematically explicated the idea upon some fundamental premises and step by step continued it to its final results.

Upon this analysis, Avicenna contends that every chain of contingent beings compulsorily terminates in a necessary being, which plays the role of the origin of the chain. This necessary being is a source from which being is bestowed upon all the entities in the chain. Having said that Avicenna diverges from an Aristotelian viewpoint about creation and comes nearer to the Neo-Platonic view, especially what we can see in Plotinus' philosophy.

Accordingly, Avicenna's division of being into two categories: necessary and contingent and the relationship between these two kinds of being is closely related to his idea about the distinction between essence and existence and this is what he tries to represent in some of his major works such as *Isharat (Pointers and Reminders) and Shifa(The Book of Healing).* Amongst these two works, it is in the former that the relationship between these two ideas can be seen in a more explicit manner (Wisnovsky, 2005: 127).

In the Aristotelian view, the existence cannot be considered as a separate metaphysical element from the essence of the concrete object. Consequently, it is not acceptable to suppose it as something which is bestowed upon an entity from an outer source. Everything which is said to come to be, come to be from something due to a kind of change or motion and coming to be from nothing in Aristotelian viewpoint, or generally speaking, in ancient Greek philosophy is not acceptable. That is why in Aristotelian philosophy, the efficient cause merely plays the role of the mover, not creator or the source of existence.

4- *The Comparison between Two Approaches to the Theory of Form and Matter and Its cosmological consequences*

Aristotle introduced the theory of form and matter to explain all changes in the natural world. Although Avicenna accepted this theory, he made some infrastructural alterations in theory. Avicenna's specific approach to the theory is based on his metaphysical foundations, especially what we have mentioned before. We can summarize all the differences between Avicenna's approach from that of Aristotle into following general lines.

Firstly, while for Aristotle and generally for Greek philosophers creation ex-nihilo makes no sense, Avicenna by dividing beings into two different categories: necessary and contingent being (Avicenna, 1996, V3: 18; 1983: 37; 2000: 546) asserts that every contingent being including the prime matter is in need of an efficient cause as its creator and begetter (Avicenna,1983: 242). The ultimate efficient cause of the world, or as Avicenna usually calls it the necessary being bestows existence upon both matter and forms of the world and creates them in this manner (Ibid). Because contingency is the essential characteristic of the so-called being, and what is essential is inseparable from its subject, such a being is always in need of a begetter (Avicenna, 1996, V3: 19). This means that the process of bestowing existence is continuous, and as soon as this process stops, the contingent being won't exist anymore. As such, Avicenna criticizes the idea of the group of people who think that things need a cause just for coming to be and after they came to be, their need to a cause vanishes (Avicenna, 1983: 263).

Secondly, as we mentioned above, according to Aristotle all the forms emerge in the matter as the result of its eternal motion toward, or as sometimes Aristotle metaphorically says, in love of, pure actuality (Aristotle, 1995: 1072a22). This pure actuality pulls the matter into itself as the *telos* or final goal, just like how a magnet pulls a piece of iron into itself. Since every motion in Aristotle's view is just due to potentiality, this pure actuality cannot have any motion in itself and consequently cannot give the motion to matter as the efficient cause because it is clear that you can give something only if you have that thing yourself. So the role of this pure actuality in Aristotle's philosophy is much the same as a final cause rather than the efficient cause. But Avicenna, on the other hand, believes that the prime matter and all the appearing forms in it are created by God as the efficient and necessitating cause. (Avicenna, 1983: 82).This cause by giving existence to both matter and form keeps them together. (Avicenna, 1983: 85)

Despite some disagreements on the theory of creation in Aristotle and Avicenna's philosophy, Avicenna like Aristotle believes that the prime matter does not have any starting point in time and it must be permanent. Because, like Aristotle, in Avicenna's viewpoint if something is temporarily created it must be preceded by its potency and a matter in which this potency is rooted (Avicenna, 1996, v3: 97). If the prime matter of the world is temporarily created, then it must be preceded by another matter, and this leads to an infinite chain. At first glance, it seems to some extent contradictory because Avicenna, on the one hand, accepts the createdness of the world and on the other hand, emphasizes on its eternity. But, the deeper contemplation vanishes out all of these contradictions. Avicenna tries to solve this conflict by making a difference between two kinds of contingencies: 1- essential contingency 2- temporal contingency. (Avicenna, 1996, v3: 109). In his viewpoint, something can be essentially contingent, although it is not temporally so. This means not having any starting point in time does not necessarily mean that something is not created at all and does not need any efficient cause who begets it. For him, the main criterion for being created is the essential contingency. He explicitly criticizes some Islamic theologians who take the temporal contingency as the main criterion for being in need of a cause. (Avicenna, 1996, v3: 73-76)

Thirdly, because in Aristotle's philosophy, forms in nature emerge from the matter as the result of its essential motion, there is a kind of metaphysical unity between form and matter. Despite some of his occasional statements about form and matter as two constituent elements of an object, there is a clear inclination in Aristotle's works to reject form as a constituting element or part. He explicitly states that matter is a cause in the sense of a part or what underlies while the form is a cause in the sense of whole or combination (Aristotle, 1995, 195a19). Accordingly, in Aristotle's viewpoint form is not a part of combination; rather, it is the result or outcome of that combination. This becomes clearer when we take a look at some of the examples he uses to show the relation between form and matter. He usually introduces syllable, flesh, and house as some examples to show this relation (Aristotle, 1995: 1043b4-6; Ibid:

1041b10-15). He states that a syllable is composed of elements, but it is not itself an element because "something must be either an element or composed of elements if it is an element the same argument will again apply" (Aristotle, 1995: 1041b20-22) and this leads to an infinite chain. This shows that although for Aristotle form as the combination is none of its parts or elements, at the same time it is not separated or distinct from its parts because if it were the case, then it would be in its turn one of the parts of the combination. Contrary to Aristotle, Avicenna believes that form is something which is bestowed upon matter from an outer cause and motion is just a preparing cause for such a form.

Fourthly, Avicenna emphasizes that, because prime matter as pure potentiality cannot exist without actuality**(** Avicenna, 1983: 72) the efficient cause which finally leads to God as necessary being keeps the matter of the world by bestowing different forms upon it (Avicenna, 1983: 86). That's why Avicenna calls the form as the participating cause for matter and takes a kind of priority for form related to the matter. (Avicenna, 1983: 83-86) By participating cause, he actually does not mean that God and form together create matter; rather because we cannot have a bare and pure matter, matter always needs a form for its constitution and consolidation. This is the necessary being that sustains the prime matter by endowing it with different forms one after another and in this way, the efficient cause preserves the prime matter of the world beneath its out-coming forms.

Conclusion

In Avicenna's philosophy, everything except necessary being, including the matter and form of the corporeal world, is essentially contingent and created. God creates and sustains the matter of world by bestowing different forms upon it. That is why; Avicenna takes the form as the participating cause for the creation of matter. In other words, in his philosophy forms are bestowed upon the matter by external cause; consequently, there remains a kind of duality between form and matter as two real metaphysical elements although they are externally united. It is completely in contrast to the Aristotelian viewpoint. In Aristotle's philosophy, the prime matter of the world has no temporal beginning and is not created . Forms are emerged in the matter due to its essential motion toward the unmoved mover. Consequently, the form is not something which is bestowed upon the matter. In Aristotle's viewpoint form and matter are just two different aspects of one reality, and there is not any kind of duality between these two.

References

Ackrill, J. L. (1981), Aristotle the Philosopher, Oxford: CLARENDON PRESS.

Ainsworth, T. (2016), "Form vs. Matter", The Stanford Encyclopedia of Philosophy
(Spring 2016 Edition), Edward N. Zalta (ed.), <http://plato.stanford.edu/archives/ spr2016/entries/form-matter/>.

Aristotle (1995), The Complete Works of Aristotle, Ed. Jonathan Barnes, One Volume Digital Edition, New Jersey: Princeton University Press.

Avicenna (1375/1996), Al-Ishārāt wa al-Tanbīhāt, maʻa Sharḥ Nāsīr al-Dīn al-Tūṣī wa Qutb al-Dīn al-Rāzī, 3 vol, Qum: Našr al-Blāgha.

Avicenna (1379/2000), Al-Najāt, Ed. Mohammd Taghi Dāneš Pajūh, Tehran: Tehran University Publication.

Avicenna (1404/1983), Al-Shifā, al-Ilahyyāt, Ed. Saeed Zāyed, Qum: Āyatollāh Marʻšī Publication.

Izutsu, T. (1990),　The Fundamental Structure of Sabzawari's Metaphysics, Tehran: Tehran University Publication.

Ross, D. (1995), Aristotle, Routledge: London and Newyork.

Shields, C. (2014), Aristotle, Second Edition, London and New York: Routledge.

Farabi (1405/1984), Fusus al-Hikmah, Qum: Bidar Publication.

Wisnovsky, R. (2005), Avicenna and Avicennian Tradition, In: The Cambridge Companion to Arabic Philosophy, Cambridge: Cambridge University Press, 92-136.

Copyrights