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**Nira Arapovic**



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**Aristotle's Hylomorphism and the  
Mind-Body Problem**

*Bachelor's Thesis*

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**Author of the Thesis:** Nira Arapovic

**Thesis Advisor:** prof. Janusz Salamon, Ph.D.

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## **Bibliographic note**

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## **Abstract**

This thesis explores the applicability of Aristotle's hylomorphic theory to the contemporary mind-body problem. It argues that hylomorphism, as a non-reductive, non-dualistic account of the mind-body relationship, could provide a valuable perspective in contemporary philosophical debates. By considering the mind as the form of the body, hylomorphism can accommodate both the subjective experience of consciousness and its integral relationship with the physical brain.

## **Declaration of Authorship**

1. The author hereby declares that he complied this thesis independently, using only the listed resources and literature.
2. The author hereby declares that all the sources and literature used have been properly cited.
3. The author hereby declares that the thesis has not been used to obtain a different or the same degree.

In Prague, on 30.12.2023

Nira Arapovic

# **Bachelor Thesis Proposal**

## **Aristotle's Hylomorphism and the Mind-Body Problem**

What is mind? Is it physical or not? Is it connected to the brain or is it an entity all for itself? And why do we need to know? All of these questions, humans have been trying to answer for centuries and we still cannot pinpoint a certain answer to any of these. The reason why these are important questions is because humans are naturally curious beings, and we try to explain everything, but it is very interesting that humans were not able to explain the one thing that allowed them to think in the first place.

In my thesis I will discuss all of these things and try to explain why exactly mind cannot be reduced only to brain. I will be discussing the theory that mind is not a physical entity, but rather a metaphysical one. In philosophy, there are different theories as to what exactly mind is, but I would like to focus on non-physicalist theories of mind. Regarding these theories, philosophers argue that mind is not a physical entity, and therefore it cannot and should not be reduced to only brain. To be more precise, I will explain how Aristotelian hylomorphism can be applied to the mind-body problem. But first, we need to explain what exactly is Aristotelian hylomorphism. It is a theory saying that every physical object has also a non-physical, substantial form. To simplify, every entity has a physical form, and its essence, which is not physical. This can also be applied to the mind, and because of this one can conclude that mind might be considered as the essence of the brain. I believe that both mind and the brain cannot be without one another, but mind should not be reduced to only brain and vice versa.

One of the papers that I will be referring to is “Aristotelian Hylomorphism: A Framework for Non-physicalist Philosophers About Philosophy of Mind” by Ricardo F. Crespo in which he explores the idea where Aristotelian hylomorphism enables us to see answers about the non-physicalist theories of mind, which do not fall under the category of dualism. In this paper, he explains how living beings cannot be reduced to only matter because they are much more than that. Another article that I will be further discussing is “Hylomorphism and Human Wholeness: Perspectives on the Mind-Brain Problem” written by Michael J. Doods. Similar to Crespo, Doods also looks at Aristotle’s philosophy of hylomorphism and how it can help us understand the mind that is metaphysical, and its correlation to the brain. He explains how the substantial form and the physical form initially compose one human being. His idea is that the substantial form is “inside” the physical form. Another paper that I will be mentioning is “Hylomorphism and the Construct of Consciousness” written by William Jaworski. In this paper, he explains how tightly consciousness and hylomorphism are connected. He argues if a hard problem with consciousness exists, it did not arise with the hylomorphic framework, but rather because of a view that rejects the said framework.

The data that I will be analyzing will be, firstly, from a survey conducted by David Bourget and David J. Chalmers, whose results they published in an article called “What do philosophers believe?”. I will only be reviewing the data regarding the question “Mind: non-physicalism or physicalism?”. I believe it is important to view what do current philosophers think, and which option would the majority choose. I will be reviewing an essay called “Animal Emotions: Exploring Passionate Natures” written by Marc Bekoff, in which he discusses about research done regarding animals and whether they feel emotions or not. The reason why this is important is because I will be making correlations between consciousness and emotions, and how they all make up the essence that is the mind. I will also be looking at another article “Mind-body research moves towards the mainstream” written by Vicki Brower, in which she explains how the common saying “too much stress makes you sick” has some truth in it. The purpose of this article is to show the connection between the mind and the body and how the two interact with one another.

All of these sources will be important to review in regard to my topic. Comparing views from different philosophers and different data from researchers will help shed light more closely on the mind-body problem and on what the mind really is. Of course, it is a rather difficult thing to examine because all of these are still just theories, but in the end, the mind might be difficult to understand because it is rather subjective and because there are way too many different minds out there to analyze from a scientific point of view.

### **Outline**

- I. Aristotle's philosophy of mind
- II. Non-physicalist conceptions of mind
- III. Is Aristotelian hylomorphism a non-physicalist theory of mind?
- IV. Responding to a physicality interpretation of Aristotle's theory of mind

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## 1. Introduction

Aristotle paved the way for many fields of the world as we know it today. But one of his most notable works is *Metaphysics*. In *Metaphysics*, he sets an outline for hylomorphism as the true framework to determine what is reality. The theory of hylomorphism is that every single thing is composed of two aspects, form and matter, but not in the literal sense, in a rather metaphysical sense. This idea has been built on, in various different fields of philosophy, among which is the philosophy of mind. Within the philosophy of mind, we have the mind-body problem, which is a discussion on whether mind is a physical entity or not. (Fesser, 2006) There are various different theories for the mind-body problem, such as materialism, dualism, their variations and many others, but I will be focusing specifically on non-reductive physicalism. Generally, theories for the mind-body problem can be divided into physicalist theories, that imply that mind is reducible to the physical aspects of the body, and other theories that are non-physical, such as dualism, which imply that the mind is not physical, but rather something totally separate. Non-reductive physicalism is a theory that sits right in the middle. (Thing in itself, 2022) With non-reductive physicalism, the mind cannot be reduced to the physical aspects, but it is not entirely separate from the physical. While Aristotle could not have predicted the contemporary problems of the philosophy of mind, we can surely use what he has written to try to reach a conclusion to the mind-body problem. It is just important to keep note of the inconsistencies that he may have had and things that he may have overlooked.

## **1.1. The Aim and the Outline of the Thesis**

The main aim of this thesis is to determine if it is possible to use the ancient hylomorphic theory in such a way to answer modern-day contemporary problems revolving around the mind-body problem. With the use of hylomorphism, I also want to address that we could consider the mind as a metaphysical entity that is not separate from the physical body, but also not reducible to the physical. With the application of different aspects of hylomorphism, such as potentially and actuality, change and the four causes, I will attempt to explain how to solve further contemporary problems that specifically non-reductive physicalism deals with.

The structure of this thesis is organized in such a way where the first thing that I will focus on is Aristotle's hylomorphic theory, in order to provide extensive understanding of the hylomorphic model. Hylomorphism has many different aspects that I will tackle, as I want to use it to explain something as complex as the mind-body problem. Thomas Aquinas has also attempted to do this, incorporate hylomorphism within the mind-body problem, thus laying the foundation for hylomorphic dualism. I will discuss hylomorphic dualism, attempting to understand the contemporary issues that it solves when it comes to the mind-body problem. After this, I will discuss the issues and the limitations of hylomorphic dualism, followed by other issues or inconsistencies generally related to Aristotle's hylomorphic theory, providing a couple of solutions. Finally, in the last section, I will present non-reductive physicalism and why it is possibly more accurate than hylomorphic dualism. I will show how we can incorporate hylomorphism with it. I will lay out the solutions for the contemporary problems, but also the limitations of non-

reductive physicalism, with the attempt to resolve those issues by rules provided by the hylomorphic model.

## **1.2. Methodology**

The first aspect of this methodology was choosing an adequate theory regarding the mind-body problem which would align with hylomorphic rules that Aristotle laid out. By analyzing various theories, I have concluded that non-reductive physicalism is better aligned with hylomorphism than hylomorphic dualism or any other mind-body theory. After this, I will analyze different articles, academic writings and books that discuss hylomorphism, hylomorphic dualism and non-reductive physicalism. By analyzing works by Aristotle and other philosophers, such as Renz, Ainsworth, Matthen, Angioni, O'Rourke, Kar and others who were studying hylomorphism, I will provide information necessary for the full understanding of the hylomorphic theory. For the full comprehension of hylomorphic dualism, I will also look into Aquinas and his laid foundation for the theory, as well as others, such as Paolozzi, Oderberg, Pasnau, and more. For the final section, my main focus is going to be works by Jaworski, followed by Charles, Kuusela, Dodds, Crespo, and more. By analyzing the articles on, both, non-reductive physicalism and hylomorphism, I will provide how to effectively use the hylomorphic model to reach some conclusions regarding the issues non-reductive physicalism deals with.

## 2. Aristotelian Hylomorphism

Views and definitions set by Aristotle, paved the way for many philosophies and sciences since the time of ancient Greece. Aristotle wrote many books, but *Metaphysics* is the most important book in order to understand hylomorphism and what it is. In *Metaphysics*, Aristotle discussed many aspects of life and existence and he attempted to answer many questions surrounding the nature of being. He attempted to answer all possible questions that he could think of, which is clear in how concise his arguments were, and he also proposed arguments against his ideas and combated them as well. He was on a mission to determine the answers to questions such as: What is the essence of existence? What are the fundamentals of reality? How and why do things change, and what are the constants that do not change? He breaks down his arguments into sections, where he thoroughly explains one problem of the metaphysical reality. Aristotle attempted to understand being, and what does that mean, and based his argument on understanding the structure of reality through hylomorphism.

### 2.1. Hylomorphism in *Metaphysics*

In order to understand what hylomorphism is, we first need to understand the meaning of the word. Hylomorphism is made up of two Greek words, ‘*hylē*’ and ‘*morphē*’. ‘*Hylē*’ means ‘matter’, while ‘*morphē*’ means ‘form’. (Britannica, 2016) Aristotle explains this view as a definition of all things that exist. Every natural body that exists is composed of these two aspects, one is matter and the other is form. This idea could be applied to all natural things, all manmade things, all elements, like fire for example, and even phenomena, such as thunder. The matter of a thing would be what the

thing in question is made out of, the underlying or substrate of that said thing. But matter itself does not possess any identity. Which is where form comes in. Form of the thing in question would be its characteristics and properties, things that define it and that make it the thing that it is. Form gives the matter its identity. For example, a golden necklace would not be a necklace if it did not have its 'necklace-ness', which is its form, and the general characteristics that golden necklaces have. Form provides matter with properties such as size, shape, nature and function.

Hylomorphism presents us with the fact that a thing cannot realistically exist with just matter, or simply just the form of something. Matter itself cannot exist without being properly defined by its characteristics. And form, also, cannot exist by itself since the characteristics cannot be applied to absolutely nothing. They must be unified together, and with both of them, they create substance. Everything that exists is just mere matter identified and shaped by form, they are a synthesis that create substances. Substance and explaining what it is, is essentially one of the main tasks of the book *Metaphysics*. Substance is that which underlies or is the substrate of all things. It is essentially the fundamental reality of all things. Further on in the paper, I will explain substances more thoroughly. But currently, it is important to explain what capabilities substances have, with its respective parts: matter and form.

## **2.2. Actuality and Potentiality**

Aristotle proposes an idea about actuality and potentiality of things. As Barnes (2000) discusses in his book about potentiality, Aristotle's ideas about actuality and

potentiality are mostly mentioned in his book *Physics*, whereas the concepts of potentiality and actuality are closely related to metaphysics, and discussed in close relation tohylomorphism, as well. Aristotle's idea of actuality and potentiality is based on change. In all situations, in order for something to have potentiality, which means that it has the potential to be something else, there must first be actuality. When we talk about something's potential, we must firstly discuss the thing that has the potential to change. This is where actuality comes in. Something must be actual, it must be real and it must exist, before having the potential to change into something else. These terms differentiate what in things has the ability to change and what does not. For example, let us take a look at a brick of gold. The gold aspect of the brick has the potential to be something else that is made of gold, like a golden necklace, a golden ring or even a whole set of golden jewelry. In this case, the 'gold' part of the thing would be considered matter, and the 'brick' part of the thing would be considered form. If we look at this from the point of form and matter, we could say that only the matter has the potentiality to become something else. Form, on the other hand is what makes the brick a brick, which would be the actuality of the thing. Actualities in things are determined by form, since they determine that that thing is actually that thing, hence the fact that actualities also determine that thing to be that thing. (Chico the Philosurfer, 2022) But a brick of gold is not actually a set of jewelry, only if we would introduce the action of the melting of the gold, does the brick of gold have the potential to become a set of jewelry, and the melting is what we would consider the act of change. The actuality must exist in an effort for the potentiality to know that there is potential. (Barnes, 2000) If a drummer, for example, is currently not in the act of playing drums, he always possesses the potential to successfully play the drums. But only when he plays the drums does he possess the actuality of a

drummer. Only then is he, in actuality, a drummer. Otherwise, he only possesses the potential to be a drummer. As Aristotle argued (as cited in Barnes, 2000, p.80) “*actuality is in all cases prior to potentiality both in definition and in substance*”, potentiality cannot exist without actuality.

### **2.2.1. Active and Passive Potentialities**

Matthen (2014) mentions an interesting example for potentialities. He suggests that “*Life consists (among other things) in the capacity to metabolize naturally, i.e., by means of active and passive potentialities that belong to a thing because of the kind of thing it is*”. (Matthen, 2014, p.4) He proposes an interesting example where he possibly questions an embryo and its potentialities to become a human. The embryo is incapable of providing nutrition for itself, as it needs its mother to provide it for it. This is where Matthen (2014) provides us with a dilemma where the embryo has two possible ways to metabolize naturally. The first would be the mother’s ability to provide food for the unborn, and the second would be the unborn’s natural ability to metabolize food. These two ways offer us different types of potentialities, such as passive and active. Passive potentiality would be classified as the interference of other’s, which in this case would be the interference of the mother feeding her child, whereas the active potentiality would be considered the baby’s ability to process and metabolize food that is provided. “*The best way to look at the matter is that Aristotle provides us with a criterion for the beginning of life—life begins when the embryo is able to metabolize nutriment on its own, without relying on the assistance of the mother’s metabolic system.*” (Matthen, 2014, p.5) But regardless of that, both potentialities lead to the baby become a functioning human,



but both require some type of change. Aristotle states (as cited in Barnes, 2000, p.80) “*there is always something which initiates the change, and what initiates the change is itself actually so-and-so*”, which is why we need to, now, discuss what is change and how does it work.

### **2.3. Change**

Things are composed of two aspects, as argued earlier, of the actual aspect, and of the potential aspect. These two aspects are determined by change. The actual aspect must exist first in order for the potential aspect to exist, and things change with the potential aspect. Once the potentiality of a thing is acted upon, then and only then can the actual aspect change. Barnes (2000), again, states that Aristotle talks about change a lot in his book *Physics*, and just like actuality and potentiality, change is closely and intricately related to hylomorphism. In the section titled “Matter and Form”, HKT (2021) states that “*Change is analyzed as a material transformation: matter is what undergoes a change of form.*” So, in the case of matter and form, matter has the potential to change. Form does not have the potential to change, and it only changes if the matter of the thing changes. If we take a golden ring, and we put it through change, which in the case of a golden ring would be melting, we can then shape it into something else.

#### **2.3.1. Four Categories of Change**

It is examined in the book *Physics* (as cited in Barnes, 2020) that substances are the ones who have the ability to change, and every change can be a part of four categories. “*A thing can change in respect of substance, of quality, of quantity, and of place.*” (Barnes,

2000, p.75) Barnes explains these four types of changes, and the first one is the change in substance. A change in substance means that a thing can change in respects to its existence, meaning that something can come to being or can possibly cease to exist, and that is the change in substance. This change means that a person can come to existence, being born, or therefore as discussed earlier in the thesis, when the baby has the ability to metabolize itself, or that same person can cease to exist when they die. The second type of change is the qualitative change. This change means that the quality of the thing in question changes due to alteration. Barnes (2000) suggests a rather great example, where the quality of the plant will change depending on its surroundings. If the plant has enough sunlight, it will be green and it will flourish, compared to a plant which grows in a dark area. In that case, the plant will turn either dark or it will experience a lack of green color since it does not have the surroundings to flourish. A change in terms of quantity is dependent on growth or reduction. An average animal will start off its life with growth, and later on when it starts reaching old age, respective of the species, they will start to deteriorate. And the last type of change would be motion, which refers to the change of place. These types of changes are closely related to substances and how they can change.

### **2.3.2. Essential and Non-essential Change**

There is also another group of changes that Aristotle talks about, which is more closely related to metaphysics. These types of changes are non-essential and essential changes. These changes are essential, but not in a way where they must happen to that thing, but rather that if they happen, they determine what is the type of thing in question. Non-essential changes that occur relative to one thing are changes that do not change the

fundamentals of what make that thing specifically that thing. (Chico the Philosopher, 2022) These changes are called accidental changes. In accidental changes, the substance in question does not change, it just takes on another characteristic, that is not essential in the attempt to define that thing. For example, if we were to take a golden bracelet, and dip it in some sort of purple paint, the golden bracelet would still be a golden bracelet. The purple paint does not remove or disrupt the golden bracelet being a golden bracelet, since the golden part of it had not been removed, it is still made out of gold, the same as the bracelet aspect of it has not been removed, as it is still a bracelet. The essential aspect of the thing has not changed and therefore the thing is still that thing. This would be an accidental change. In this case if we were to take the golden bracelet and, instead of painting it with purple paint, we smash it with a hammer, or even melt it and let it cool down, the bracelet would not be a bracelet anymore. It would be a lump of gold that does not have the properties of a bracelet anymore. This is what we would call substantial change. In cases of substantial change, the properties of the thing in question change, and that means that the thing loses that aspect of what makes it that thing. The golden bracelet that has been melted into a lump still has the matter of gold, but the matter lost the form that made it a bracelet. It has now taken on a new form, which serves as an identifier of the said matter. Form is what determines the properties of a thing, and if those change, then the thing has substantially changed.

In every substantial change, Aristotle (as cited in Ainsworth, 2020) claims that there must be three things that the process of the change consists of. First would be that there must be something which underlies and persists through the change. Second would be the ‘lack’

of both things, where the thing lacks proper properties. And the third would be the final form which the thing acquired throughout the change. For the first part, we would consider matter as the thing that persists through the change. In the case of the golden bracelet, the gold would be the part that would persist throughout any change of the entire thing. The second part is just simply the so-called lack of form, since the thing is in between two forms, it does not possess characteristics, and regarding the example of the golden bracelet, it would be the part where the gold is entirely melted and liquid, but not before it cooled down and hardened. The third part would be the newly acquired form, where something new came into being, the thing which has persisted through the change now has new properties. In the instance of the golden bracelet, the newly formed, hardened lump of gold would be the newly acquired form of the gold/matter. This is why matter and form are tremendously important when we talk about substantial changes, because it is essentially the change of the substance. In every change, the beginning state and the final state must be very clear, and if they are not clear, then no change has occurred. (Barnes, 2000)

But on the other hand, when we talk about just accidental changes, Ainsworth (2020) states that the underlying thing that persists through the changes is the substance. Since the substance does not fundamentally change in any way, it still remains the same substance, with newly acquired form, which we would classify here as accidental form. If a person learns how to play an instrument, they go through a change, but whether or not someone knows how to play an instrument does not determine whether they are a person or not. Their substance does not change, but they have just attained a new, non-

essential property, which would identify as the already mentioned, accidental form. Then, if accidental forms exist when things change accidentally, then, when things change substantially, that means they must have acquired a new substantial form. I will further expand on substantial forms in the “Matter and Form” section. But it is important to note that substances have the ability to change, either accidentally or substantially, and these changes would result in the attainment of the new form, either accidental form, or substantial. (Chico the Philosopher, 2022)

## **2.4. Substances (Categories and Predicates)**

As we have discussed in the “Change” section, a substance, in order to be a substance, must possess at least one substantial form. But it can also possess a number of accidental forms, as they do not determine whether that is that substance. Substantial form will determine the substance to be the kind of thing that it is. Without substantial form, a substance cannot be any sort of thing since it will not have any essential properties. (HKT, 2021) Substances are things that can be identified individually. As Barnes (2000) states we can refer to any substance with ‘this so-and-so’. Any ‘this so-and-so’ has essential properties, that it cannot exist without and that serve as its identifiers.

### **2.4.1. Primary and Secondary Substances**

Aristotle introduced the concept of substances in his work called *Categories* (as cited in Bostock, 1994). He introduces the idea that all things are a part of one of these ten categories: “*substance, quantity, quality, relation, place, time, position, state, action, or affection.*” (Bostock, 1994, p.84) Bostock (1994) also explains, in this commentary,

that Aristotle used the word '*katēgoria*' to refer to the categories that he was talking about, and that this word only means 'predication' or a 'predicate'. This would mean that these predicates are what determine things and that substance was one of the predicates. The things predicated in the relation to the substance, we could divide into primary substance and secondary substance. "*The category of substance includes both primary and secondary substances, though the first are particulars and the second universals.*" (Bostock, 1994, p.44)

Universals would be correspondent to the groups of things, such as species or genera. They would represent the universal essence for a particular thing that share characteristics. He believed that the universals would be eternal, since they represent the perfect forms of what it would mean to be that kind of thing. (Bostock, 1994) For example, we have many types of chairs, such as office chairs, dining chairs, camping chairs, rocking chairs, and many more. All of these might be made out of different materials, made by different kinds of people, might have different shapes, but they all share the same thing, which would be the purpose of chairs, to be sat on. That is also present with us, the human nature is what it means to be human, and that is present with each and every living human.

Aristotle's goal with hylomorphism was to examine and determine the nature of objects and how they come into and out of existence. He has discussed the ideas of grouping things, the main ideas of hylomorphism and of the causes was to determine discussed things in particular. (Barnes, 2000) Particulars refer to particular objects, or to one

singular, concrete object within the physical world. Particulars are closely related to universals, since universals determine their natural and true form, but they have unique portions of matter. Aristotle argued that particulars specifically exist in time and space, since they come into existence, and then at a certain point, cease to exist, by losing the specifics of what make them those things. (Barnes, 2000) For example, if we take a chair, and tear it apart for its materials to be used in a different way, then that is no longer a chair. But the nature of other chairs has not changed, and what makes other chairs, chairs has not changed. And when it comes to specifically humans, a single human being is a unique instantiation of the universal human nature.

#### **2.4.2. Ambiguity**

The whole focus of *Metaphysics* is to determine what substances are and how and why do they exist. In a short answer, substances are supposed to be an answer to a question ‘What is that thing?’ (Barnes, 2000). Substances are supposed to provide a concise answer and an answer that will help us understand that thing to its full extent. But that is easier said than done, since not only is the question often not precise, but the answer would not be entirely sufficient. If we were to ask that question for one specific thing, the answer could be any descriptor, because the question does not offer any precision, so if I were to ask someone ‘What is that?’, pointing to a golden wrist-watch, in return, I could get a variety of answers, such as: ‘That is golden’, ‘That is a watch’, ‘That tells time’, ‘That is a device’, ‘That is a piece of jewelry’ and many more. So, it really depends on the person being asked the question and how they look at that specific item. Ainsworth (2020) provides us with another interesting example where the definitions of substances would

be quite ambiguous and not so accurate. If we take a look at a human, that would be a substance, but on the other hand, would a dead body of a human also be that same substance? Well, Ainsworth (2020) argues that those two would not be considered as the same substance. It would be impossible since the dead body does not have any of the capabilities a living body does. It cannot perform the normal functions that a living body performs on a daily basis. The only thing that would be the same, in this case, would be the flesh of the body, but even that would start to deteriorate within some time. So, we need to be more precise in defining both the questions and the answers in order to determine if things are substances. That is why Aristotle proposes an idea of causes.

### **2.4.3. Four Causes and the Nature of Things**

If we would like to determine all the knowledge about a singular specific substance, we must determine that thing's four causes: the material cause, the formal cause, the efficient cause, and the final cause. (Ainsworth, 2020) The first is the material cause, and this is basically what the substance is made out of, specifically the material that it is made of. The second cause, or the formal cause, is the form of the substance in question. It is the shape, the arrangement or its structure that determines the formal cause. Third, or the efficient cause determine where the thing in question came from, was it made by someone or did it come from something, basically how did it come into existence. And the fourth and/or final cause is the function or the purpose of that thing. (Shields, 2020) For example, if we take a look at a golden necklace, we could determine that its material cause is gold, its formal cause is the shape of a necklace (with a chain, with possibly a



pendant), its efficient cause would be the jeweler or the smelter, and its final cause would be to serve as a decoration for somebody's neck.

In the section called "Hylomorphism in General", Shields (2020) states that "*Aristotle implicitly makes twin claims about these four causes: (i) a complete explanation requires reference to all four; and (ii) once such reference is made, no further explanation is required.*" So, in order to know what something is, and everything about its existence, we would not need any other information other than its four causes. And while that is true, it is not possible to state all four causes for every single thing or substance that exists. For example, geometrical figures do not possess the efficient cause. (Shields, 2020)

The final causes are not random when it comes to substances. For example, if we plant an apple seed, we can eventually expect that there will grow an apple tree. We know for a fact that anything else growing there, such as a book, or a necklace, is completely impossible. This is because reality and substances operate within the laws of nature. (Chico the Philosopher, 2022) "*Natural behavior and natural structure usually have final causes; for nature does nothing in vain. But the final causes are constrained by necessity: nature does the best she can 'in the circumstances'.*" And sometimes there is no final cause to be discovered at all." (Barnes, 2000, p. 118) The reason why final causes and forms are so closely related is exactly because of the said laws of nature. They operate together in order to determine the actualities of those things. Renz (2020, p.3) states that "*forms generate genuine objects by allowing the right kinds of parts into the mix, and by prohibiting the wrong kinds*", and he provides us with an example of the chocolate

hammer. A chocolate hammer and a regular hammer might look the same, have the same properties, but they cannot operate in the same manner. They do not have the same purpose, or therefore the same final causes, and that is exactly why the forms could not be considered the same, even though they might appear so.

Also, Aristotle noticed (as cited in Ainsworth, 2020) that the last three causes can sometimes have the same answer. Ainsworth (2020), in the paragraph called “Matter and form introduced”, offers us Aristotle’s example “*That is what a house is, i.e., its formal cause, but it is also what a house is for, its final cause, since houses, like all artefacts are functionally defined.*” This is why Aristotle proposes (as cited in Ainsworth, 2020) that there is a special connection between the formal cause and the final cause. The special connection between these two causes exists because the form and the purpose of the substance are closely related and determined by the laws of nature as stated earlier.

#### **2.4.4. Essence**

In a very similar way how form and causes are closely related, essence and causes, are also related. Peramatzis (2018) argues that they are co-dependent and can even be considered to be identical. Mentioned in the section “The Causal-Explanatory Model (CEM) Introduced”, the example that he refers to when explaining this is “*To be the essence of thunder is to be what causes the phenomenon of thunder—what brings on the occurrence of noise in the clouds.*” (Peramatzis, 2018) And that is essentially what thunder is, the occurrence of the noise.

People, often, misuse essence, and refer to it as if it were the form of something, but that would not be entirely right. Essence and form are two different things, they have similarities, but form would possibly be considered as a subset of essence. (Loux, 2006)

The biggest differences between the essence of a substance and the form of a substance would be that the form refers to a specific set of characteristics and properties that define that thing to be specifically that thing, whereas the essence is a lot more abstract, and is basically the fundamental concept that represents the nature of that substance. Unlike form, essence does not only represent specific properties of that thing, but it actually represents the core identity of the substance. The role of essence is to help us categorize substances into different kinds or species based on their fundamental nature. (Loux, 2006)

Angioni (2014) stated that it is necessary for essence to be interrelated with its subject. Aristotle (as cited in Angioni, 2014) referred to how important it is that the logical property of essence is to coexist with its substance. Everything that does not coexist with the substance, does not determine its essence. Angioni (2014) gives an example of this and proposes the idea of being musical. For a human being to be identified as musical does not interfere with the fact that that that someone is exactly that person. The person's essence does not rely on them being musical, so therefore the trait of musicality is not and will never be somebody's essence.

#### **2.4.5. Unity**

In hylomorphism, the concept of unity is quite fundamental, mostly for understanding the form and matter and the relationship between them. Form and matter

are responsible for creating one uniform substance. (Ainsworth, 2020) These two aspects of one substance work together in forming the entirety and the wholeness of that thing. These two aspects, also, work together through change, either accidental change, which does not change the fundamentals of that thing, or substantial change, which then constitutes the fact that if one of these aspects undergo change, the other one essentially changes as well. (HKT, 2021) We would not be able to determine if a thing is actually that thing, without the unity of matter and form of that thing, since either, matter, or form, cannot exist and present a real object while standing alone. They work in harmony, determining what the thing in question is. (HKT, 2021) So therefore, final causes are also dependent on the unity of form and matter. The concept of unity, also, directly correlates with the concepts of universals and particulars. Unity is crucial with universals, since with the universal form of something is that fundamental reality of the thing in question. With particulars, on the other hand, the unity aspect helps us to determine what and how unique that thing is, and what do we need to consider in order to figure out what actually makes it unique. (Bostock, 1994) Unity in particulars would represent the relationship between the universal form of something combined with the matter of that thing, and also other aspects of it that would make it distinct. Unity is crucial in substances, and it allows the conservation of the actual identity of the thing in question.

## **2.5. Form and Matter**

I have discussed earlier how substance is a composition of matter and form. For something to exist, it must be constituted out of both, matter and form. The form of something cannot exist without the existence of matter because something that is nothing

cannot have properties. But if we have the matter without any form, without any characteristics or shape, then it is just that one material, it cannot be any specific thing, except that material or element, because it has no significant characteristics or shape that differentiate it from anything else that is made out of that same material.

### **2.5.1. Metaphysicality of Form and Matter**

We view matter as the stuff that the thing in question is made out of, like materials, flesh, metals, minerals, and so on. Form can be viewed as the properties that are unified, to construct a whole thing, such as the arrangements of the matter. (Renz, 2020) It is important to note that, both, matter and form are not to be viewed as the physical aspects of things, but rather the *“logical parts of substances”*. (Barnes, 2000, p.78) After all, we are talking about a part of metaphysics, and not just physics. Barnes (2000) mentions that the reason why it is important to consider, both, the physical and the metaphysical aspects of things, is because we cannot simply describe or explain a substance in its entirety. We must take into account its physicality, but also its meta-physicality. *“According to some of its contemporary adherents, hylomorphism is not just a theory of material objects, but a general theory of parts and wholes capable of explaining the unity of various concreta and abstracta.”* (Renz, 2020, p.1)

### **2.5.2. Types of Form and Matter**

In the section “Essential and Non-essential Changes”, I have briefly discussed accidental form and substantial form. I have also mentioned that the form of a thing can change, based on the type of change. If there is an accidental change, the thing in question

will have acquired an accidental form, and if there is a substantial change, the thing in question will have acquired a substantial form. So, we could consider the substantial form to be responsible for the thing in question to be that thing, or so-to-say, the actuality of a thing. Accidental form, on the other hand, can be viewed as a principle of accidental actuality. (Chico the Philosopher, 2022)

We can also distinguish two types of matter, primary matter and secondary matter. Primary matter is essentially what we have classified as matter so far. It is the matter that can undergo substantial change. It can be anything, since it has pure potentiality to become anything, within the respects of nature of that matter. Pure potentiality for matter means that, for example, we can shape gold into anything that is golden, but we cannot shape it into a silver statue, since it is not within the laws of nature to operate in that way. But it still has the ability to become anything that could potentially be made out of gold. Secondary matter, on the other hand, is quite more broad than primary matter. Secondary “*matter can itself be divided into matter and form*”, as stated in Ainsworth’s (2020) section called “Matter and Form introduced”. This secondary matter is, essentially, comprised out of substantial form and primary matter. Substantial form and primary matter, together, form basically a thing, and that thing can be viewed as a substance. That is why secondary matter is the same as substances, since they can underlie accidental change, without changing the thing or the fundamentals of what makes that thing, that thing. (Chico the Philosopher, 2022) Ainsworth (2020) mentions, in the section named “Matter and Form introduced”, the following: “*Aristotle distinguishes between a thing’s proximate matter, the stuff it is most immediately made of, and its less proximate matter,*

*i.e., the matter of its matter, or even further down the hierarchy, culminating in its ultimate matter, the elements.”* This proximate matter would be considered the primary matter, whereas the less proximate matter would be recognized as substances, and it remain the same after any changes that would not be considered substantial.

### 3. Hylomorphic Dualism

Hylomorphic dualism is an approach of viewing Aristotelian hylomorphism as a dualist view on the mind-body problem. St. Thomas Aquinas is considered to be the one who adopted central aspects of the hylomorphism with a dualistic point of view, through his studies on Aristotle and Aristotle's works, which imply *Metaphysics* and *On the Soul*. (Pasnau, 2022) Since hylomorphism suggests that matter and form are two aspects and that they form a thing together, they could be considered as two different things that might have the potential to stand alone, without the other. Hylomorphic dualism proposes the idea that the matter, when it comes to humans, would be considered the physical aspect of it, which would be the body, whereas the non-physical aspect of a human would be considered the form, and more specifically the soul/mind. (Analogia Entis, 2016) The soul, to both Aristotle and Aquinas, would be considered as immaterial, and therefore would be able to, essentially, be eternal, and live separately from the body. The form of the body, or the soul, would provide the essence of a human being, it would be that which would make a human, a human. (Oderberg, 2015) These two different aspects of a human, the form and the matter, would be considered to be in a relatively harmonious relationship, as they do not impose on the existence of each other, and the soul, would essentially give identity to the body, which to human beings would be life. *“For the hylomorphic dualist..., the acceptance of a genuinely immaterial element in human nature means a greater flexibility in trying to comprehend just how human persons persist.”* (Oderberg, 2015, p.99) The goal of hylomorphic dualism would be to take into account the hylomorphic theory of the reality proposed by Aristotle and try to use it to answer contemporary issues which are closely related to the mind-body problem, from a dualistic



point of view. Hylomorphic dualism stands somewhere in the middle between Cartesian dualism and Physicalism, since it proposes counter-arguments for both, and offers solutions for problems the other two have difficulties with. (Analogia Entis, 2016)

### **3.1. Contemporary Problems Answered by Hylomorphic Dualism**

The reason why hylomorphic dualism was becoming to be widely accepted by various philosophers, as well as St. Thomas Aquinas, is because it provides solutions to some of the quite important contemporary mind-body problem. The issues that hylomorphic dualism addresses are mostly regarding reductionism, the interaction between the physical and non-physical, issues surrounding consciousness and free will, and also the perseverance of personal identity. (Professor McCoige, 2018)

#### **3.1.1. Reductionism**

Reductionism, in regard to the mind-body problem, is one of the key issues that philosophers address. Hylomorphic dualism asserts a viewpoint that since the soul and the body are two distinct aspects, they do, in fact, interact with one another within a human being. (Professor McCoige, 2018) The existence of matter and form is only in relation to substances, since matter and form are simply components of a substance, therefore, by definition, they cannot exist without one another, nor can they be reduced to one another. (Feser, 2009) The mental states of a human would not be able to be reduced to the physical aspects of the body, since they represent the form of the body, which is not physical. (Oderberg, 2015) The soul of someone would represent all the mental aspects, such as thoughts, feelings, consciousness, and while they are closely intertwined with the

body, they cannot be considered as the physical aspects of the body. (Analogia Entis, 2016) Hylomorphic dualism proposes this idea and effectively counters the issue of reductionism that many modern philosophers believe is a big issue when discussing the mind-body problem. As Feser (2009) states, in a paragraph titled “Hylemorphism”, *“hylemorphism is anything but a “reduction-istic” metaphysical position (that is, one claiming that some seemingly diverse or complex phenomena in reality consist of “nothing but” some more uniform or simpler set of elements).”*

### **3.1.2. Interaction and Change**

The interaction between the physical and non-physical aspects within the body constitutes another issue when talking about the mind-body problem. It is difficult to comprehend and explain how and why these two aspects interact, since they exist in reality in two different ways. Cartesian dualism proposes a solution for the interaction problem, where the mental aspects interact with the physical through the pineal gland. Descartes proposed this idea, as presenting one part of the brain as the place where these two aspects interact, but from the philosophical world, that explanation was not sufficient enough. (Feser, 2006) Hylomorphic dualism, on the other hand, presents an explanation that is way more consistent when trying to comprehend it. With the inherent nature of matter and form, in hylomorphism, it would be easy to understand how, both, the physical and non-physical aspects can exist in the same realm. (Ryan, 2004) The non-physical aspect, the form, essentially provides the matter with the identity of what that thing is, which in this case would be a human. Hylomorphic dualism does not propose a specific

location of the interaction of the two aspects, but rather explains how the two cohabit and work well with each other. (Oderberg, 2015)

Like every substance in hylomorphism, a person can also experience changes. (Pasnau, 2022) While the physical body undergoes changes, such as growth, aging and other types of changes of the physical body, the soul itself persists. (Eberl, 2004) The form is in charge of keeping the identity of what that type of thing is, which in this case, would be the soul. In the interaction of the matter and the soul is what makes us humans essentially. The soul is what gives the matter the identity to be the thing that it is, therefore through the life of a person, the soul is what persists and keeps that human, a human. (Eberl, 2004) If the human being experiences substantial changes, which in this case would be the human going through death, only then does the soul as the form cease to exist and the primary matter, the body, takes on a new form of a dead corpse. Interactions of matter and form, or body and soul are extremely crucial and undergo change together. The ways in which they interact is essentially through change, since with change they can only influence one another. This perfectly represents the symbiotic relationship between them.

### **3.1.3. Consciousness**

A lot of philosophers believe, when talking about the mind-body problem, that consciousness is entirely related to the brain, coming from a completely physicalist point of view. Hylomorphic dualism, on the other hand, proposes an idea that consciousness is non-physical, since it is a part that is closely related to the human soul. In order to be a human being, we would need to have the soul, which would imply that consciousness is

just an extension of the rational soul. Paolozzi (2015) gave an example as to how the mind and the body operate in a way where it the mind could not be reducible to the body “*habits lie primarily in the soul and secondarily in the body as the body assists with the operation of the soul.*” (Paolozzi, 2015, p.271) Consciousness is responsible for the human ability to experience thoughts, emotions, perceptions and self-awareness, and could be considered as an inherent property of the soul. The nature of the soul allows it to have specific qualities, subjective experiences and self-awareness. (Ryan, 2004) All of these things help us understand consciousness better. In relation to specific qualities, the soul helps a particular human understand his own particular identity and persist through that person’s life.

#### **3.1.4. Intentionality**

The non-physicality of the soul allows the soul to be able to engage with the physical world. Based on a person’s experiences, they are able to come to conclusions regarding their thoughts, beliefs, desires, all through perception of the world. (Ryan, 2004) This constitutes the close relationship between the physical aspects of a human and mental aspects. The soul provides for the mind to engage with the external world. (Analogia Entis, 2016) The non-physical soul allows the person to have purpose and experiences when interacting with other things in our reality. The soul is what guides the mental aspects of our humanity, and inherently makes us be able to feel meaningfulness and purposefulness. (Analogia Entis, 2016)

### 3.1.5. Free Will

The concept of free will implies that humans have the capacity to make their own choices, of their own accord. Now, the question whether the choices are determined only by physical factors, or if there are non-physical aspect involved raises many concerns. Physicalists struggle with the reductionist theories since then it would imply that free will is based on the physical and would therefore determine that it could not be considered as free will, essentially. (Oderberg, 2015) Hylomorphic dualism proposes an idea that the soul is the aspect which bears the abilities to think, reason and other mental capabilities that are separate from the physical body, among which free will resides. (Ryan, 2004) Free will, in hylomorphic dualism, gives the opportunity to humans to make choices and decisions which are distinct from the physical body. When it comes to decision-making, the soul is the aspect that is in-charge of deliberating, evaluating options, and reaching a decision that would be then exercised with the physical aspect, the body. (Ryan, 2004) Because of the non-physical aspect, the soul is capable of making choices that are not determined by the physical factors, whether internal or external. *“The will is moved by itself and ... it chooses from a range of possibilities offered by the intellect - in this it is said to be determined.”* (Ryan, 2004, p.44) The soul allows individuals to reach decisions that are not merely caused by other factors, and therefore allows self-determination.

### 3.2. Issues and Limitations of Hylomorphic Dualism

We saw in the earlier sections how St. Thomas Aquinas used the hylomorphic model in order to try to resolve some of the issues related to the mind-body problem. Aristotle, himself, was believed to be a dualist, since he proposes that there are two things

that humans are composed of, form and matter. With Aristotle's idea that all human souls would be eternal, it is easy to view the duality between the human form and the human matter.

It is safe to say that hylomorphic dualism provides us with a framework of the mind-body problem and its possibilities in being viewed as an actual theory for the mind-body problem. But on the other hand, any of the theories that exist do come with their limitations and areas where certain things cannot be explained.

### **3.2.1. The Duality of Matter and Form**

The main issue, with these ideas mentioned earlier, is that they inherently imply the duality of matter and form, that matter and form are two separate things, despite their cohabitation. (Professor McCoige, 2018) Because of this idea, dualism would fundamentally make sense. The relationship between the matter and form would constitute the same ideas in dualism, that the mind and body are two separate entities that can inherently exist without one another. But from a hylomorphic point of view, that does not make sense. It inherently goes directly against the hylomorphic idea that matter and form are a part of one thing, that together, they create one uniform thing that can exist.

Matter and form, in hylomorphism, represent one thing and they cannot be without one another. If matter is what is made to be the kind of thing that it is, and if form makes the thing be the thing that it is, then without one another, they simply cannot exist in reality. Matter cannot be made into something without anything else, and form cannot make something out of nothing. So therefore, if we view the soul as the form of the body,

the soul simply cannot be immortal, and it cannot be divisible from the body. Because of that, the dualist view on the problem is quite illogical.

### **3.2.2. Lack of Support by the Philosophical Community**

In contemporary philosophy of mind, philosophers are more likely to lean towards the physicalist theories of mind, compared to the non-physicalist. (Bourget & Chalmers, 2014) When it comes to metaphysics, it is impossible to prove or disprove anything properly, because of the lack of physicality of it. This is why philosophers resort to more physicalist theories, since they can be proven easier, and since we can use science to understand the reality of something. The theory of hylomorphic dualism is entirely abstract and because of that, a lot of people who rely on empirical evidence, in the scientific and psychological regard, would not be satisfied, and therefore cannot accept this theory. Since this is an issue, they also cannot accept the fact that the interaction between the physical and the non-physical is entirely metaphysical. “*The question of whether minds are physical is often viewed settled in favor of the physicalist*”. (Schneider, 2013, p.135)

## **4. Other Issues with the Hylomorphic Model**

Philosophy of mind is a vast field, and since I believe that Aristotelian hylomorphic model might be the right outlook on the mind-body problem, we firstly need to discuss in which ways did Aristotle himself think of the relationship between the matter of humans and the form of humans before we can attempt to establish the relationship between the hylomorphic model and the mind-body problem.

It is important to note that Aristotle lived in Antient Greece, and he could absolutely have not predicted the ideas and questions that we have today. While he was pretty ahead of his time, and he paved the way for many scientists and philosophers, he did not have the knowledge about the world and its science as we do have today. We can attribute some of the inconsistencies in his works to him living so long ago.

### **4.1. Issues within the Philosophic Field**

As we are speaking about science, it is important to discuss the arguments as to why this theory has not gotten more traction. Bourget & Chalmers (2014) conducted a survey with professional philosophers, asking them for their own personal views and beliefs on various philosophical issues. In this study, we can see a couple of questions that have some relative connection to hylomorphism and/or the mind-body problem, questions regarding specifically: Metaphilosophy, Free Will, Knowledge, Laws of Nature and Truth. But the question that would be the most useful for us and the analysis of this issue is “*Mind: Physicalism or Non-Physicalism?*” (Bourget & Chalmers, 2014, p.496)



Out of all of the surveyed philosophers, around 56% answered related to physicalism, whereas around 27% answered related to non-physicalism. The fact that there is almost double the number of philosophers who believe in or lean toward physicalism, compared to non-physicalism is a clear example as to why theories like hylomorphism are not as popular. As stated before, it is easier to look at and examine things that are physical than those that are non-physical or metaphysical, so therefore it is easier for people to agree with something they can know or define for certain.

#### **4.2. Issues with the Soul**

Aristotle argued that all living beings have a soul, and that the soul could be considered as the form of all living things, while their bodies would be the matter. While this idea would be absolutely correct when we are talking about souls, Aristotle, also, believed that mind is just an extension of the soul, but not of every kind of soul.

All living things have a soul, but plants, animals and humans have different kinds of souls, since they are different types of living beings. (Barnes, 2000) Plants have only a nutritive or vegetative soul. This soul is accountable for the growth, reproduction and nutrition within plants. But plants are not the only living beings that have this soul. (Barnes, 2000) Since, both, animals and humans also have these requirements in order to be considered living beings, they all have a nutritive soul. But animals have another type of soul, in addition to the nutritive one, and that is the sensitive soul. (Barnes, 2000) The sensitive soul allows animals, and essentially humans, by extension, to have sensory perception and to be able to move. The sensitive soul allows animals to react to stimuli, through their

senses, and therefore act accordingly with the information they have acquired through their senses. Humans have all of these types of the soul stated earlier, and then build up on it with another type of soul called rational soul. This type of soul allows humans to be rational living beings and to think and reason and use logic with one another. (Barnes, 2000)

#### **4.2.1. Issues with the Immortality of the Soul**

Aristotle believed that the soul can be considered as a form of the body, because of a few different aspects. The capacity of life is what defines the form of all living beings since it is essential to determine the living beings to be actually living beings. We can see the hylomorphic idea of unity, within the body, in the way where all of our different parts of the body work together in order to be alive, such as the heart, the brain, the lungs. The form of the body gives it its structure and the laws of nature allow it to be a living, functioning body. But things start to get a bit tricky when discussing specifically the human soul, or the rational one. Aristotle believed (as cited in O'Rourke, 2016) that the soul had the potential to be immortal. He thought that this soul was eternal and immaterial, as he thought that it could transcend the material world. None of the other soul types had this ability, only the human soul. And while this idea might be in accordance with him mentioning God, it essentially goes directly against the specific hylomorphic model he outlined before this. (O'Rourke, 2016)

If hylomorphism is the theory of everything and if we can determine the truth about reality with hylomorphism, then it is pretty clear that this idea of the immortal soul does not

make such great sense. The possibility of the separation of the matter and the form in any specific thing is already inconsistent with hylomorphism because of the expressed importance of unity. Whereas the later existence of the lonely form or matter goes directly against the definition of a substance and matter and form. Quite some people have stated that he contradicted himself in a significant amount of his works, but I believe that this was a rather big contradiction. If we acknowledge that the ideas for understanding reality would be presented within the hylomorphic model, then those ideas must be applicable to all things within reality. If they are not, if inconsistencies arise, then we simply cannot view hylomorphism as the ultimate truth to everything in reality.

#### **4.2.2. Issues with the Animal Soul**

Since Aristotle was unable to know everything that we know today, it is apparent that he would have made mistakes. And I am not only talking about the inconsistencies that he made, as mentioned in the previous paragraph. With the advancements of science, we found that *“current research provides compelling evidence that at least some animals likely feel a full range of emotions, including fear, joy, happiness, shame, embarrassment, resentment, jealousy, rage, anger, love, pleasure, compassion, respect, relief, disgust, sadness, despair, and grief”* (Bekoff, 2000, p.861) This research would most likely make Aristotle consider changing his views on the soul specifically, since it clearly suggest that at least the animal part of the soul is not as simple as Aristotle explained it to be. With this research, we can see that animals have the capabilities to possess more psychological phenomena than originally thought. Another great example is just how generally “smart” animals use reason to navigate life around them. Crows, for example, throw walnuts on

the streets, so passing cars can crack the walnuts for them. This clearly demonstrated the ability to use reason and problem solving to open a type of food that would otherwise be inaccessible to them.

### **4.3. Issues with Universals and Particulars**

*“Aristotle explicitly says that nothing said universally can be substances.”* (Kar, 2021, p.37) When it comes to all universals, they are too broad to be a substance. On the other hand, substances are a specific thing. But universals cannot exist separately from particulars. When talking about substances, we would be able to say that they are rather a particular more than a universal thing. Universals are things that are easily comprehensible, and a general definition of a type of thing. When we discuss universals and particulars, Kar (2021) argues that Aristotle could have definitely been clearer and more consistent with the fact whether forms are particulars or universals. But, as we noted before, Aristotle had very limited knowledge of the world at his time.

As mentioned before, the hylomorphic model was constructed around the idea of determining the reality of particular objects, which is where another problem arises. Aristotle’s idea for the soul would be considered a universal identity for the form of all humans. While this might be absolutely correct, an issue regarding the distinction between particular humans becomes visible. All humans might have the same human nature, which makes us human, but we are also distinctly different from one another. When Aristotle was talking about humans from a hylomorphic point of view, he was not particularly focused on individuals, but suggested the idea of the rational soul in order to present us

with the human form. Since universals cannot be substances or forms (Kar, 2021), that means that by extension, it is impossible for the general definition of a human being to be a specific substance. In the next section, I will attempt to outline how we can still use the hylomorphic model to determine the particular human from other particular humans.

#### **4.3.1. Possible Solution for the Particulars Issue**

Could we possibly use the hylomorphic model to differentiate two people? When discussing individuals in particular, how do we determine what differentiates you from me, if we both have the same form, the rational soul? This is where I would like to suggest an idea on how to deal with this issue. When looking at universals, we can say that the soul is the form of the human being, the soul is necessary for us to be alive and function as living beings. But, if we focus solely on the human species, I think the better way to look at it when it comes to specifically particulars is to consider the mind to be the form of the body. In a similar manner to how the brain is part of the body, the mind is a part of the soul. That is why it is important to consider these differences between humans. Aristotle did not have the scientific knowledge that we have today, but we can apply his knowledge to what we do know today. If we were to look at the actual things that make humans different from other humans, it would essentially be the DNA, since that is the one thing that is absolutely different in everyone. This DNA effectively differentiates us deliberately from others, and it is most certainly reflected on the form of the body. That is why people think differently and interpret same things in different manners. The DNA alongside the experiences from our senses give rise to the form of the body and create a unique mind that is specific and particular to only that person. Those are the things that

we would use in order to differentiate particulars. It is important to note that interests, such as being a musician, are still regarded as the accidental form of someone. A musical person used to not be a musical person at some points, and they might not continue to be a musical person until they die, but they are essentially still that person. As stated before, substances undergo change, and substantial forms can possibly change, which is when we could see the differences in the behaviors and the thinking of one specific person, but, as hylomorphism states, there must be some primary matter that will even undergo that substantial change, which in this case would be the DNA. The things that make one person specifically that person, with respects to the primary matter and substantial form, are the mind and the DNA and how it is incorporated within the body, being that we can find our DNA in every cell of the body.

## 5. Non-Reductive Physicalism through the Hylomorphic Model

Non-reductive physicalism is a theory attempting to solve the mind-body problem, and its principles are relatively right in the middle of physicalism, which basically reduces the mental aspects to the physical, and dualism, which posits that the mind and the body are two completely different aspects. (Thing in itself, 2022) Schneider (2013, p.135) stated that “*advocates of non-reductive physicalism have generally neglected the topic of the nature of substance, quickly nodding to that all substances are physical, while focusing their intellectual energy on understanding how mental properties relate to physical ones.*” So, if we were to switch out the physical view of the substance, and incorporate the metaphysical view of the substance, the hylomorphic model would make a lot more sense with the non-reductionist theory of the mind. With the non-reductionist view on the mind-body problem, the key principle of this theory is that the mind can absolutely not be reduced to the physical of a human, and that the mental and the physical exist together in the same framework. (Charles, 2021) This is almost the same exact framework that Aristotle pointed out when describing substances, that they are made of substantial forms and of primary matter, and that they cannot be separated. In non-reductive physicalism, the mental aspects and experiences of a human being, such as thoughts, emotions and consciousness, cannot be attributed solely to the physical aspects of the body. While there are reactions in the brain that happen when we think/do something, non-reductive physicalism acknowledges that the mental aspects of a human being are too unique and significant to be reducible to just the brain. (Charles, 2021) They simply cannot be properly explained or fully comprehensible if they explicitly came from physical properties alone. Already, we can see major similarities of the hylomorphic model and of

the non-reductive physicalism. For example, the taste of wine cannot be simply reduced to just the tastebuds, neurons and brain. And while we do experience the taste itself through those physical aspects which are in charge of taste, there is something so distinct about the experience of tasting the wine that it goes beyond the physical aspects. If multiple people tasted the wine, they likely would not have the same experience.

At the same time, while mental aspects cannot be reduced to the only physical, they can also not be independent from the physical. Mental aspects are very dependent on the physical body. Thoughts, emotions and consciousness are closely tied to the physical processes occurring within the brain and the nervous system, and they depend on the physical for their own existence. (Jaworski, 2016) In a similar fashion, forms cannot exist without the body, they need a physical aspect in order to give it the identity that will make it specifically that thing. So, while we consider that the mind is the form of the body, and it is what gives that human its proper unique identity, but it cannot exist by itself, if it is not habituated inside of the human being. *“It’s important to note that words like ‘form’ or ‘structure’ can be misleading in this context. They suggest that hylomorphic structure is a further individual or entity independent of what has it. If structure were such a thing, however, it is difficult to see how it could play the unifying role that structure is supposed to play.”* (Jaworski, 2020, p.1127) In the same way, flesh of somebody’s physical aspect cannot exist by itself and form a functioning human. If we only have flesh, then it could be in any way, shape or form, and it could not represent a human. But if it is particularly structured, in the way the human body really is, with its organs in the right places, with the nervous system connected to all parts of the body and the brain itself, then we can see



that perfect organization and unity mentioned in the hylomorphic model, and the unity between the body and the mind, in a similar way to how we can see the unity of the matter and the form. *“He[Aristotle] is clearly non-reductive, but he is materialist in only one sense: when considering the human being as a united whole. This is the central Aristotelian conception of the living being. However, we should bear in mind that one Aristotelian principle— form—is non-material because by its definition it “informs” matter.”* (Crespo, 2017, p.43)

## **5.1. Contemporary Questions answered via the Hylomorphic Non-Reductive Physicalism**

Since the key principles of the hylomorphism match almost perfectly with the non-reductive theory on the mind-body problem, we can start to explore in which ways could hylomorphism be the answer to the similar contemporary problems that non-reductive physicalism was.

### **5.1.1. The Explanatory Gap**

The gap between the mental and physical aspects could be described as ontological or explanatory. (Barimah, 2018) It is rather difficult to resolve an explanatory gap between the mental and the physical. In regular physicalism, the gap is resolved by the reduction of the mental to purely physical, whereas, for example, in dualism the gap issue is rather larger since the mind and the body are two different things. (Feser, 2006) Non-reductive physicalism, on the other hand, attempts to resolve this issue with the idea that the mental arises from the physical, that it is not the physical, but that it is not different

from the physical either. And the hylomorphic framework would be able to argue the same thing. Aristotle's perspective would generally agree with this model. *“Non-reductive physicalism can thus be seen as accepting the view that an attitude towards a human is an attitude towards a soul; the mental aspect (be it a soul, mind, or spirit) is an irreducible part of the human condition. Non-reductive physicalism helps to formulate this claim and explains how it should be understood.”* (Kuusela, 2010, p.3)

By recognizing the ability for the mental to not be reduced, non-reductive physicalism explains that the mental is closely related to the complex structure of the body and how it works. The physical processes of the body give rise to the subjective mental aspects through unity and organization of the physical itself. (Barimah, 2018) This idea presents us with the possible incorporation with the hylomorphic model, that primary matter stays the same, but the mental aspects can change, and therefore entice substantial change of the mind, and essentially change the person from within. We can see this when we look at how the person changes throughout life. The mental aspects of the child are not nearly the same as the mental aspects of the same person later in life and could always change throughout the experience of the human. The experience and the physical development of the body gives rise to the mind and that is why the mind, as the form of the body, is so closely dependent on the body.

### **5.1.2. Consciousness and Qualia**

Consciousness and qualia present a major issue in the philosophy of mind. Non-reductive physicalism explains how throughout the intricate processes of the body,

consciousness emerges and with the presence of the senses, the non-physical qualia are responsible for the experiences that we have. (Feser, 2006) These parts of the mental are closely dependent on the physical, but also do not represent entirely the physical. Chalmers stated that (as cited in Jaworski, 2016, p.254-255) *“A mental state is conscious when there is something it is like to be in that state. Conscious states include states of perceptual experience, bodily sensation, mental imagery, emotional experience, occurrent thought, and more . . . Each of these states has a phenomenal character, with phenomenal properties (or qualia) characterizing what it is like to be in the state . . . There is no question that experience is closely associated with physical processes in systems such as brains . . .”* The consciousness of a person is what makes that person specifically that person, and the qualia are the personal experiences that only that person experiences. (Barimah, 2018) Since everyone has a brain and generally the same structure of the body, we could argue that those structures of the brain are the same, and therefore could potentially experience things in the same ways. But the main difference lies in the differences of the mental and physical, where they are connected, but have different roles within us.

By adopting the hylomorphic view, it is easily arguable that the physical has the potentiality. Our physical senses and structures of the body take on the property of potentiality. There is tremendous potential in all of our body parts for all types of experiences. Only through the actual consciousness and through the actual qualia of a person can we see the actuality. The actuality is what makes that person specifically that person, so therefore even though everyone has the potentiality, the actuality is what makes

us specifically us. Let us take the example of tasting wine. Our tastebuds and other organs responsible for our experience of taste allow for the wine to potentially taste good, or bad, or weird, or leave us confused, but our actual qualia is what determines the specific taste for specifically the person tasing it. That is why people experience the same things, through the same body parts, in different, and often drastically different ways. That is why I believe it would be safe to say that consciousness and qualia are closely dependent on the physical processes, but, at the same time, they possess qualities that do not have any physical aspects and therefore should not be reduced to the physical, but rather remain metaphysical, in accordance with the hylomorphic model.

### **5.1.3. Emergence**

The issue of emergence is based on how exactly the complex mental aspects emerge entirely from the simpler physical processes within our bodies. (Dodds, 2009) As mentioned before, we could not have the mental aspects, such as consciousness, without the physical, so therefore we could say that the mind emerges from the physical body, or the brain specifically, in a similar matter how the qualia emerges from our senses. Aristotle proposed an idea that non-reductive physicalism relatively takes on, which would be regarding the properties of that thing. Crane, while discussing emergence, has claimed that (as cited in Kuusela, 2010, p.391) “*whether an interesting version of non-reductive physicalism is possible depends on whether conceptual reduction is possible*” and if we adopt the hylomorphic framework, reduction to entirely physical is impossible.

Non-reductive physicalism can explain the emergence problem through an example such as salt. Salt has its chemical compounds that determine the salt. But salt is also determined by its properties, such as the way it tastes, the way it is granulated, the way in how it dehydrates, and so on. The mind, in the same matter, is just composed of the properties for what make us the person that we are. The physical processes and how our neurons work and how the brain works is a lot more complex than just the chemical structure of the salt, but that is exactly why the form is also a lot more complex than the simple properties of the salt. If we take the example of dreams, we can see that the cause of dreams is our brain and our synapses working while we sleep. So, our brain processes that happen during our sleep give rise to the mental images in our brain. But the pictures and events that we see while dreaming are not physical, nor are they real. We still do not know how and why dreams happen, but they are just an example of how the physical can effectively give rise to something non-physical, like the images in our brain.

#### **5.1.4. Mental Causation**

*“The problem of mental causation is the problem of how mental phenomena like beliefs can cause physical movements of the body.”* (Kuusela, 2010, p.3) Non-reductive physicalism asserts the idea that the mental has the ability to influence the physical. For example, if we were to move our hand, that would have to first appear as an idea in our mind as wanting to move the hand, and only then would the physical action take place. Jaworski (2016) offered Tyler Burge as an example for the struggles of the mental causation issue. *“He[Tyler Burge] has looked to solve the problem of mental causation by appeal to commonsense explanatory practice, ... his attempt to solve the problem has*

*failed to address the deeper metaphysical puzzles about mental causation. Hylomorphism provides the needed framework.”* (Jaworski, 2016, p.7) If we take into account the general interactions between matter and form, as discussed in earlier sections, we can refer to the fact that the primary matter is specifically defined by the form, and by the organizational structure offered by the form. If we continue with the argument that the mental is the form, and the physical is the primary matter, then it would be safe to assume that the mental gives not only causation, but the organizational structure to the physical. *“Non-reductive physicalism does not violate the principle of the causal closure of the physical domain and in effect it does not contradict physicalism because the mental domain supervenes on the physical domain and thus mental causation is indirect physical causation.”* (Barimah, 2018, p.76)

#### **5.1.5. Psychophysical Laws**

Psychophysical laws are supposed to be the laws that are responsible for the connection between the mental and the physical. These laws represent ‘the rules’ in which the two interact. Non-reductive physicalism presents us with a close relationship between the mental and the physical. *“Based on the idea that there cannot be “strict” psychophysical laws, Davidson articulates his non-reductive physicalist proposal... claiming that the mental properties supervene on the physical properties even though they cannot be reduced to these.”* (as cited in Morales, 2015, p.30-31) Davidson also introduced the term supervenience, in attempt to combat the issue of psychophysical laws (as cited in Kuusela, 2010, p.216) *“it is consistent with the view that mental characteristics are in some sense dependent, or supervenient, on physical*

*characteristics.”* Kuusela (2010, p.216) also mentions another statement by Davidson “*psychological characteristics cannot be reduced to the other, nevertheless they may be (and I think are) strongly dependent on them. Indeed, there is a sense in which physical characteristics of an event (or object or state) determine the psychological characteristics...*” which is fascinating, since we can see how the general hylomorphic outline and the non-reductionist physicalism are closely related.

As stated before, the mind is not reducible, but also emerges from the body. This constitutes the idea that if one changes, the other must change. This is perfectly represented with Aristotle’s types of changes. Substantial changes and accidental changes affect the mind and the body. These aspects can only change within their respective laws of nature, like for example, we cannot think of suddenly growing an extra hand, and grow it, or even we cannot think of moving our nose, and then move it, since it is not possible to move naturally that part of the body. So, change, within the laws of nature, represents the close relationship of the mind and the body. If the mind goes through substantial change, then we can see the matter also being affected. For example, if a person decides to start exercising and eating healthy, then we would shortly be visibly losing weight. On the other hand, when there is a change in the physical, the effects of that would surely be felt mentally. Something less severe would be an example of getting a cut, we would be able to feel the pain of it, or if even one loses a limb, they would feel tremendous amounts of pain. More severe cases than that would be, for example, the case of a man. This man was a very kind man, as explained by his friends and family. He, unfortunately, had something go through his head and his brain. It physically damaged a part of his brain,

and there was no way of fixing it. After that physical alteration of the brain, he was reported to be a totally different person by the people who knew him. Because his matter changed, his form went then through substantial change, causing him to be a totally different person than what he was before. This can be presented as evidence for the symbiotic relationship of the mind and the body.

#### **5.1.6. Neuroscience and Cognitive Science**

Non-reductive physicalism partially aligns with the research found in the fields of neuroscience and cognitive science. When it comes to neuroscience, non-reductive physicalism adopts ideas that align with the empirical evidence that suggests a close relationship between the brain activity and the mental states. As Brower (2006, p.358) states *“there is no real division between mind and body because of networks of communication that exist between the brain and neurological, endocrine and immune systems”*. She argues that the mental and the physical aspects are closely connected and that the phrase ‘too much stress can make you sick’ holds some truth to it. And we can correlate this to what we have previously discussed in the ‘Consciousness and Qualia’ section.

As discussed previously, scientific research showed us how animals, similarly to humans, might exercise their rational soul as well, and Crespo (2017, p.40) agrees with this idea stating, *“This consciousness is somehow present in animals through their senses, feelings, and desires, while human beings have high levels of consciousness on account of their superior faculties, i.e., mind and will.”*



That being said, hylomorphism is not supposed to be a field of science that would infringe with the fields of sciences already mentioned before, but rather build upon it in the metaphysical realm. The structure of the body would be a perfect example of how such an organized unity of various different parts can work together perfectly and have the attained form in order to give life and purpose to the body itself. Without the form, a human body would not be something that would be able to have all the proper functions, as we can see with the example of a dead human being.

## **5.2. Contemporary Questions that Non-Reductive Physicalism Struggles With**

Like every theory in philosophy and mind, there are inconsistencies that the theory cannot explain, or rather explains poorly, and that would reflect on the credibility of the theory. Since non-reductive physicalism does take a in between approach, being directly in the middle of dualism and physicalism, some argue that this position does not answer all of the questions properly. But it is also safe to say that it does not have the struggles that are pretty severe like those two theories, since they do represent the extremes. The main limitations, philosophers would agree, regarding non-reductive physicalism, are that all of the aspects of the relationship of the mind and the body, it explains fairly well, but not enough for it to be plausible. The lack of scientific grounds also amplifies this, as non-reductive physicalism follows science to a certain extent, but also perhaps not enough.

I will attempt to figure out ways in which it would be possible to combat and resolve these issues with the hylomorphic model, and present that it actually might seem more

credible than originally thought. The hylomorphic theory, and the metaphysical outlook, not only on reality, but also on human composition might prove to be rather credible. This might allow us to comprehend reality, not in purely a physical matter, but also not in a spiritual matter. The metaphysical realm might be the thing necessary for us to understand ourselves and reality itself.

### 5.2.1. Emergence

When it comes to the nature of emergence, critics would argue that non-reductive physicalism does not effectively tackle this. The theory states that the mental aspects are not reduced, but rather emerge from the physical, but it does not state precisely how does the mental rise from the physical. But this is understandable since a lot of the philosophers often resort to physical explanations and reduce to physicalism. *“There seems to be a constant tension in emergence between the “nothing but” (which sounds like reductionism) and the “something more” (which might sound like a step toward dualism).”* (Dodds, 2009, p.149) Jaworski (2016, p.272), on the other hand, takes a bit harsher approach when discussing the issue of emergence stating that *“Critics argue that emergentists have no satisfactory answer. Some emergentists, for instance, claim that there are psychophysical laws that are every bit as basic as the laws governing purely physical interactions... But critics argue that psychophysical laws do not really address the problem.”* The hylomorphic point of view does acknowledge this, since it is about metaphysicality, and not specifically about physicality.

Due to the complex structure of the human body, it is safe to assume that the structure of its form would also be very complex, and while we cannot pinpoint it where exactly it emerges from, we have a clear understanding that it does emerge from the physical. We could use the hylomorphic model to try to even go deeper into the parts of the human body and try to explain it, like the brain, for example, where it is believed that the mind resides in the brain, or therefore that the mind is primarily the form of the brain. We could pretty easily explain the brain with the four causes of a thing: material cause – it is made out of the grey matter; efficient cause – it comes from the development of the body in the womb; formal cause – it has *\*this\** structure and *\*this\** shape, with synapses and neurons so it can get information from the rest of our body; and final cause - its purpose is to dictate the thoughts and reason of the human, to interpret the qualia, and to initiate and control actions and behavior. With the use of the four causes, we are able to understand the issue of the brain and the mind rather metaphysically, and simply not reduce it to its pure physicality, with an attempt to bridge the gap between the mental and the physical.

### **5.2.2. Psychophysical Laws and the Interaction Problem**

When it comes to the laws of the psychophysical, philosophers and scientists argue that a clear set of these laws help us better understand the brain and what happens inside of the minds of specific individuals, and state that the theory of non-reductive physicalism does not offer a clear set of any kind of laws. As Davidson (as cited in Morales, 2015, p.30) states *“that there cannot be “strict” psychophysical laws”* This would potentially not be good for the general acceptance of the theory, since ‘the lack of’ does not prove or disprove anything. However, Jaworski (2016, p.243) states *“that there are physical*

*properties and distinct nonphysical mental ones, and that the two kinds of properties are connected by psychophysical laws”* and adds how those laws would be metaphysically necessary. In this similar matter, Aristotle put out his set of rules when it comes to defining the reality and they are metaphysical. The hylomorphic idea of the change would be able to explain this effectively. The changes within the mind would cause the body to present that in some way, like completing an action or reaching to a decision that needs to be acted upon, and vice-versa, when changes happen on the body, we can feel the effects of it in the mind. The way the two interact is essentially through change since they are closely related and work together to be the thing that they are, and to fulfil their purpose. This would signify the close, interdependent relationship between the physical and the non-physical, while both maintain the ability to still exist within their respective realms.

Another possible solution for the interaction between the physical and the mental can be shown through Aristotle’s final causes. Since the mental parts can often influence the physical parts and physical actions, it is only safe to say that those body parts are simply fulfilling their respective purpose. If a hand is moved to pick up something, it is completing its metaphysical purpose, if one is able to taste the wine, that means the tastebuds are fulfilling their purpose, and in both of those cases, since those specific body parts are connected to the brain, then the neurons are notifying the brain about the information received and fulfilling their purpose. Maybe some would argue that this is not a sufficient enough answer, but Crespo (2017, p.39) discussed final causes, and he stated *“The final cause is the most excellent perfection to which the form tends for the*

*very fact of being this form. Aristotle emphasizes the role of the form and the final cause because they provide an ontological root to the unity of the human being.”*

### **5.2.3. Metaphysical Commitments**

One of the main concerns from others is that non-reductive physicalism, because of the lack of physicality, often has metaphysical answers to certain issues, as we have just seen in the previous section. This is where I would strongly agree, since the hylomorphic theory possibly could be the right approach to the mind-body problem, only and specifically through non-reductive physicalism. I would argue that, indeed, non-reductive physicalism is fairly metaphysical, and explains the interactions and the general relationship between the mental and physical, through both physicality and metaphysicality. Whereas some would argue that this view is not entirely compatible with the worldview we have today, since it cannot be easily explained by science, I would disagree, since hylomorphism is specifically a theory on the reality of our world, and essentially how we perceive it. The metaphysical aspect of the non-reductive physicalism might just be the thing we need, and if it is accepted, perhaps, non-reductive physicalism would be significantly more credible.

## 6. Conclusion

The most widely accepted solution for the mind-body problem is physicalism. But after extensive research, I am able to determine that Aristotle, even with the limitations that he has had in his time, is able to provide such a framework for the mind-body problem, that does not fall under reductionism or dualism. "*Hylomorphism applies clearly and not problematically in the case of non-human living beings.*" (Crespo, 2017, p.44) With this knowledge, I am able to conclude that non-reductive physicalism, even though is not as popular, might be more valuable when incorporated with hylomorphism, and they both provide reasonable solutions that neither reduce the mind, nor separates the body and the mind. According to the definition of the matter from the Feser's (2006, p.248) Philosophy of Mind "*For hylomorphism, matter is defined essentially in terms of its contrast with form, where form is just what gives matter its organizational structure*", matter and form live harmoniously and create a substance. With the case of human beings, their matter and form, which would be the body and the soul, we can see how they cohabitate and depend greatly on each other. Many theories have had their limitations, but non-reductive physicalism with the hylomorphic framework might have less issues than others. The main issue is the fact that people have adopted physicalism more, so other possible theories do not get as much traction. The mind should not be reduced to the physical, since it is so complex. Compared to a rock, the physical structure, the matter, of the body is way more complex, so this would mean that compared to a rock, the mental structure of the body, the form, would also be a lot more complex. It is rather difficult to comprehend that the soul, the mind, the form are all aspects of the same thing, but without the physical aspect, it cannot be anything.

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