

Article

# A Byzantine Metaphysics of Artefacts? The Case of Michael of Ephesus' Commentary on Aristotle's *Metaphysics*

Marilù Papandreou 

Department of Philosophy, University of Bergen, 5020 Bergen, Norway; marilu.papandreou@uib.no

**Abstract:** The ontology of artefacts in Byzantine philosophy is still a terra incognita. One way of mapping this unexplored territory is to delve into Michael of Ephesus' commentary on Aristotle's *Metaphysics*. Written around 1100, this commentary provides a detailed interpretation of the most important source for Aristotle's ontological account of artefacts. By highlighting Michael's main metaphysical tenets and his interpretation of key-passages of the Aristotelian work, this study aims to reconstruct Michael's ontology of artefacts and present it as one instance, which is perhaps exemplary, of the Byzantine ontology of artefacts. In particular, the study shows that this commentary holds a definite position on the nature of artefacts, according to which they are neither substances nor hylomorphic compounds. Indeed, artefacts lack a form altogether and their forms exist only in thought. As a result, Michael's commentary provides an ontological interpretation of artefacts as accidental beings, i.e., as matter which acquires a mere property as opposed to a substantial form. While such an interpretation shows originality when compared to the Aristotelian text, it also indicates adherence to the reading established by Alexander of Aphrodisias, despite important departures concerning the status of natural forms.

**Keywords:** artefacts; metaphysics; ontology; commentary; Aristotle; Michael of Ephesus; form; substance; Aristotelianism; Byzantine philosophy



**Citation:** Papandreou, M. A. Byzantine Metaphysics of Artefacts? The Case of Michael of Ephesus' Commentary on Aristotle's *Metaphysics*. *Philosophies* **2022**, *7*, 88. <https://doi.org/10.3390/philosophies7040088>

Academic Editors: Henrik Lagerlund, Sylvain Roudaut and Erik Åkerlund

Received: 30 June 2022

Accepted: 2 August 2022

Published: 11 August 2022

**Publisher's Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2022 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

The ontology of artefacts in Byzantine philosophy is still a terra incognita. This state of affairs also generates a gap in our understanding of the ontology of artefacts between Aristotle and his reception or the history of Aristotelianism more generally. One way of mapping this unexplored territory is to delve into Michael's commentary on Aristotle's *Metaphysics*. Written around 1100<sup>1</sup> [1], this commentary provides a detailed interpretation of the most important source for Aristotle's ontological account of artefacts. The aim of this study is to reconstruct Michael's ontology of artefacts based on his commentary on the *Metaphysics*. This reconstruction will present *at least* an instance of Byzantine ontology of artefacts which, in the best-case scenario, is also representative of Byzantine ontology of artefacts in general<sup>2</sup>. (see also [2]) Moreover, such instance represents a key-passage in the history of Aristotle's reception, his commentary tradition, and the history of Aristotelianism more generally.

Scholars have both discussed Aristotle's account of artefacts and explored the general understanding of artefacts in the philosophy of the Middle Ages. However, regarding Late Antiquity, most work carried out has concerned the Platonic debate on Ideas of artefacts, leaving unanswered the question about the ontology of artefacts between Aristotle and medieval Aristotelians<sup>3</sup> [3]. Now, because Aristotle's account of artefacts and the medieval standard interpretation of artefacts diverge, something might have happened along the way. While according to Aristotle artefacts fall short of being substances and yet are hylomorphic compounds<sup>4</sup> [4,5], in the Middle Ages artefacts are usually understood as accidental wholes. As I shall argue, Michael's commentary holds a definite position on artefacts, according to which they are neither substances nor hylomorphic compounds.

Indeed, artefacts lack a form altogether and their forms exist only in thought. As a result, Michael's commentary provides an ontological interpretation of artefacts as accidental beings, i.e., as matter acquiring a mere property as opposed to a substantial form. While such an interpretation shows originality when compared to the Aristotelian text, it also indicates adherence to the reading established by Alexander of Aphrodisias and harmony with the standard medieval understanding.

Before unpacking Michael's account of artefacts, a few comments on his commentary in general are necessary. The author did not sign his own work; thus, the authorship has been disputed and for a long time the work was attributed to "Ps.-Alexander". Conclusive arguments have, however, been advanced that the author should be identified with Michael of Ephesus<sup>5</sup> [6–8], who refers to his commentary on Books Z–N in the epilogue of his commentary on Aristotle's *Parva Naturalia* (in PN 149, 8–16). I shall not engage with this discussion here, and since the arguments for such an identification are indeed strong and persuasive, I shall regard the author as Michael of Ephesus. He is providing a continuation of an anonymous commentary on Books Z–N called *recensio altera*<sup>6</sup> [9]. While this anonymous commentary was not written by the Peripatetic philosopher Alexander of Aphrodisias, it is in the spirit of Alexander's work that Michael writes his comments on the remaining books of the *Metaphysics*, following in the footsteps of Alexander's attentive exegesis and philosophical acumen. Michael's commentary is so thorough that Robert Sharples has remarked that "pseudo-Alexander follows the Aristotelian text so closely that it is difficult to attribute to him any definite position" [10] (p. 214). While Sharples' observation is legitimate, I shall show that it is nevertheless possible to attribute to the Ephesian some definite metaphysical positions as well as a definite account of artefacts.

## 2. A Few Words on Aristotle's Metaphysics of Artefacts in *Met. Z–H*

Reconstructing Aristotle's full metaphysical account of artefacts requires an examination of the whole of the *Metaphysics* and, ideally, also his *Physics*. However, *Met. Z–H* offer the basic tenets of his metaphysics of artefacts<sup>7</sup>. First, by reading these chapters, one gets at least a sense that artefacts possess a lower ontological status than that which is attained by natural beings. Despite the absence of an argument whose conclusion clearly states that and why artefacts are not substances, reason to doubt their substantiality can be found at several places and in different forms. For instance, in Z 7–9 plants and animals are said to be 'most of all' (*malista*) substances (*Met. Z 7*, 1032a19–20 and 8, 1034a4), thus suggesting that artefacts are not, in the best-case scenario, *paradigmatic* substances. While in Z 17 Aristotle states that only nature is substance (1041b28–32), in H 3 he suggests that 'perhaps' (*isôs*) only things that are constituted by nature are substances (1043b21–23). Moreover, one gets the impression that artefacts are hylomorphic compounds, meaning that they are constituted by matter and form. Although Aristotle more often *uses* artefacts as examples rather than addressing them in their own right, this usage is based on their hylomorphic structure. It is in order to explain the relation between matter and form that he so often mentions the case of the statue or that of the house. Again, although the relation between matter and form in artefacts will eventually prove different from the one displayed by natural beings, the presence of both matter and form in them is somewhat taken for granted.

*Met. Z–H* not only paints the general impression that artefacts are hylomorphic compounds yet might fail to be substances, but it also provides the tenets of Aristotle's metaphysics of artefacts. I shall briefly mention these tenets in their order of appearance and then collect them so as to provide some key elements of his account. Z 7–9 apply the synonymy principle to artefacts, which establishes that the form in the mind of the artisan is the form in the object *qua* being thought. The application of the synonymy principle to artefacts indeed posits a form in the object (a form which the artisan needs to think about in order to produce an instance of the same kind). As we have seen, doubts about the substantiality of artefacts can be found at different places in the *Metaphysics*, but they do not arise at the conclusion of any argument devoted to proving that artefacts are not substances. This means that Aristotle does not clarify what criterion for substantiality

artefacts precisely fail to meet. Z 13 delivers the substantiality criterion that artefacts will turn out to fail to meet: no substance is composed of constituents which are present in it in actuality. It is, however, in Z 16 that Aristotle discloses that only the parts of natural beings are present in them potentially, whereas the parts of artefacts are present in actuality. The actuality of the parts of artefacts makes each artefact a less unified whole than the natural whole, thus excluding artefacts from the realm of substances. As we turn to Book H, the relation between parts and whole is understood in terms of the relation between matter and form. In the case of artefacts, the same matter can constitute items of different kinds and, inversely, different kind of objects can be made out of different kinds of matter. For instance, wood can serve as the matter for a box or for a couch, while a box can be made out of wood or iron. The moving cause, i.e., the artisan, shapes the matter into the form of a given item. Such a process is described as a substantial coming to be. While H 2 shows that forms of artefacts are causes of coming to be, being, and the unity of artefacts, they are not proper actualities and moving causes. H 4 elucidates just how the form is not essentially related to the matter.

Overall, what *Met. Z–H* teaches us about Aristotle’s metaphysics of artefacts can be summarized as follows. Artefacts are hylomorphic compounds, meaning that they are composed of matter and form. They undergo substantial change in that the matter acquires a substantial form, which is a cause of their coming into existence, their being, and their unity. Notwithstanding their hylomorphic structure, artefacts are not substances *at all* because their parts are and remain in actuality; thus, artefacts constitute less of a unity than natural and living beings. Let us now move to our commentator.

### 3. Michael’s Commentary on Aristotle’s *Met. Z–H* and Its Main Metaphysical Tenets

Michael’s ontology of artefacts can be reconstructed and understood only once his main metaphysical tenets have been clarified. After all, the peculiarity of artefacts cannot emerge if we fail to trace the metaphysical framework in which they are situated. As already mentioned, this study will concentrate on his commentary on Aristotle’s *Met.* Books Z and H (with some references to  $\Lambda$  3). However, a few introductory words on the broader context of the commentary seem beneficial. As previously stated, Michael’s commentary continues the Peripatetic tradition, which is best represented by Alexander of Aphrodisias. Unlike late antique Neoplatonic commentators who tried to show that Plato and Aristotle were ultimately in agreement, Alexander and Michael attempt to explore and clarify Aristotle’s own views. Interestingly, however, Michael uses Neoplatonic language and at times is dialectically engaging with Neoplatonic interpretations of the text. It seems plausible that Michael had access to Asclepius of Tralles’ Neoplatonic commentary on the *Metaphysics* (Book A to Book Z). Certainly, his frequent references to other Aristotelian works show his familiarity with a vast array of topics.

According to Michael, the topic of Z and H taken together is being *per se* or substance (586, 6). Within the analysis of substance, Michael makes a series of key distinctions, proposes definitions of the metaphysical concepts involved, and advances original views. I shall briefly summarize those which are most relevant to the present discussion. First, concerning the notion of substance, Michael identifies it with the notorious notion of substance in Aristotle’s *Categories*. According to this account, substance is what is not said of a subject and is not in a subject, e.g., this man or this horse. Substance, in this sense, is the only being which can be said to be ‘separate’ in the strict sense: “‘separate’ (*khôriston*), or *per se* existence and “something determinate” (*tode ti*), i.e., to be amenable to be pointed at (*eis deixin piptei*), seem to belong in the strict sense to substance (464, 35–37)<sup>8</sup>. While only individuals are separate and so substances, forms are separate only in thought<sup>9</sup>. The strong implication of this view, especially when navigating the *Metaphysics*, is that form is not substance. Indeed, when addressing matter, form, and the compound as candidates for substantiality in Z 3, Michael favours the compound: ‘Now, this thing, which is subject of all things and is not predicated of anything else, we call it matter in a sense, form in another, and in a third sense the compound of matter and form, which rather is the right one’

(463, 29). Substance is what is separate in the sense of existing *per se* and only individual compounds of matter and form should be called substances in the strict sense.

Concerning the notion of form, Michael appears to adhere to Simplicius' distinction between (i) an enmattered form (*enulon eidos*) which exists in reality (*têi hupostasei*) as corporeal and inseparable from matter, and (ii) nature, i.e., a form in its own right (*eidos kath'auto*), which exists in reality as incorporeal and inseparable from matter [11]. Whether we consider Socrates (*enulon eidos*) or the nature of Socrates (*eidos kath'auto*) to be the form, Michael holds that forms are always inseparable from matter, for '[ . . . ] every form—whether natural or artificial—has its being/existence (*to einai*) in the matter' (550, 25–26). The rule that forms are always enmattered of course has an exception: the highly honoured Intellect (*ho polutimêtos nous*; 463, 34)<sup>10</sup> is the only being which is pure form. Moreover, while the enmattered form is corporeal and inseparable from matter also in thought, nature is incorporeal and becomes separable from matter in thought (*têi epinoiaî*). Michael explicitly and clearly distinguishes the form from the essence. While form, which is enmattered, is sensible and particular, the essence is universal and intelligible: 'But, he says, it is evident not only that the form in the sensible does not get generated, but also that this, i.e., the form in the sensible, is not the essence. For the essence is universal and intelligible, whereas the form is sensible and particular' (495, 23–26). Michael defines the essence in several places, sometimes in rather cryptic ways: 'By "essence" he means the object itself (*auto to pragma*), i.e., its nature (*phusis*) conceived in a connected and concise way (*sunêmmenôs kai suneptugmenôs*) and simultaneously in an indivisible instant, which is clearly signified by the name' or again, 'this very nature confused in itself and unfolded by the definition'<sup>11</sup>. The point seems to be that the essence is the nature apprehended as still connected ('in a connected way': *sunêmmenôs*) with the particular and, as opposed to definition, not yet understood by a step-by-step reasoning ('in a concise way': *suneptugmenôs*). The nature of Socrates, for instance, is separable from matter only in thought.

Forms are always enmattered, thus are never in existence *per se*. Moreover, enmattered forms neither exist *per se* nor come to be altogether. Indeed, the enmattered form is not generated but comes to exist atemporally (also 530, 6–9). The same applies to nature: 'Thus, it is evident from the things said that the form, or however we should call the form (*morphê*) present in the sensible things, does not become either, nor is it brought into existence through generation, but when the matter is changed by the nature present in it and becomes, it supervenes on it atemporally and in an individual instant (495, 20–23).' For instance, humanity itself, as it exists in the particular human Socrates, does not change over time and is not generated.

While forms do not exist *per se* or are not separate in the way individual substances are, they still are what determines matter. Michael often presents the form as what orders, determines, and disposes the matter (489, 15–16; 542, 4–5). Notwithstanding this role, the only form that is prior in all senses is God<sup>12</sup>, whereas enmattered forms cannot enjoy separate existence: 'In this way, then, the enmattered form (*to eidos to enulon*) acts on the matter, and once it is made or generated, it exists, for the form in its own right and separate does not exist (497, 8–10).' The enmattered form of Socrates does not undergo a process of generation but comes into being upon the generation of Socrates. The nature of Socrates, i.e., humanity itself, is neither generated nor changes over time; moreover, it does not exist separate from matter.

The status of enmattered forms in Michael's commentary is complicated by his view that these forms in the sensible are individual and 'individual forms (*kata meros eidê*) are not generated, for they are without parts (*amerê*), although they become divided in the matter in which they are (486, 21–22).' Such an account of forms, according to which they are not *found per se* but are distributed in the matter, ends up establishing that not only forms are individual, but, because they have no separate existence, they are identified with the individuals. For instance, at 472, 11–14 he refers to 'these forms, because they are nothing other than the particulars (for they exist in the particulars—we are dealing with these forms, not with the forms that the thought contains in itself after separating them).' Michael is not

straightforward in his conclusion, but it seems that, in the end, what really exists besides God are the individual substances alone. Let us now zoom in the case of artefacts to find out whether they are substances or not and to analyse their metaphysical status.

#### 4. Michael of Ephesus on Artefacts

Individual compounds of matter and form are substances. They are separate in the sense that they can exist by themselves, and separation belongs primarily to substances. They coincide with the primary substances in the *Categories* and are identified with concrete things that can be pointed at. Can artefacts be included within this account of substances? Shifting substantiality in the strict sense from forms to concrete individual beings would seem quite promising, for at least our first intuition would be that artefacts are indeed concrete individual beings. Stated otherwise, according to the *Categories'* schema, artefacts seem to belong to the category of substance and hardly to fit into any other category. However, upon closer inspection, it turns out that Michael excludes artefacts from the realm of substances. Behind this exclusion there lies the denial of a proper hylomorphic structure in artefacts.

##### 4.1. The Generation of Artefacts

According to Aristotle's natural philosophy, the generation of living beings is a complex phenomenon and varies across animal and plant species. However, one clear feature of natural generation is that it qualifies as substantial change, or substantial coming to be. In other words, in natural generation, the matter acquires a substantial form so that the outcome of the generation is a new being constituted of matter and substantial form. In this process, the matter or the subject undergoes a quite radical change. At the end of the process, the diachronic matter such as a plant or human seed is no longer there as what it was before the process occurred. This is not the place to discuss how the matter or the subject gets requalified throughout natural generation and still exists at the end of such a process. It is, however, important to keep in mind how substantial changes such as animal reproduction differ from non-substantial changes, according to which some subject does not acquire a substantial form but a non-substantial form or properties such as qualities or quantities. The endpoint of a non-substantial change is the subject's acquisition of a non-substantial attribute, which in turn means that the non-substantial change does not result in the coming to be of a new being that is added to the world. The typical Aristotelian example could be that of Socrates acquiring musical knowledge. At the end of this process, the subject, i.e., Socrates, acquires the non-substantial attribute of possessing musical knowledge, but he is still recognizable as the subject present in the beginning of the process. Moreover, Socrates's acquisition of the quality of being knowledgeable does not add to the inventory of the world.

Now, according to Aristotle, this state of affairs can be exemplified by the case of a statue. A statue comes to be *simpliciter*, i.e., undergoes substantial change. It is exactly because the statue has come to be as a new being that it is not called "bronze" but "brazen" (Z 7). The matter before and after the process, i.e., the bronze in this case, gets requalified in such a way that at the end of the process there is a "brazen statue", rather than just "bronze". Were the change at stake a non-substantial change, the bronze would still be bronze even once the process is completed, for the bronze would have acquired an attribute, perhaps that of being of a certain shape. However, the bronze acquires a substantial form, that of a statue, and a new item comes into existence. So, according to Aristotle, artefacts undergo substantial change, for their matter acquires a substantial form and this leads to the production of a proper hylomorphic compound<sup>13</sup>.

Unlike Aristotle, Michael seems to deny that artefacts undergo proper substantial change. When confronted with Aristotle's explanation that the statue is brazen because it is no longer bronze, he comments that '[ . . . ] for instance, the statue is not called 'stone' at all but 'of stone': stone does not become a statue. For what has come to be became something it wasn't after undergoing alteration and departing from what it was before. The stone,

however, still remains stone after receiving the form of a statue, so that the stone neither became a statue nor takes its name or is called statue' (492, 28–33). His explanation is not that the statue is 'of stone' because the coming to be of a statue cannot be understood as the stone taking on a non-substantial property, but rather that the subject, i.e., the stone, does not become a statue. Michael's explanation is somewhat confusing, but a few lines later he rephrases it by stating that we could not even appropriately say that the statue came to be from bronze: 'If someone looks well and accurately and pays attention to the nature of things, one could not say that the statue comes to be from wood or bronze, because what comes to be from something changes from that from which it comes to be and departs from the nature in which it was and becomes something else. However, the bronze still remains bronze after becoming a statue, which one could not say in the case of water becoming air.' (494, 5–10). The Ephesian distinguishes the artificial case from the elemental one: while elements turn into one another in such a way that the subject of change changes itself and becomes a new different being, the matter of artefacts does not change in such a way as to turn into a new different being. Despite the intervention of the housebuilder, the stones do not become a house, for the housebuilder can change the stones only so and so much. At the end of the artisan's intervention, the stones have not departed from their own initial nature.

Michael holds an account of proper generation, or substantial change, according to which the subject or the matter undergoes an alteration that allows for a new object to come to be. The artificial case, by contrast, represents an instance in which the subject undergoes an alteration of a kind that does not allow for the generation of a new object but rather preserves the subject as the thing it was before the change occurred. In the case of the house, the stones do not become the house but they are just combined with one another in such a way that they remain stones and the house does not come to be *simpliciter*: 'For as the stones, existing in their own right, become parts of the house and constitute it not by means of generation or in general an alteration, so, if indeed the forms were existing *per se*, they would make the individuals by being combined with the matter, not by means of generation or alteration' (496, 24–27).

Composition is often the change which more accurately represents the artificial case. Composition is also, according to Michael, what defines and differentiates a house as well as mixtures such as honey-water from other objects. However, not all artificial things are defined by composition. Some are defined by position, for instance: 'For one thing is position, another composition: we speak of position when [something] is placed upwards or downwards, or again on a straight line or in another way, whereas we speak of composition when different things are mixed together but are different either in form or number. It is clear that in honey-water there is composition: because honey-water is a compound, clearly there is composition in it' (548, 12–16). As in Aristotle, causes of coming to be (or pseudo-coming-to-be) are also causes of unity as well as of being. Now, such causes in the artificial case do not make up a proper unity or a new unified object, 'for we see that down here animals are not by composition and contact, but are continuous and by permeation (*anakrasin*), so to speak' (528, 14–15; see also  $\Lambda$  3 676, 26–29). Perhaps a rather cryptic concept such as permeation is the most accurate description of what happens in the substantial coming to be. Indeed, natural generation displays a higher degree of unity than artificial generation, according to which the matter becomes something else, something new and unified. The outcome of a natural generation is a proper hylomorphic compound made of a matter which is permeated by a form that is able to turn it into a new being. By contrast, if some things do not undergo substantial change, they fail to become hylomorphic compounds. Artefacts do not undergo substantial change, they do not exhibit the degree of unity attained when the matter is permeated by the form, but the matter ultimately remains what it was all along. To grasp the full picture, we therefore need to focus on the forms of artefacts.

#### 4.2. *The Forms and Substantiality of Artefacts?*

In Michael's commentary there are scattered indications to the effect that forms of artefacts are deficient, although it is far from clear in comparison to what exactly they are deficient and why. In H 2, Aristotle argues that things differ from each other in more respects than the respects noted by Democritus (i.e., shape, position, and arrangement). Things can differ from one another by tying, gluing, time, place, or by affections typical of sensible substances, to name just a few. For instance, dinner and breakfast can be defined and therefore differentiated by time, whereas the lintel and the threshold can be defined and differentiated from one another by placing. Now, Aristotle clarifies that those listed *differentiae* are not substances, for they are only analogous to the actualities of substances. Crucially, Michael denies substantiality not only to the *differentiae* at stake, but also to the objects defined by such *differentiae*: 'He says that "none of them is substance", meaning smoothness, roughness, the *threshold* (emphasis mine)' (549, 23–25). Moreover, he extends the case of the form of the threshold to all forms of artefacts: 'Not the wood (which is clearly substance) but the form of the threshold. For if the form of the threshold were substance, even when placed differently, it would not straightaway cease to be a threshold, without undergoing any affection if not just being moved from the place where it was lying. Hence, the form of the threshold is substance neither conceived in itself nor coupled with the wood. Similarly, *no artefactual form is substance*' (549, 25–30). Natural beings, including non-living beings, are 'clearly' substances. By contrast, neither artificial forms nor these forms coupled with matter are substances.

At this stage, the denial of substantiality to artefacts can be inferred from the denial of the threshold's substantiality and the suggestion that the case of the threshold is representative of all artificial objects. Indeed, while it is expressly mentioned that the forms of artefacts are not substances, we might still wonder whether artefacts as such are substances. Moreover, the fact that the forms of artificial objects are not substances might seem a rather underwhelming result if we consider that one of Michael's main metaphysical tenets is that hylomorphic compounds are better candidates for substantiality than forms as forms cannot exist *per se*. If forms are not substances, it is no wonder that artificial forms are not substances either. To this extent, the forms of artefacts are not even deficient. However, artefacts themselves could be deficient when compared to natural beings. First, Michael explains that none of the mentioned *differentiae* is substance, 'even when coupled with matter'. The addition of the qualification 'coupled with matter' seems to be another way of saying that neither artificial forms nor artefacts, i.e., artificial forms imposed on some matter, are substances. Second, Michael holds that there is a difference between the class of substances and that of artefacts. Evidence for both these last points can be found at 550, 12–18: 'None of these is substance, *not even if coupled with matter*: nevertheless, in each of these things, i.e., in the threshold and the others, there is something analogous, that is they have an analogical relation to substances, and just as in substances what is predicated of matter is nothing other than the actuality itself, i.e., the form itself, which indeed we also define (for we have to concede this), so in the other definitions too, which are definitions *not of substances but of artefacts*, we must define the forms.' (Emphasis mine)

So far it seems that artefacts are not substances and that the only substances are natural beings. Forms of artefacts are not substances either, but they are analogous to the actuality of substances insofar as they are predicated of matter and are what one should mention in defining a being. Now, Michael gives special attention to the case of the threshold. As we have seen, Aristotle indicates that the threshold and the lintel are defined and differentiated from each other by placing; whether a wooden beam is a lintel or a threshold depends on where it is placed. Placing, however, does not belong to the category of substance but constitutes one of the non-substantial categories. The same applies to the various winds, which differ from one another depending on the place from which they blow, for instance. All such forms are not substantial in that they constitute or belong to another category. Michael's focus on the case of the threshold and its extension to all artificial objects might imply that all forms of artefacts (or non-substantial beings such as the winds)<sup>14</sup> are non-

substantial in the sense that they do not belong to the category of substance. This result is, however, still grounded by the general tenet that no form is a substance in the categorical sense insofar as no form can exist by itself. In order to safeguard the tenet that no form is a substance in the strict sense, the forms of artefacts must be deficient compared to the forms of natural beings in a way that does not make natural forms substances.

When Michael deals with *Met.* H 4 (557, 29–33), he clarifies that in the case of artefacts the form (*eidōs*) and the end (*to ou eneka*) do not coincide, for the artefactual form is not a function but a certain configuration (*to toiondi schēma*) of the matter. The form of a box and that for the sake of which the box is made are not the same, for ‘the form is a certain configuration, but that for the sake of which is to keep goods in it’ (557, 32–33). Given Michael’s distinction between the realm of artefacts and that of substances, we can infer that forms of natural substances are functions. It seems, however, more complicated to deny that natural forms are a certain configuration of the matter. After all, we have seen that no form is substance, but all forms are predicated of matter. At this point, there are a couple of qualifications to be made: (i) natural forms are attributes but of a special kind; (ii) the *differentiae* of artefacts might be called forms in a derivative way. Both qualifications refer to the form as the essence or the nature as it exists in thought. Regarding the first qualification, Michael explains that ‘the form signifies a such, that is, it signifies a certain quality (*poion ti*), not a quality *simpliciter* (*haplōs de poion*) however, but it marks off the qualification of substance, namely a substance having a certain quality’ (496, 37–497,1; cf. *Cat.* 3b20). Michael takes these forms *to be essences* and clarifies them as the secondary substances, i.e., universal genus and species, of the *Categories*—which might be called qualities but are importantly different from the attributes present in categories other than substance. Regarding the second qualification, there might be a derivative sense in which Michael speaks of forms in the artificial case. Indeed, upon closer inspection, artefacts are only analogous to natural substances. Just as artefacts are analogous to natural beings but different in that they fail to be substances, their forms too might be analogous to natural beings but different. They are certainly analogous in that, when we approach the definition of a certain item, be it natural or artificial, we need to indicate the form or the *differentia*. But forms in the sense of *differentiae* or as objects of definition are not forms in reality (*tēi hupostasei*). They are rather meant as essences, and are thus universal. If, however, forms of artefacts are neither substances (primary substances) nor do they mark off the quality of a substance (secondary substances)—as natural forms do—it seems that they are qualities in the sense of attributes which belong to categories other than substance, be it primary or secondary substance. But if this is the case, are there really forms of artefacts?

#### 4.3. Forms of Artefacts Exist Only in Thought

If artefacts do not undergo substantial change, the matter or the subject of change merely acquires a non-substantial form, such as a quality or a quantity. Moreover, if forms of artefacts indeed belong to categories other than primary or secondary substance, their forms are only attributes, such as a quality or a quantity. Now, if these forms are ultimately properties predicated of some matter, Michael’s view is open to two interpretations. If non-substantial forms exist, artefacts possess non-substantial forms. If there are no forms besides substantial forms, artefacts lack forms altogether. The denial of substantial coming to be to artefacts speaks in favour of the second option. For, if a statue does not undergo substantial change, there is no statue which we can ascribe any form, whether substantial or non-substantial. Any non-substantial form (or quality, quantity, relation, etc.) can only be ascribed to the portion of matter at stake. A statue *qua* statue lacks a form. A focus on another form, i.e., the form in the soul of the artisan, strengthens this interpretation. This form, Michael claims, does not exist in reality (*tēi hupostasei*) but only in thought (*tēi epinoiai*). Whichever option we prefer between the exclusive existence of substantial forms and the existence of non-substantial forms, Michael denies that in the case of artefacts *qua* artefacts such forms exist in reality.



In Z 7–9, Aristotle states that things by art come from the form in the soul of the artisan. The context is a defence of the view that there is always a pre-existing form of the same kind as the being that comes to be, whether natural or artificial. Michael comments on this passage that ‘the things that come to be by art are those whose form and essence is in the soul of the artisan, for the form and the essence of health, of the house, of the statue, and of the other things are in the soul: [the form] of health in the soul of the doctor, of the house in [the soul] of the housebuilder, and of the statue in [the soul] of the sculptor’ (489, 5–9). The soul of the artisan possesses the form as essence of the object to be produced or the form without matter: ‘For just like the sight has in itself the forms of the colors without their underlying matter, so the soul too has the forms of the intelligible things: the soul is the place of the forms, as has been said in *On the Soul*’ (490, 15–18). The principle of any artificial coming to be<sup>15</sup> is the form in the soul of the artisan and is identified with the art itself: ‘For the form of the house in the soul, which is present immaterially in the soul of the housebuilder, is the art, as was shown in the third book of *On the Soul*’ (499, 18–20)<sup>16</sup>. The identification with art serves the purpose of ascribing efficient power to such a form, which is a moving cause of coming to be insofar as it is possessed by the artisan. Now, the fact that the form in the soul of the artisan is the form of the object, be it health or the house, does not necessarily mean that there is no form in the object<sup>17</sup>. Even though on the basis of the discussion carried out so far we might have the intuition that there is only one form, i.e., the form in the soul, this is hardly a conclusion we can draw from Z-7–9. After all, something must be the source of the form in the soul of the artisan. Where does the form in the soul of the artisan come from? A Platonist might advance an easy answer: the artisan’s soul has access to the corresponding Idea. However, not only does Aristotle believe that the Platonists deny the Ideas of artefacts<sup>18</sup>, but he himself holds that the form in the soul is abstracted from the hylomorphic particulars. Moreover, and more importantly for our discussion, it is exactly with reference to Platonic theories that Michael makes the crucial move of explicitly denying the existence of forms of artefacts outside the soul of the artisan.

Forms of artefacts, he argues, exist only in thought: ‘For they [=the Platonists] said that there are Ideas of things that come to be by nature’s agency but not of those that come to be by art. Therefore, in some cases there are not Ideas; for there is not a Form or Idea of a house, saw, or statue, unless, Aristotle says, even in these cases one says that Ideas are the arts through which these things come to be (cf. 1070a14–15). Therefore, the forms of artefacts exist not in reality (*en hupostasei*) but only in thought (*monêi têi epinoiai*). In addition, their existence is not a result of coming to be and a temporal interval and, in general, a change of some substratum, nor is their non-existence a result of perishing’ (A 3; Miller’s [12] translation of 676, 134–677, 4)<sup>19</sup> [13]. This passage presents some key elements of Michael’s account of artefacts. The sense in which forms of artefacts can be separated and exist *per se à la* Plato is by considering the form in the soul of the artisan insofar as it is separated from the outcome of production. Artificial production, however, is not a substantial change like natural generation. As we have seen in Section 4.1, in the artificial case, there is no change in the subject according to a substantial form, but the matter, at the end of the process, remains what it essentially was and only acquires a non-substantial property. Thus, the outcome ultimately lacks a form; forms of artefacts do not exist in reality or out there in the object but only in thought<sup>20</sup> [14].

Even though forms of artefacts exist conceptually, they bear a further deficiency compared to the forms of natural beings. For, as Michael goes on to explain, ‘for whenever I envisage a form of a house, this sort of form is not a result of coming-to-be; for it is not the sort of form that has come about after undergoing any alteration, but [it both exists] atemporally (*akhrônôs*) and in the present (*to nun*), for the appearance (*phantasia*) of it occurs to me in the present moment. But whenever I do not imagine it, it does not exist; for not imagining also departs in the present moment’ (677, 6–11). No form comes to be or undergoes generation. Not even natural forms are generated in the strict sense. As was said in Section 3, what happens to the form of a natural substance is that it comes into existence as an atemporal result of a relevant alteration in the matter. Were artificial forms

to exist, they would behave in the same way as the natural forms, meaning that they would not undergo generation or substantial change themselves, for only the compound of form and matter is generated. Therefore, what Michael is pointing at is that the form in the soul of the artisan is similar to natural forms in that it does not undergo substantial change, but it exists atemporally. However, it differs from natural forms in that it exists only in the present. While a natural form comes into existence atemporally but, once it supervenes, it continuously determines and keeps order in the matter, the artefactual form in the mind of the artisan, once it comes into existence atemporally, 'exists' only in the present, i.e., for as long as it is thought. Therefore, the form in the soul of the artisan is the only artefactual form that exists but it only enjoys an intermittent existence, depending on whether the artisan is imagining it or not. The implication of such an account seems to be that artefacts as such do not really exist outside of our mental experience. While being arranged in such and such a fashion is something which happens out there as a result of bricks and stones, the house exists only in our thought. To this extent, a house does not differ from any other conventional object, such as dinner and breakfast.

## 5. Conclusions

Michael's commentary on *Met.* Z-H presents a coherent metaphysical account of artefacts, according to which artefacts do not undergo substantial change, fall short of substantiality, lack a form, and fail to be new items which are added to the inventory of the world. Natural beings, by contrast, undergo substantial change, are substances in the strict sense, and constitute proper hylomorphic compounds which add something to the world. The identification of artefactual forms with properties ultimately boils down to the view that artefacts are accidental compounds or cross-categorical beings, meaning that matter which acquires certain attributes. In other words, a house is stones-being-arranged-housewise, just like Socrates-being-pale. Socrates and the stones are substances, while being-pale and being-arranged-in-such-and-such-a-way are mere non-substantial properties. Thus, artefacts are not substances, for they lack a substantial form. Only their matter and natural beings are substances.

Michael's interpretation represents a departure from Aristotle's account. Sure, Aristotle's text can give rise to such an interpretation, but, all things considered, it seems that it is one specific stance (among several) that our commentator takes. The same applies to Aristotle's view that some things are *malista* substances, meaning that living beings are substances most of all; the commentator interprets *malista* substances to be the compounds, as opposed to properties (487, 33–35; 497, 30–31)<sup>21</sup>. Michael's account of artefacts is, however, loyal to that of Alexander of Aphrodisias. As mentioned in the Introduction, Michael attempts to continue Alexander's spurious commentary. However, while Michael adheres to Alexander's view that artefacts are accidental beings, he departs from him on some rather important metaphysical points. The most significant and indeed crucial for the present discussion concerns the status of forms<sup>22</sup> [15].

We have seen that according to Michael forms are not substances because they cannot exist *per se*. A form is not separate and is not a *tode ti* (something determinate). To this extent, forms of natural beings exist in reality but they are neither substances nor something determinate. By contrast, according to Alexander, a form is a substance if it is a structural aspect of a substance and, when it is so, it is a *tode ti*<sup>23</sup> [16,17]. In particular, forms of natural beings are substances, whereas forms which exist by art explicitly fail to be substances (*On the Soul* 5,1-2; *Mantissa* 103,29). *Quaestio* 1.21 shows that the account of artefacts does not differ from that of the Ephesian but can be paired with the view that forms of natural beings are substances: "The natural forms are substances, the artificial ones are qualities" (35, 6). Artefacts cannot be substances as such but only insofar as their matter is substance; only the natural bodies, being matter of artefacts, are substances (*Mantissa* 5, 121.17–19). The reason why not only artificial matter (like for Michael) but also natural forms (unlike for Michael) are substances is 'that each of them is something determinate (*tode ti*), like earth or fire'. As we read in *Mantissa* 6, 122.11–12, hylomorphic compounds

are substances as subjects, according to the *Categories* criterion, as well as insofar as their forms are something determinate, *a tode ti*. The view that natural forms are something determinate and substances is also held by the Neoplatonic Asclepius of Tralles, who, in his commentary to *Met. Z*, states that artefactual forms are not substances (452, 11), for ‘substance is the form in natural things’ (452, 11–12). Michael’s denial of the *per se* existence and substantiality of forms sets him apart from the previous commentators on Aristotle’s *Met. Z*.

This recognition of Michael’s originality as an Aristotelian commentator has potential repercussions. For the view that forms do not exist *per se* might lead one to blur the distinction between artefacts and natural things, for natural things thereby become dangerously close to mere arrangements of material parts. To this extent, however, Michael seems in line with the more general Byzantine tendency to reject not only Platonic Ideas as existent *per se* but also the Aristotelian immanent forms<sup>24</sup> [18]. His understanding of forms as necessarily enmattered and particular is akin to John Italos’ view that universals in the particulars are perceptible because they exist only in the perceptible individuals. This resemblance, alongside the view that some forms, such as those of artefacts, exist only in thought, might open the field to the identification of further potential parallelisms with Byzantine discussions concerning the ontological status of universals. More needs to be carried out to fully comprehend Byzantine metaphysics and bring to the surface its many faces<sup>25</sup> [19]. This paper adds a small tile to the mosaic of the ontology of artefacts and contextually shows that Michael can be ascribed a definite position on this topic.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Not applicable.

**Conflicts of Interest:** The author declares no conflict of interest.

## Notes

- 1 Ms. Laurentianus 87, 12 is the oldest witness of the commentary on *Met. Z*–H. Cavallo [1] argues that it is to be dated to the end of the eleventh century.
- 2 Even the best-case scenario would not erase the complexity and variety of Byzantine philosophy, as rightly emphasised by Trizio [2].
- 3 Note that the ontological status of artefacts is also a logical issue. For similar ontological discussions in Byzantine logic, see Erismann [3].
- 4 In this paper, I refer to the interpretation of Aristotle’s ontology of artefacts given in Papandreou [4]. See Katayama [5] for another book-length discussion of this topic.
- 5 The last scholar who believed that the commentary in question is not by Michael of Ephesus is Tarán [7], whose arguments have been refuted by Luna [8].
- 6 The idea that Alexander was the author of this continuation has been propagated through Sepulveda’s 1527 translation and has no foundation. There are, however, doubts on the authorship of the comments on Book E. See Golitsis [9].
- 7 The range of things that come to be by *technê* can be extended to qualities, such as the health restored by a doctor, or processes, such as the boiling of water. In the present discussion the term ‘artefacts’ includes human-made concrete material objects which typically come to be by some more or less established discipline.
- 8 Translations of Michael’s *in Metaph. Z*–H are based on Hayduck’s 1891 edition and are my own.
- 9 ‘Those who do not posit separate forms do not run into this problem, for they claim that the man or the form of man does not exist *per se*, separate it from the many [men] in thought and concede that such a nature exists in the particulars’ (496, 33–36).
- 10 This Neoplatonic expression also occurs at 707, 21 and 719, 13ff. on Book Λ.
- 11 The identification of ‘essence’ with ‘nature’ is standard Byzantine ontology. See, for instance, John of Damascus’ *Dialectica* 31 lines 23–29.
- 12 The discussion will henceforth set Michael’s account of God aside, thus not referring the term “forms” to it.
- 13 Note that the acquisition of a substantial form and the resulting production of a new hylomorphic being does not yet mean that the outcome is a substance.

- 14 Winds, dinner, and breakfast can be labelled as conventional beings.
- 15 Or, as it turns out, the coming to be of a certain quality.
- 16 As stated earlier, form as nature is separable from matter in thought.
- 17 In fact, for Aristotle, it is the form in the object that is the source of the form in the soul, as mentioned in Section 2.
- 18 See, for instance, *Peri Ideôn* 79.23 and 80.6.
- 19 Here the discussion moved to Chapter 3 of Book  $\Lambda$ , which builds on the results of and is tightly connected with Z 7–9. For the relation between  $\Lambda$  3 and Z 7–9 see Judson [13].
- 20 Cf. Themistius in *Metaph.* 6, 32 (1070a13-17): '[...] or perhaps it is possible for [each form] to exist in thought, but it is impossible for it to exist separately. We say that artificial forms are like this [i.e., the latter option], as is clear in their case; for the form of a bed, e.g., cannot avoid existing either in the wood or in the carpenter's thought; and the form of health cannot avoid existing either in the body or in the doctor's thought. These things neither come-to-be nor perish, but they exist or do not exist in a different respect, as we have said many times' (Translation by Meyrav [14]). Unlike Themistius, Michael would not grant that the form of a bed can exist in the wood, but only in the carpenter's thought.
- 21 Note that this means that, according to Michael, also non-living natural beings, such as the stone, are substances.
- 22 On Alexander of Aphrodisias and Asclepius of Tralles on forms of artefacts, see Papandreou [15].
- 23 For Alexander's notion of form as substance, see, for instance, the discussion between Rashed [16] and Kupreeva [17].
- 24 Ierodiakonou [18] (p. 237).
- 25 Here I am referring to and seconding Bydén and Ierodiakonou's [19] perspective.

## References

1. Cavallo, G. Scritture informali, cambio grafico e pratiche librerie a Bisanzio tra i secoli XI e XII. In *I Manoscritti Greci Tra Riflessione e Dibattito*; Gonnelli: Firenze, Italy, 2000; pp. 219–238.
2. Trizio, M. Byzantine philosophy as a contemporary historiographical project. *Rech. Philos. Médiévales* **2007**, *74*, 247–294. [[CrossRef](#)]
3. Erismann, E. Logic in Byzantium. In *The Cambridge Intellectual History of Byzantium*; Kaldellis, A., Siniosoglou, N., Eds.; Cambridge University Press: Cambridge, UK, 2017; pp. 362–380.
4. Papandreou, M. *Aristotle's Ontology of Artefacts*; Cambridge University Press: Cambridge, UK, 2023; *forthcoming*.
5. Katayama, E. *Aristotle on Artifacts*; State University of New York Press: Albany, NY, USA, 1999.
6. Golitsis, P. The manuscript tradition of Alexander of Aphrodisias' commentary on Aristotle's *Metaphysics*: Towards a new critical edition. *Rev. D'histoire Textes* **2016**, *11*, 55–94. [[CrossRef](#)]
7. Tarán, L. Syrianus and Pseudo-Alexander's commentary on *Metaphysics* E-N. In *Aristoteles: Werk und Wirkung*; Wiesner, J., Ed.; Walter de Gruyter: Berlin, Germany; New York, NY, USA, 1987; Volume 2, pp. 215–232.
8. Luna, C. *Trois Études sur la Tradition des Commentaires Anciens à la Métaphysique d'Aristote*; Brill: Leiden, The Netherlands, 2001.
9. Golitsis, P. Who Were the Real Authors of the *Metaphysics* Commentary Ascribed to Alexander and Michael? In *Aristotle Re-Interpreted*; Sorabji, R., Ed.; Bloomsbury Publishing: London, UK; New York, NY, USA, 2016.
10. Sharples, R.W. Pseudo-Alexander on Aristotle, *Metaphysics* Lambda. In *Alessandro di Afrodizia e la 'Metafisica' di Aristotele*; Movia, G., Ed.; Vita e Pensiero: Milan, Italy, 2003; pp. 187–219.
11. Golitsis, P. La critique aristotélicienne des Idées en Physique II 2 et l'interprétation de Simplicius. *Rev. Sci. Philos. Théologiques* **2017**, *101*, 569–584. [[CrossRef](#)]
12. Miller, F.D., Jr. 'Alexander': *On Aristotle Metaphysics 12*; Bloomsbury Academic: London, UK, 2021.
13. Judson, L. Formlessness and the Priority of Form: *Metaphysics* Zeta 7-9 and Lambda 3. In *Aristotle's Metaphysics Lambda: Symposium Aristotelicum*; Charles, D., Frede, M., Eds.; Oxford University Press: Oxford, UK, 2000.
14. Meyrav, Y. *Themistius: On Aristotle Metaphysics 12*; Bloomsbury Academic: London, UK, 2020.
15. Papandreou, M. The Shape of the Statue: The Greek Commentators on Aristotle's *Metaphysics* on Forms of Artefacts. *Hist. Philos. Log. Anal.* **2020**, *23*, 398–422. [[CrossRef](#)]
16. Rashed, M. *Essentialisme: Alexandre d'Aphrodise Entre Logique, Physique Et Cosmologie*; De Gruyter: Berlin, Germany, 2007.
17. Kupreeva, I. Alexander of Aphrodisias on Form: A Discussion of Marwan Rashed, *Essentialisme*. *Oxf. Stud. Anc. Philos.* **2010**, *38*, 211–249.
18. Ierodiakonou, K. John Italos on Universals. *Doc. Studi Sulla Tradiz. Filos. Mediev.* **2007**, *18*, 231–247.
19. Bydén, B.; Ierodiakonou, K. (Eds.) *The Many Faces of Byzantine Philosophy*; The Norwegian Institute at Athens: Athens, Greece, 2012.