

Logos, Motion, God and Pneuma:
The Metaphysics of Natural Bodies in Early Stoic Philosophy

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Statement

I hereby declare that this dissertation contains no materials accepted for any other degrees in any other institutions and no materials previously written and/or published by another person, except where appropriate acknowledgment is made in the form of bibliographical reference, etc.

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Abstract

This dissertation discusses the early Stoic account of the ontology of natural bodies. In the early Stoic framework, natural bodies are a class of entities that comprise discrete natural materials, plants, animals and humans. These entities are special parts of the cosmos: they are unified and qualified by *pneuma*, the cosmic principle of life. While the constitution, behaviour and development of natural bodies are discussed in great detail in accounts of natural philosophy and ethics, the metaphysical accounts related to the existence and changes of these bodies is not elaborated in detail.

In this work I aim at reconstructing a unified theory of the qualification, unity and identity of natural bodies by examining various tenets of early Stoic philosophy. Looking at the problems of synchronic and diachronic identity, unity, ontogenesis and the corporeality of metaphysical principles, I argue that while there are a great number of texts that testify to an effort to provide a coherent, elaborate and innovative account of the ontology of natural bodies, this project never went beyond hinting at a possible theory. Combined with the tenets of the two principles and the four categories, the early Stoic accounts of identity and ontogenesis clearly point towards a top-down ontology that construes natural bodies as compounds of unqualified matter and a self-moving form-like principle (the *logos*) that accounts for the unity, qualification, identity and motions of bodies. This theory could provide a coherent, corporealist account of the metaphysics of natural bodies, and would be in concordance with the physical and ethical theory.

However, as it becomes clear during the discussions of distinct problems of metaphysics and natural philosophy in each chapter, there is just as much evidence for a diametrically opposed theory that accounts for qualification, identity and even unity in a bottom-up way, by taking three-dimensional, solid, material bodies as simple and metaphysically fundamental entities. I conclude that the coexistence of these two accounts makes it impossible to offer a coherent reconstruction of Stoic metaphysics and testifies to the Stoic disinterest in a unified and theoretically homogeneous metaphysical theory.

Table of Contents

Abstract	ii
Introduction	1
I. Peculiar Qualities and Identity	5
1.1. Stoic Metaphysics and the Early Stoic Corpus.....	5
1.1.1. General Problems of Interpretation.....	6
1.1.2. Stoic “Metaphysics” and Physics.....	10
1.2. Identity and Related Issues	12
1.2.1. Peculiar Qualities.....	13
1.2.2. Recognizing and Telling Apart: The Epistemological Aspect of Peculiar Qualification	14
1.2.3. The Growing Argument: The Metaphysical Aspect of Identity	16
1.2.4. Layers of Analysis.....	36
1.2.5. The account of Irwin and Lewis	46
1.3. Conclusion	58
II. Unity	59
2.1. Unity – Preliminary Considerations.....	59
2.2. Homogeneity of <i>pneuma</i>	62
2.2.1. Textual Evidence.....	66
2.2.2. Physics.....	77
2.3. Unity and Qualification.....	102
2.3.1. Unified and non-unified bodies.....	103
2.4. The <i>Hēgemonikon</i> as a Principle of Unity	111
2.5 Conclusion.....	114
III. Identity through Time and the Stoic Theory of Ontogenesis	115
3.1.1 Tonos, kinēsis, pōs ekhon and logos	124
3.2. The Logos as a Principle of Identity through Time.....	135
3.3. The Logos and the <i>Hēgemonikon</i>	138
3.3.1 Limitations and Shortcomings.....	140
3.4. Conclusion.....	145
IV. Immaterial Bodies	147
4.1 An Immaterial Principle	147
4.2 Candidates for Immaterial Principles: Tension, Motion and Structure.....	150
4.3 Stoic Conceptions of Body	157
4.4 The Theory of Immaterial Bodies: Objections and Limitations.....	171
4.5 Conclusion.....	176
Conclusion	179
Bibliography.....	183
List of abbreviations.....	183
Primary Literature	183

Secondary Literature	186
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Introduction

The present dissertation deals with the metaphysical account of the constitution of natural bodies in early Stoic philosophy. Natural bodies have a special status in Stoic philosophy: they are individual unities that persist through time. This is not the case for other corporeal entities, such as collectives and artefacts. Given that unity and identity are peculiar to natural bodies and related to their metaphysical constitution, I aim to give an interpretation of the place of natural bodies in the Stoic metaphysical framework by investigating how this unity and identity are accounted for. The thesis of the dissertation is that for the Stoic theory to be coherent, the qualification, unity, identity and individuation of natural bodies should be determined in a top-down way, by analysing bodies into a mixture of matter and a form-like active principle that is corporeal but not material.

However, the dissertation also argues that this conclusion was not incorporated into a systematic theory of unity, individuation and identity. Firstly, our sources do not unanimously support a top-down analysis. While there are entities (god, *logos* and tensional motion) in early Stoic natural philosophy that fit the above description of an active principle and that are linked to unity, identity and qualification, they are not clearly identified as the ultimate criteria of unity and identity. Moreover, they are not explicitly identified with each other in our texts, and there is little reason to believe that such an identification took place. Finally, there is also little evidence of any discussion of something akin to the concept of “immaterial bodies”.

Secondly, while the existence of a quasi-hylomorphic¹ analysis of bodies is well-documented in texts from various fields of early Stoic philosophy ranging from cosmogony to epistemology, there is also considerable evidence for a literal corporealist metaphysical theory that takes material bodies as the most basic principles of analysis. While the quasi-hylomorphic analysis takes the active, motive, immaterial principle to be the ultimate principle of qualification, unity and identity, literal corporealism accounts for qualification in terms of material composition and mixture and does not offer an account of unity or identity that goes beyond being constituted by a special kind of body – *pneuma*.

The dissertation establishes its final thesis in the following way: the first three chapters focus on metaphysical and physical questions related to the problem of unity, individuation and identity. The discussion of these issues is summarized by pointing to a possible solution that can be constructed by making connections between different elements of the Stoic theory. The last chapter examines the veracity of this interpretation, by surveying the textual evidence, and the theoretical support for the existence of immaterial bodies. It concludes that while the reconstruction is possible and plausible, the evidence in support of it is insufficient and theoretically heterogeneous.

Chapter I presents the Chrysippean theory of identity and the difficulties that result from positing a perceptible, qualitatively unique entity to be a criterion of both synchronic and diachronic identity. Besides resolving the interpretative difficulties related to the roles fulfilled by peculiar qualities, the chapter contains an investigation into what that metaphysical entity would correspond to, as well as a discussion of contemporary interpretations of the theory. The chapter concludes that in order to identify the criterion of synchronic and diachronic identity,

¹ I use the term quasi-hylomorphic to describe a theory that analyses bodies into a form-like component that accounts for unity, qualification and motion, and a matter-like component that serves as a substrate and provides resistance to the form-like principle. I contrast this analysis with what I call ‘literal corporealism’ that takes bodies to be simples and the most basic principles of explanation. This contrast was partly inspired by the two construals of Stoic corporealism described in Vanessa de Harven, “The Resistance to Stoic Blending,” *Rhizomata* 6 (2018): 3-11.

the relationship between unity, identity and belonging to a certain kind has to be investigated in more detail.

Chapter II looks at the account of unity in early Stoic theory and its relationship to qualification. It argues that unity was conceived of as a primarily physical issue, understood as a matter of parts being held together, and accounted for by the tension inherent in *pneuma*. While the emphasis on the physical aspect is undeniable, the chapter investigates evidence about the metaphysical aspect of unity: an account of the relationship between parts and wholes, qualities and unification, and unity as a basis for individuation.² The chapter concludes that a metaphysical account of unity cannot be formulated in terms of qualification or the relationship between *pneumata*. Unity is primarily a function of having a directive centre (*hēgemonikon*) that unifies the entity by making it one coordinated organism and by imparting qualitative unity to it through maintaining its tension.

Chapter III investigates the problem of persistence through time and examines the notions of *logos* and tension through a survey of early Stoic accounts of gestation, genetics, ontogenesis and embryology. The working hypothesis of the chapter is that criteria of persistence should be looked for amongst qualities that are present from conception to death in individuals. The Stoic theory of ontogenesis is especially interesting because individuals belong to different natural kinds throughout their development. Furthermore, a study of theories about genetics, and especially the transmission of qualities, is relevant to the study of identity because it is likely that a qualitatively unique property will be one that is related to features inherited from parents. The chapter establishes that the generation of living beings is

² The distinction between physical and metaphysical explanation is a distinction in terms of approach and focus. By physical explanation I mean an account that focuses on issues traditionally attributed to physics and natural philosophy, such as the description and analysis of bodies, their motions, lives and forces, *etc.* By metaphysical explanation I mean an explanation that focuses on problems traditionally considered as metaphysical, such as qualification, unity, identity, existence, *etc.* To use the example of unity, in this case, the physical analysis focuses on what keeps parts of the body together as one, preventing the parts from falling apart. On the other hand, the metaphysical analysis focuses on whether there is a quality, or some other entity shared by the parts of the body, that explains the fact that the parts all belong to one unity.

directed by the *logos*, which is an intelligent, motive force that can also be grasped as a ratio. This *logos* determines the qualification of the entity through tension and manifests itself in different ways as it is combined with different pneumatic substrates throughout the entity's development.³ The chapter ends with the identification of the *logos* as an ultimate principle of qualification, unity and identity.

Chapter IV investigates the status of *logos* by focusing on the contradiction between Stoic corporealism and the idea that unity, individuation and identity cannot be accounted for by a material principle. The first part of the chapter investigates the notion of corporeality and the possibility of immaterial bodies and concludes that the existence of such entities is possible: both god and tensional motion (identified with *logos*) could be construed as an immaterial body. The second part of the chapter investigates whether the *logos* account of unity, qualification and identity is not just a possible reconstruction but a theory that can actually be attributed to the Stoics.

Given the lack of explicit evidence in favour of the theory and interpretative difficulties surveyed in previous chapters, the dissertation concludes that the *logos* account was not developed in detail and neither was any unified theory of the metaphysics of natural bodies. While the early Stoic theory is characterised both by important general metaphysical commitments and interesting metaphysical solutions to specific problems, these do not add up to a coherent metaphysical theory.

³ By different pneumatic substrates I mean different kinds of *pneuma* (e.g. nature vs. soul) that serve as substrates to different tensional motions (determined by different *logoi*).

I. Peculiar Qualities and Identity

In this chapter I discuss the problem of identity and qualification by early Stoics, most notably Chrysippus, who is credited with developing the theory of identity. I start the chapter with a discussion of two general interpretative issues: the difficulties of reconstructing early Stoic theories in general, and the conceptual debate regarding the existence of Stoic metaphysics as a field of study. Next, I move on to the issue of identity in section 1.2, starting with a presentation of the context in which the account of identity was developed, discussing first the epistemological (1.2.2) and then the (meta)physical aspect of identity (1.2.3). Having established that synchronic and diachronic identity are both a matter of perceptible qualitative uniqueness, in the next sections I survey possible accounts of peculiar qualification, by first looking at the ontological components of natural bodies in section 1.2.4, and then discussing modern interpretations of the problem in section 1.2.5.

1.1. Stoic Metaphysics and the Early Stoic Corpus

Stoic “metaphysics” is a field of study that puzzled many commentators, modern and ancient. Those who have approached this field of Stoic philosophy in a charitable manner often had to go to great lengths to try and make sense of the tangled up, often contradictory set of doctrines. There are several reasons why a coherent analysis of early Stoic metaphysics is so hard to achieve. First, there is the lack of direct and cohesive evidence and the unreliability of testimonies. Second, there is the issue of the fragmented metaphysical doctrines: discussions

of issues that modern readers would label as metaphysical rarely form a coherent unity, but are discussed in the context of logical, ethical or physical investigations.⁴

Before moving on to a discussion of the problem of identity, I will briefly survey these two problems and their possible impact on providing a coherent reconstruction of the Stoic doctrines considered as tackling metaphysical issues.

1.1.1. General Problems of Interpretation

Studying any field of early Stoic philosophy is a highly challenging endeavour. Not only is the bulk of the evidence fragmentary, incomplete and indirect, but in a lot of cases a valid and complete interpretation requires thorough acquaintance with each piece of textual evidence, including ideological, historical and philological background information. Such background information is often unavailable or is difficult to reconstruct. Given that research has become highly specialised, such difficulties of interpretation are either disregarded, or overcome by relying on interpretations produced by other scholars. While disregarding some issues and focusing on others is indispensable for producing valuable results, reconstructing a theory based on textual evidence that may or may not be reliable is like building a high-rise on shaky foundations.

Thus, in this work I will proceed with caution. While I do not plan to consecrate much of this dissertation to philological inquiry, and I do not aim to conduct an analysis that would establish the absolute trustworthiness of the texts I am relying on, I will confine myself to using texts that we have good reasons to consider reliable.

⁴ cf. Jacques Brunschwig, "Metaphysics," in *The Cambridge Companion to the Stoics*, ed. Brad Inwood (Cambridge: CUP, 2003), 209, Katja Vogt, "Sons of the Earth: Are the Stoics Metaphysical Brutes," *Phronesis* 54, (2009): 145.

In what follows I briefly present my interpretative approach, starting with a discussion of the main problems of interpretation. The first problem with our texts is that the compilations of fragments that many scholars rely on are not completely trustworthy. They are neither comprehensive nor without faults. They do not include all texts reporting on early Stoic ideas and, more importantly, they often feature texts that report on doctrines that are not (entirely) Stoic. When discussing approaches to a specific issue, some ancient authors do not clarify whose view they are presenting, attributing the idea to some generic subject or to no one at all. Nevertheless, since the ideas they describe or the terms they use show resemblance or a connection to ideas, arguments and terms attributed to Stoics by a multiplicity of other sources, such texts have been included in a number of compilations on early Stoic philosophy. Often there is a complete correspondence in content between several fragments, which justifies the inclusion of such texts in the corpus of Stoic fragments,⁵ however, in the case of some texts, the connection to other Stoic doctrines is more tenuous. While such fragments often contain important additional information on a certain Stoic doctrine, it is also often the case that they describe ideas belonging to another school or to an eclectic thinker, influenced by Stoicism.⁶

Another weakness of compilations is that they consist of fragments.⁷ While assembling fragments relevant to a specific field of study from a wide variety of sources saves a lot of work

⁵ As Gábor Betegh pointed out to me, it has to be kept in mind that complete concordance between texts may also be a result of relying on a shared source that conveys incorrect information.

⁶ Fragments by Philo of Alexandria are a great example of an eclectic thinker showing Stoic influence, but presenting ideas that are not entirely Stoic, thus misleading later commentators on the details and implications of certain doctrines. Cf. Gretchen Reydam-Schils, “Philo of Alexandria on Stoic and Platonic Psycho-Physiology: The Socratic Higher Ground,” and Anthony A. Long, “Philo On Stoic Physics,” in *Philo of Alexandria and Post-Aristotelian Philosophy*, ed. Francesca Alesse (Leiden: Brill, 2008), 169-95 and 121-40, as well as my discussion of the fragments on Stoic embryology and ontogenesis collected in the *Stoicorum Veterum Fragmenta*, in chapters II and III). As to an example of the inclusion of a fragment describing possibly non-stoic doctrines, see Ricardo Chiaradonna, “La teoria dell’individuo in Porfirio e l’*idiōs poion* stoico,” *Elenchos* 21 (2000): 303-331 and Marwan Rashed, “Alexander of Aphrodisias on Particulars and the Stoic Criterion of Identity,” in “*Particulars in Greek Philosophy: The Seventh S.V. Keeling Colloquium in Ancient Philosophy*,” ed. Robert W. Sharples (Leiden: Brill, 2010), 157-179. These authors both discuss Dexippus’ *On Aristotle’s Categories* 30, 20-6. Chiaradonna and, following him, Rashed suggest that Dexippus here presents Porphyry’s opinion rather than a Stoic one, as Anthony A. Long and David N. Sedley have presumed, by including the text in their compilation (LS 28J).

⁷ The texts included in compilations on Stoic philosophy are either fragments in the sense that only parts of the original text survived, or in the sense that passages are truncated parts of works that have survived intact.

for a student of that field, one has to keep in mind that not only is the choice of fragments subjective, but also the choice concerning the length of each individual fragment. Fragments are taken out of context, which often makes them hard to interpret or suggests an interpretation that can easily be refuted by a reading of the integral text.⁸

A second problem concerns the untrustworthiness of the texts themselves. Since there are only a few pieces of direct evidence, the fragments are often interpretations of Stoic doctrine themselves. This is an especially serious problem because our sources are rarely well-trained Stoics themselves. The authors who discuss Stoic philosophy in the greatest detail are either enemies of the school (a good enough reason for a malicious interpretation or for a distortion of ideas through reformulating them in a non-stoic conceptual scheme); are philosophically unsophisticated, and thus unable to transmit certain nuances of Stoic thought or just simply have their own agenda⁹ for which they use Stoic concepts, arguments and teachings as they see fit.

The third issue concerning the state of our evidence is that of authorship. While even in its early period the Stoic school saw changes in its official doctrine under the leadership of different thinkers – not to mention the ideas of thinkers who have strayed from orthodoxy – our sources often do not clarify exactly whose ideas they report, attributing ideas to “the Stoics” or “these people”. What is more, even if it is attributed to one of the scholarchs, there is room to doubt the truthfulness of attribution: as Jaap Mansfeld points out, in various accounts, Zeno

⁸ Again, fragments from works of Philo of Alexandria illustrate well how a fragment may be interpreted in a completely different way, if taken out of context. LS 47P (= *SVF* II.458) is a passage from Philo’s *Allegories of the laws* sections 2.22-3. The passage as it features in LS and as it is quoted by Anthony A. Long’s “Soul and Body in Stoicism,” *Phronesis* 27 (1982): 34-57 and by Julia Annas, *Hellenistic Philosophy of Mind*, (Berkeley: University of California Press, 1994), 52, supports an interpretation completely different from the interpretation suggested by a reading of the complete, original text. Not to mention that reading the integral text also makes it clear that the thoughts presented there are not entirely Stoic. I discuss this passage in more detail in section 2.2.1.

⁹ Here I am mostly thinking of religious thinkers such as Philo and Clement of Alexandria, Origen, Eusebius, Nemesius *etc.* who use philosophical concepts for exegetic, theological or anthropological purposes.

is identified as the author of a certain Stoic idea, however the attribution might have been made just by virtue of him being the founder of the school.¹⁰

These shortcomings of the textual evidence make the task of the interpreter extremely difficult. First, the authenticity and trustworthiness of fragments with unique and thus interesting content is always of dubious value and requires to be examined. The textual context has to be revisited, and the author's motivations and philosophical preferences should be taken into account. But this is a very complex and often impossible task. Given the scarcity of first-hand accounts, there is not much that can serve as a standard of comparison to decide about the authenticity of evidence.

Nevertheless, there are some ways by which we can establish the reliability of some texts and dismiss others. First, there is a great number of texts that all report on the same doctrines, although they might differ in some minor details. Based on such agreements, some doctrines can be established as Stoic with great certainty. Further philological work can be done by taking these reliable texts as a basis of speculation about authenticity. Following some rules of thumb such as considering the reliability of some authors over others, based on their general trustworthiness established considering their philosophical prowess, background and how they report on other texts that we have more knowledge of, and taking into account what we know about the motivation and preferences of our sources, we can dismiss some texts and keep others. Finally, we can accept or reject evidence based on philosophical considerations. Based on the theory reconstructed from evidence that we consider reliable, we can dismiss the texts that we consider incongruent with our basic texts. However, this method can often be misleading as it can result in putting the cart before the horse: that is cherry-picking the evidence and interpreting it so that it matches our philosophical views and/or our idea of coherence.

¹⁰ Jaap Mansfeld, "Sources," in *The Cambridge History of Hellenistic Philosophy*, 27.

Here is where the problem of authorship comes into picture. When we decide to reject or accept texts based on whether they are coherent with evidence that we have established to be reliable, we are working with the hypothesis that the examined ideas and the ideas we use as a basis of comparison should be parts of the same theory or conceptual scheme. However, that is not necessarily the case. The fragments we consider reporting on “early Stoic doctrine” often report on accounts given by a variety of individuals, and even accounts attributed to the same philosopher can often show inconsistency. Thus, it is not always reasonable to expect them to form a coherent theoretical unity, which adds a further layer of difficulty to interpretation.

1.1.2. Stoic “Metaphysics” and Physics

The other interpretative issue relevant to our investigation concerns the status of metaphysical doctrines. As I have stressed, the supposition of theoretical coherence is an important element of interpretation, however such coherence is especially difficult to establish in the case of the texts that we can classify as metaphysical teachings, given the aforementioned fragmented nature of our sources and the seeming lack of evidence of systematic metaphysical discussions.

A possible explanation for the confusing and sometimes unrefined nature of metaphysical doctrines is that providing a coherent metaphysical theory was not a priority for the Stoics.¹¹ Indeed “metaphysics” does not feature among the three major fields of study that Stoic philosophers focused on (i.e. logic, physics and ethics) or even among the subdisciplines of these fields. Metaphysical discussions are usually dealt with in a piecemeal way, as a means to clarify issues pertaining to other fields of philosophy.

¹¹ This idea has been discussed to a great extent by commentators, most prominently in Vogt “Sons of the Earth,” 143–4, who went as far as supposing that refusing to inquire into metaphysical questions was a conscious philosophical decision, crucial to the Stoic philosophical enterprise. I do not agree with her conclusion fully, although I do think that it is often useful to interpret problems of Stoic metaphysics from the point of view of natural philosophy.

However, this lack of focus and fragmentation does not necessarily mean that all solutions to “metaphysical” issues in various contexts were *ad hoc*, and that reconstructions of a coherent stoic metaphysical theory are but a waste of time. While what we have may not be as coherent and as detailed as a theory developed with a specific focus on metaphysical questions, it is reasonable to posit a set of general overarching metaphysical principles, which provide an interpretative framework for discussions pertaining to issues addressed in a certain subfield of philosophy. Moreover, it is worthwhile to uncover the considerations that underlie the answers given to specific metaphysical problems.

As to the slightly different question whether it makes sense to talk about Stoic metaphysics at all, the fact that the Stoic conceptual scheme lacks a label corresponding to what we would term metaphysical does not mean, in my opinion, that a scholar from a later age is not justified to identify certain discussions as metaphysical. While physical explanations were preferred throughout the early period of the school, those explanations were used to answer what are currently identified as metaphysical questions, and as such can be labelled as metaphysics. Moreover, when such explanations would not do the job, the early Stoics would look for answers that are closer in nature to metaphysical theories.¹²

All in all, while talking about a well-organized, systematic metaphysical theory is somewhat far-fetched in the case of early Stoicism, metaphysical issues were addressed and accounted for, although in some cases the solutions provided to them were more physical than metaphysical in nature. In addition, the Stoics had strong and unique opinions on a number of metaphysical questions (e.g. existence and causation).

¹² For an example, see the development of the theory of the four categories as discussed in detail in chapter I section 1.2.4.

1.2. Identity and Related Issues

Detailed discussions of the Stoic theory of identity have been rare in contemporary literature, as the issue of identity is not a topic often discussed in the extant evidence. There have been five articles consecrated exclusively to this subject: David Sedley's "The Stoic Criterion of Identity" (*Phronesis* 27 (1982): 255-275) and "Stoics and Their Critics on Diachronic Identity" (*Rhizomata* VI.1 (2018): 24-39); Terence Irwin's "Stoic Individuals" (*Nous* 30, Supplement: Philosophical Perspectives 10, Metaphysics, (1996): 459-480); Eric Lewis' "The Stoics on Identity and Individuation" (*Phronesis* 40 (1995): 89-108) and Tamer Nawar's "The Stoics on Identity, Identification and Peculiar Qualities." *Proceedings of the Boston Area Colloquium in Ancient Philosophy* 32 (2017): 113-60. Furthermore, the issue is also discussed, along with a collection of supporting textual evidence in volume II of Anthony Long's and David Sedley's *The Hellenistic Philosophers*. While all of the above works give different analyses concerning certain details of the Stoic theory of identity, they are all indebted to the textual evidence curated by Sedley and his historical reconstruction of the development of the doctrine. In what follows, I will also use Sedley's developmental analysis as a starting point; however, I will also consider other aspects of Stoic philosophy that have relevance for our understanding of peculiar qualification and the Stoic theory of unity, individuation and identity.

Before moving on to a detailed discussion of the Stoic account of identity, I will briefly present the features specific to the Stoic treatment of the problem in relation to discussions of the problematic of identity throughout the history of philosophy. The first important feature of the Stoic account is that it concerns itself with the problem of numerical identity – even though it actually does not distinguish between numerical and qualitative identity. Secondly, diachronic and synchronic identity are treated as related issues, accounted for by the same

principle. I will nevertheless distinguish between these two roles of the Stoic criterion of identity in my discussion: I will refer to the principle of diachronic identity as the *criterion of identity* and the principle of synchronic identity as *principle of individuation*. In the cases when I do not wish to distinguish between the two issues, because the distinction is not necessary, I use the term *criterion of identity* – the same term that I use to refer to the criterion of diachronic identity. A third feature of the Stoic theory is the importance of the epistemological facet of identity: distinguishability and recognisability through time. Finally, it is also important to recognize that as opposed to other philosophical theories, the Stoic account does not distinguish between personal identity and the identity of regular objects. While it is only some entities that have identity, those entities are not limited to persons.

1.2.1. Peculiar Qualities

As David Sedley pointed out,¹³ a theory of identity of individuals was worked out in detail by Chrysippus, and later expanded on by other members of the school.¹⁴ Chrysippus was engaged in two debates with the sceptical Academy, which dealt with issues relevant to identity and the way it is conceptualized by humans. In what follows, I will discuss these two debates in detail, focusing on the Stoic responses elicited by the problems raised. The first debate that I present focuses on the human perception of identity, in relation to the Stoic doctrine of cognitive impressions and the infallibility of the sage. The second debate concerns the persistence of bodies through changes in their matter. After presenting the Stoic position in these debates I will move on to a discussion of the underlying (meta)physical considerations about the composition of natural bodies and the relationship between these components.

¹³ Sedley, “The Stoic Criterion,” 255-67.

¹⁴ See Sedley, “Stoics and their Critics,” 24-39 (esp. 33-34), for a historical reconstruction of the development of the account of diachronic identity. According to Sedley, Chrysippus’ initial account was ambiguous due to his use of *idiōs poion* both with reference to the peculiarly qualified individual (i.e. the composite of matter and qualities) and the principle of diachronic identity, i.e. the peculiar quality. This ambiguity was amended by Posidonius, who suggests that the relationship between the peculiarly qualified and matter is that of whole and part (see T4 below).

1.2.2. Recognizing and Telling Apart: The Epistemological Aspect of Peculiar Qualification

The epistemological debate focused on the possibility of having cognitions, i.e. true beliefs¹⁵ that, given their correspondence and causal relatedness to actual states of affairs, are epistemically superior to fortuitously true opinions, and thus can be conducive to knowledge as opposed to these latter.¹⁶ Establishing the possibility of cognizing is thus crucial to Stoic epistemology: the very possibility of knowledge and the infallibility of the Stoic sage depend on it. On the Stoic account, cognitions are possible because we can have “cognitive” impressions (*phantasiai katelēptikai*). These impressions report “of what is” and are formed in exact accordance with “what is”,¹⁷ provided that they were formed under ideal circumstances. Cognitive impressions are by their very nature such that they secure the truth and the trustworthiness of the beliefs that come to be by assenting to them (i.e. cognitions), since they cannot arise from “what is not”.¹⁸

However, as the Academics argued, in some cases, having cognitive impressions is just insufficient to guarantee the truth of one's beliefs and thus the infallibility of the Stoic sage. Even if one's impression reproduced every minute detail of A when seeing it and of B when encountering it, if A and B are exactly alike and there is no perceptible feature based on which one could tell them apart (i.e. if A and B are qualitatively identical,¹⁹ albeit numerically

¹⁵ Although *doxa* can be translated as both opinion and belief, here I will translate *doxa* as opinion and use belief as a notion encompassing knowledge, cognition and opinion (*doxa*).

¹⁶ Cf. Michael Frede, “Stoic Epistemology,” in *The Cambridge History of Hellenistic Philosophy*, 295-300.

¹⁷ DL VII.46 9 (=LS 40C), Cicero *Academica* II.77-8 (=LS 40D), Sextus Empiricus *Against the professors* 7.247-52 (SVF II.65, part = LS 40E).

¹⁸ Sextus Empiricus, *M* 7.247-52 (SVF II.65, part = LS 40E), cf. DL VII.177 (SVF I.625) and Athenaeus *Deipnosophistae* 354E (SVF I.624, part) (= LS 40F).

¹⁹ The terms of qualitative and numerical identity have to be used with some amendments in the Stoic context, however. Since the Stoics are interested in the possibility of the existence of distinguishable and recognizable entities, what they would like to prove is that there are no two individuals whose intrinsic, perceptible qualities are identical. Thus, relational properties and properties that are true of an entity in virtue of its history are of no interest to them because they do not qualify the entity in a perceptible way.

distinct) then one could have an impression, brought about by an existing object,²⁰ in exact concordance with how that object is, but still not be able to grasp which object is A and which one is B.²¹ As they argued, such cases happen all the time, as there are plenty of objects out there which are indistinguishable, from identical twins to eggs, bees, hairs, grains of wheat and figs.²² This issue of identification also poses a problem in a diachronic context: cases when someone cannot recognize an entity, or mistakenly identifies it as something or someone else because it has undergone partial or complete transformation, also cast doubt on the possibility of infallibility of the sage.

Clearly, if they wanted to maintain the truthfulness and reliability of cognitive impressions, and thus the possibility of cognition and the infallibility of the stoic sage, the Stoics had to make certain that such cases were excluded. One way for them to answer the Academic challenge was to affirm that there were no cases of numerical distinctness that were not reducible to qualitative distinctness, or in other words that each individual entity is peculiarly qualified,²³ and based on that peculiar qualification they can be infallibly recognized. Indeed, Chrysippus claimed that there were no identical twins or eggs or ears of corn that were completely identical, and that with sufficient knowledge,²⁴ these unique qualities can be discerned and thus provide a basis for identification. Hence, peculiar qualities had to be such unique features that guarantee distinctness and persistence over time, all this in a recognizable way.

A further consequence of the possibility of infallible cognition would be that entities that have undergone significant qualitative changes should also be identifiable. This issue is not

²⁰ Whether “what is” (i.e. the entity represented by cognitive impressions) is an object or a fact is not clarified. See Frede, “Stoic Epistemology,” 302-304.

²¹ Cf. Sextus Empiricus, *M* 7.402-10 (=LS 40H), Cicero *Academica*, II.57 (=LS 40I), id. 2.83-5 (=LS 40J).

²² Plutarch, *On Common Conceptions* 1077C, Sextus Empiricus, *M* 7.402-10 (=LS 40H), Cicero *Academica* II.26.

²³ Cf. Lewis, “The Stoics on Identity,” 90-91.

²⁴ What “sufficient knowledge” consists in is discussed in more detail in section 1.2.4.

discussed by our source. However, it is of equal importance and of vital relevance for understanding the nature of peculiar qualities.

1.2.3. The Growing Argument: The Metaphysical Aspect of Identity

The debate about the possibility of growth played a crucial role in the development of the concept of peculiar qualification. Faced with the problem of individuals undergoing and possibly surviving change, Chrysippus as well as later Stoics were challenged to provide both an account of persistence through time and change, as well as of the relationship between an individual, its matter and its predicates.

1.2.3.1. The Growing Argument and Persistence

In an attempt to undermine a process crucial to Stoic physics,²⁵ the Academics argued that processes of growth and diminution are of illusory nature: there is nothing in the world of which it can truly be said that it grows or diminishes. They supported their claim by employing the so-called Growing Argument, according to which entities perish as soon as their constitutive material changes, given that it is that very material constitution which defines their identity. The argument is the following:

²⁵ Sedley, "The Stoic Criterion," 257, or as an *ad hominem* intellectual challenge as in Sedley, "Stoics and Their Critics,"²⁷.

T1 Plutarch, *On common conceptions*, 1083B-1084C (=LS 28A part)

τὰς ἐν μέρει πάσας οὐσίας ῥεῖν καὶ φέρεσθαι, τὰ μὲν ἐξ αὐτῶν μεθιείσας τὰ δὲ ποθεν ἐπιόντα προσδεχομένας· οἷς δὲ πρόσεισι καὶ ἄπεισιν ἀριθμοῖς ἢ πλήθεσι, ταῦτά μὴ διαμένειν ἀλλ' ἕτερα γίνεσθαι, ταῖς εἰρημέναις προσόδοις \leq καὶ ἀφόδοις \geq ἐξαλλαγὴν τῆς οὐσίας λαμβανούσης· αὐξήσεις δὲ καὶ φθίσεις οὐ κατὰ δίκην ὑπὸ συνηθείας ἐκνευκῆσθαι τὰς μεταβολὰς ταύτας λέγεσθαι, γενέσεις [δὲ] καὶ φθορὰς μᾶλλον αὐτὰς ὀνομάζεσθαι προσήκον, ὅτι τοῦ καθεστῶτος εἰς ἕτερον ἐκβιβάζουσι· τὸ δ' αὔξεσθαι καὶ τὸ μειοῦσθαι πάθη σώματός ἐστιν ὑποκειμένου καὶ διαμένοντος.

- (a) All particular substances are in flux and motion, releasing some things from themselves and receiving others which reach them from elsewhere;
- (b) the numbers and quantities which these are added to or subtracted from do not remain the same but become different as the aforementioned arrivals and departures cause the substance to be transformed;
- (c) the prevailing convention is wrong to call these processes of growth and decay: rather they should be called generation and destruction, since they transform the thing from what it is into something else, whereas growing and diminishing are affections of a body which serves as a substrate and persists.²⁶

The idea of the argument was borrowed by the Academics from a comedy by Epicharmus: in its original formulation, the philosophical import of the argument is that material entities are unstable, ever-changing objects whose identity and persistence is but an illusion.²⁷ The innovation of the Academic reformulation (presented in detail by Plutarch)

²⁶ Translated by David Sedley.

²⁷ In Epicharmus' play the philosophical puzzle is presented in a comic setting. Aiming to get out of paying a debt, a debtor claims to have become a different person since he had taken the loan, using the GA. However, philosophizing only gets him into further trouble: his creditor punches him, and then he himself mockingly uses the GA to avoid claiming responsibility for his deed. (cf. Jonathan Barnes, *The Presocratic Philosophers* (London:

consists in pointing out an idea that is only implicitly present in the Epicharmean version of the argument: that processes of material change are not real, in the sense that they cannot be truly attributed to any subject. Given that material entities are destroyed the very instant their constitutive material changes, giving way to the existence of new entities, having a different material constitution, they cannot be said to grow or diminish: because the subject growth or diminution would have been predicated of has ceased to exist in the very instant it has "grown" or "diminished". Thus, according to the argument, the processes we mistakenly perceive as growth and diminution are actually the destruction of old objects and the generation of new ones.

As it is apparent from Plutarch's report, Chrysippus refuted the argument by pointing out that identity is not a function of material constitution, but rather of being "peculiarly qualified". Each entity has two (actually, as Plutarch also points out, four) substrates (*hupokeimena*):²⁸ a material substrate (i.e. substance – *ousia*) and a qualitative substrate (i.e. the qualified – *poion*). When matter is taken from and/or added to the material substrate, it is destroyed, just like the argument states, however the qualitative substrate survives the material addition and/or diminishment.²⁹ The qualified is only affected by a qualitative change, and the peculiarly qualified can only be destroyed by a change in peculiar qualities. A qualitative change of the latter kind would also be fatal to the entity itself, since the identity of the whole entity is also a matter of peculiar qualification. As long as an entity is peculiarly qualified in a certain way, it

Routledge, 1982), 106-7), cf. Sedley, "The Stoic Criterion," 255. For an in-depth discussion of both formulations of the puzzle see John Bowin, "Chrysippus' Puzzle About Identity," *Oxford Studies in Ancient Philosophy* 24 (2003): 239-251.

²⁸ These "substrates" or "subjects" – depending on which translation of *hupokeimenon* one chooses – correspond to the Stoic "categories": substance (*ousia*), qualified (*poion*), disposed in a certain way (*pōs ekhon*), and relatively disposed in a certain way (*pros ti pōs ekhon*). The concept of the four categories and their role in Stoic philosophy is something I will discuss in section 1.2.4. I do not think that the two latter categories are relevant for the present discussion.

²⁹ As David Sedley points out, Chrysippus' solution is problematic because it states that it is the qualitative substrate that grows, even though actually it is the peculiarly qualified individual, i.e. the composite of the material and the qualitative substrate that actually grows. ("Stoics and their Critics," 29-30.)

remains identical to itself and survives other changes. Thus, entities are not destroyed by material changes, and so material changes can be rightfully predicated of them.³⁰ All individual bodies are peculiarly qualified, in virtue of having essential qualities that persist for a lifetime.

Chrysippus' answer to the GA makes it clear that it is only peculiarly qualified individuals that persist. Contrary to Terence Irwin's interpretation, material aggregates that are not peculiarly qualified do not have diachronic identity. Irwin proposes a dual theory of identity for peculiarly qualified individuals and portions of matter.³¹ He claims that portions of matter could have some sort of identity, despite not being peculiarly qualified. Based on a text³² that attributes to Mnesarchus the idea that an individual's substance can precede and survive the individual, Irwin suggests that bodies that were not peculiarly qualified (heaps and lumps of matter in Irwin's example, although as we shall later see, this category should also include artefacts) are singled out and distinguished from each other and persist by virtue of being spatiotemporally continuous.³³

However, there is not much evidence to support a dual, disjunctive theory of identity. Besides the Mnesarchus passage quoted by Irwin, which is merely a possible interpretation or reinterpretation of the Chrysippean theory, there is no textual evidence in support of it. Furthermore, while spatiotemporal location might provide a basis for a weaker kind of individuation (see the discussion below), this is not a possibility that Chrysippus considers. This highlights a very important difference between matter and body that I will come back to in chapter IV. Bodies can be individuals that persist, whereas mere portions of matter cannot

³⁰ Sedley, "The Stoic Criterion," 259-261.

³¹ Irwin, "Stoic Individuals," 464-6, 475-7.

³² Τὸ δὲ μὴ εἶναι ταὐτὸ τό τε κατὰ τὸ ἰδίως ποιὸν καὶ τὸ κατὰ τὴν οὐσίαν, δῆλον εἶναι φησιν ὁ Μνήσαρχος· ἀναγκαῖον γὰρ τοῖς αὐτοῖς ταῦτα συμβεβηκέναι. Εἰ γὰρ τις πλάσας ἵππον, λόγου χάριν, συνθλάσειεν, ἔπειτα κῦνα ποιήσειεν, εὐλόγως ἂν ἡμᾶς ἰδόντας εἰπεῖν, ὅτι τοῦτ' οὐκ ἦν πάλαι, νῦν δ' ἔστιν· ὥσθ' ἕτερον εἶναι τὸ ἐπὶ τοῦ ποιοῦ λεγόμενον τόδε καὶ \leq τὸ \geq ἐπὶ τῆς οὐσίας. Καθόλου νομίζειν τοὺς αὐτοὺς ἡμᾶς εἶναι ταῖς οὐσίαις ἀπίθανον εἶναι φαίνεται· πολλάκις γὰρ συμβαίνει τὴν μὲν οὐσίαν ὑπάρχειν πρὸ τῆς γενέσεως, εἰ τύχοι, τῆς Σωκράτους, τὸν δὲ Σωκράτην μηδέπω ὑπάρχειν, καὶ μετὰ τὴν τοῦ Σωκράτους ἀναίρεσιν ὑπομένειν μὲν τὴν οὐσίαν, αὐτὸν δὲ μηκέτ' εἶναι.

³³ Stobaeus, *Eclogae*, I.177, 21-179,17 (Including Posidonius fr.96) (= LS 28D).

be individuated and do not persist. This is one reason why the notions of body and matter are not interchangeable in the Stoic context.

Chrysippus' criterion of identity is a metaphysical component of individual bodies that is absolutely irreducible to material constitution. The GA's claim that any change in material constitution (stable flux, diminution or growth) is fatal to the individual body is not an obvious one and only stands if one operates with a very strict, mereological essentialist version of material identity that identifies lumps of matter based on their constituents. While diminution or stable flux may result in the loss of some or all original constituents of the body, in growth the original constituents are preserved; the addition of new constituents to the original aggregates is only fatal if the aggregate's identity is understood in terms of constituency. If all Chrysippus cared about was maintaining that entities persist as they grow, then he need not have evoked the notion of peculiar qualification. He could have just claimed that the body persists as long as it contains its original constitutive matter. The fact that he chose to refute the argument with appeal to peculiar qualification shows that he accepted the concept of material constitution implied by the argument and thus accepted the conclusion of the GA insofar as merely material aggregates are concerned. For something to persist it has to have an immaterial constituent that defines its identity through time.³⁴

³⁴ Sedley, commenting on Terence Irwin's interpretation of the Mnesarchus passage and regarding the persistence of merely material objects, remarks that the radical instability of material substance stated in the GA only applies to the matter of living entities that regularly exchange their matter. "Stoics and Their Critics,"³³ It is true that plants and animals are the prime examples of entities with constantly changing matter, as their matter changes with predictable regularity to the point where it can be completely replaced without the identity of the entity being affected. Nevertheless, non-metabolizing objects are also affected by material changes. For example, crystals, stalactites and other minerals can grow, rocks can erode, but in general any sort of natural solid can expand or contract just as a result of changes in heat or humidity (which can be understood as the acquisition of portions of fire or water in the Stoic framework). Moreover, in the framework of the Stoic worldview it cannot be excluded that the matter of these entities is also under constant change. Given that constant change is a possibility for all kinds of matter, it is correct to posit that matter and the material substrate are unstable and of fleeting identity.

1.2.3.2. Peculiar Qualification and Synchronic Identity

While the debate about growth and diminution addressed the issue about persistence through time, Chrysippus' response to the GA also contains important information about his views on the metaphysical aspect of synchronic identity. In two different texts discussing Chrysippus' account of persistence, we find the two following statements about synchronic identity and the relationship between the peculiarly qualified and the substance:

(SI₁) There cannot be one peculiarly qualified entity in two different substances.³⁵

(SI₂) There cannot be two peculiarly qualified entities in one substance.³⁶

Taken together, the two statements claim that each individual body has exactly one peculiar quality³⁷ and one substance. Insofar as synchronic identity is concerned, this could either mean (I1) that entities are individuated by being both peculiarly qualified and by having a portion of matter unique to them; (I2) that they are individuated by having a portion of matter unique to them, which would somehow also account for the fact that they are peculiarly qualified or (I3) that they are individuated by being peculiarly qualified, implying that a peculiar quality delimits a portion of matter thus individuating the portion of matter constituting the individual.

The interpretation of SI₁ is quite straightforward: no two entities can be identical in terms of peculiar qualification. While it is not formulated in the way I have quoted it, it is implied in Plutarch's discussion as a metaphysical consideration about the qualitative uniqueness of each individual entity. As to SI₂, it is put forward in a book Chrysippus devoted to the problematic

³⁵ Plutarch, *On Common Conceptions* 1077C (= LS 28O, part).

³⁶ Philo of Alexandria, *On the indestructibility of the world* 48-49 (= SVF II.397= LS 28P). The original quote is: "[...] it is impossible for two peculiarly qualified individuals to occupy the same substance jointly."

³⁷ By "one peculiar quality" I mean either a single quality, or a single group of a unique combination of qualities.

of the GA. The book has not survived, only a fragment quoted by Philo of Alexandria, which describes an interesting thought experiment about the relationship between material substrate, the peculiarly qualified, persistence, as well as individuation:

T2 Philo of Alexandria, *On the indestructibility of the world* 48-49 (= SVF II.397= LS 28P)

Χρύσιππος γοῦν ὁ δοκιμώτατος τῶν παρ' αὐτοῖς ἐν τοῖς Περὶ αὐξανομένου τερατεύεται τι τοιοῦτον· προκατασκευάσας ὅτι δύο ἰδίως ποιὰ ἐπὶ τῆς αὐτῆς οὐσίας ἀμήχανον συστήναι⁴, φησὶν· ἔστω θεωρίας ἕνεκα τὸν μὲν τινα ὀλόκληρον, τὸν δὲ χωρὶς ἐπινοεῖσθαι τοῦ ἑτέρου ποδός, καλεῖσθαι δὲ τὸν μὲν ὀλόκληρον Δίωνα, τὸν δὲ ἀτελῆ Θεώνα, κάπειτα ἀποτέμνεσθαι Δίωνος τὸν ἕτερον τοῖν ποδοῖν⁵. ζητουμένου δὴ, πότερος ἐφθαρταί, τὸν Θεώνα φάσκειν οἰκειότερον εἶναι. τοῦτο δὲ παραδοξολογοῦντος μᾶλλον (49) ἐστὶν ἢ ἀληθεύοντος. πῶς γὰρ ὁ μὲν οὐδὲν ἀκρωτηριασθεὶς μέρος, ὁ Θεών, ἀνήρπασται, ὁ δ' ἀποκοπεὶς τὸν πόδα Δίον οὐχὶ διέφθαρταί; ⁶δεόντως⁷ φησὶν· ἀναδεδράμηκε γὰρ ὁ ἐκτμηθεὶς τὸν πόδα Δίον ἐπὶ τὴν ἀτελῆ τοῦ Θεώνος οὐσίαν, καὶ δύο ἰδίως ποιὰ περὶ τὸ αὐτὸ ὑποκείμενον οὐ δύνατ' εἶναι. τοιγαροῦν τὸν μὲν Δίωνα μένειν ἀναγκαῖον, τὸν δὲ Θεώνα διεφθάρθαι.

Chrysippus, the most distinguished member of their school, in his work *On the Growing [Argument]*, creates a freak of the following kind. (2) Having first established that it is impossible for two peculiarly qualified individuals to occupy the same substance jointly, (3) he says: 'For the sake of argument, let one individual be thought of as whole-limbed and the other one minus one foot. Let the whole limbed one be called Dion, the defective one Theon. Then let one of Dion's feet be amputated.' (4) The question arises which one of them has perished, and his claim is that Theon is the stronger candidate. (5) These are the words of a paradox-monger rather than a speaker of truth. For how can it be that Theon,

who has had no part chopped off, has been snatched away, while Dion, whose foot has been amputated has not perished? (6) ‘Necessarily’, says Chrysippus. ‘For Dion, the one whose foot has been cut off has collapsed into the defective substance of Theon. And two peculiarly qualified individuals cannot occupy the same substrate. Therefore, it is necessary that Dion remains while Theon has perished.’³⁸

As the text shows, SI₂, which is used as a principle to appeal to in order to show the absurdity of the conclusion, is a principle that had been established at some prior point, by arguments independent from those contained in the puzzle. Unfortunately, we do not have access to that demonstration, so we have to rely on the passage quoted by Philo in order to unearth something about the metaphysical import of SI₂.

The thought experiment is rather obscure and has been interpreted in different ways.³⁹ The most puzzling point is without doubt the one confusing Philo: why is it the case that it is Theon who perishes instead of Dion. While the puzzle has been discussed extensively, there are two interpretations that I have found helpful: that of Terence Irwin⁴⁰ and that of David Sedley.⁴¹ In what follows, I will briefly survey their interpretations.⁴²

Irwin’s and Sedley’s interpretation differ on two important points. First, Irwin thinks that Dion and Theon are two spatially distinct individuals.⁴³ As opposed to this, Sedley believes

³⁸ David Sedley’s translation. While Philo is not a reliable source in general, and his evidence should be for the most part considered as supporting other evidence, here he is very explicitly talking about Chrysippus, about a concrete text by him, and most importantly, he is actually quoting the passage. Taken together, these three factors provide sufficient support for the reliability of this piece of evidence.

³⁹ For ahistorical interpretations and solutions to the puzzle, see: Michael B. Burke, “Dion and Theon: An Essentialist Solution to an Ancient Puzzle,” *The Journal of Philosophy*, 91 (1994): 129-139 and Jim Stone, “Why Sortal Essentialism Cannot Solve Chrysippus’ Puzzle,” *Analysis* 62 (2002): 216-223.

⁴⁰ Irwin, “Stoic Individuals,” 467-74.

⁴¹ Sedley, “The Stoic Criterion,” 268.

⁴² I have discussed these two interpretations in my master’s thesis (Magdolna Nyulászi, “*The Ontological Foundations of the Stoic Theory of Identity and Individuation*” (master’s thesis, Central European University, 2012) 30-5. However, since then, my interpretation (of the puzzle as well as the two analyses) has changed.

⁴³ This idea predominated the literature before the appearance of Sedley’s article. E.g. Margaret Reesor “The Stoic Concept of Quality,” *American Journal of Philology* 75 (1954): 40-58.

that Theon is partially spatially coextensive with Dion: his matter is a part of Dion's matter. Second, Irwin argues that the puzzle is meant to show the incoherence of an understanding of peculiar qualities as a unique group of qualities, which he calls the "*sundrome* view" such as expressed in the evidence by Dexippus discussed in footnote 6).⁴⁴ As opposed to this, Sedley believes it to be a *reductio ad absurdum* of the GA.

Irwin believes that in the thought experiment Chrysippus shows that the *sundrome* view is flawed because it cannot account for persistence. Not only is it the case that a change in any of the elements composing the group of the peculiar qualities could result in an entity's destruction, but so would a change in another entity's qualities. As he argues, if entity *e* has qualities (*A*, *B*) and entity *f* has qualities (*C*, *D*) if *f* becomes *A*, *e* will perish because *A* was its peculiar quality. In the puzzle Theon perishes after Dion's foot has been cut off because being one-footed was his peculiar quality. Having no other peculiar quality to set him apart, he goes out of existence. As opposed to him, Dion survives because he has other peculiar qualities that have nothing to do with the number of his feet. Thus, he argues, the *sundrome* view gives a very weak account of persistence because individuals can cease to persist as a result of a mere Cambridge change.⁴⁵

However, the account of identity that is criticized by Irwin's interpretation is not the *sundrome* view. The idea behind the *sundrome* view is that uniqueness derives from a particular combination of qualities. To give an example, on the *sundrome* view (*M*, *N*) and (*M*, *N*, *O*) would be two different groups of qualities each meant to individuate different entities, thus, if an entity *a* characterized by the qualities (*P*, *Q*, *R*) would lose the quality *R* and acquire the quality *S* instead that would not entail the destruction of an entity *b* solely characterized by *S*. (*P*, *Q*, *S*) and (*S*) are two different groups and provide sufficient basis to individuate two

⁴⁴ As I have pointed out earlier, there is good evidence for believing that Dexippus actually discusses a non-Stoic theory of individuation.

⁴⁵ Irwin, "Stoic Individuals," 467.

individuals. Entity *a*'s loss of *R* and acquisition of *S* could only be fatal to *b* if (1) *a* and *b* would become qualitatively identical or (2) in a theoretical framework where the presence of other qualities in an entity are irrelevant for its identity and each individual is characterized by a peculiar quality (possibly be a combination of different qualities), which can easily be acquired by other entities.

Irwin's criticism targets the theory presented under (2). When presenting the *sundrome* view, he describes a theory in which peculiar qualities are common qualities such as baldness, beardedness, one-footedness *etc.* that can be had and acquired by all sorts of individuals. It is important to note that, according to the theory, the peculiar qualities are baldness and beardedness in a general sense, not peculiar patterns and amounts of facial and cranial hair, characteristic of the individuals at a certain point of their lives. These qualities are peculiar to an individual in the sense that they are only predicable of one individual at a certain time, as per the restrictions of the theory. According to this account, if a person *a*'s peculiar quality is their baldness, then as soon as there is another person who loses their hair to a sufficient extent, person *a* will cease to be peculiarly qualified and perish, possibly merging with person *b* as SI_1 would be violated.

Nevertheless, this theory is not identical to the *sundrome* view. Moreover, it is also a terrible attempt at accounting for identity, and I do not see why it would be one that Chrysippus saw even worth attacking. Finally, in either case, the mere fact that the two individuals end up being qualitatively identical would not explain why it is one rather than the other that survives. SI_1 only states that the existence of two identically qualified individuals is an impossibility, it does not contain any specifications about what kind of entity could survive such a metaphysical disaster. Another problem with this line of interpretation is that it requires that the absurdity of the consequence of the premises should be demonstrated by appeal to SI_1 . However, the puzzle

appeals to SI₂ not SI₁.⁴⁶ The absurd situation is not that we end up with two qualitatively identical entities in two different substances, but rather that we end up with two peculiarly qualified entities in one substance⁴⁷ because one individual “collapses” into the substance of the other.⁴⁸

Despite these shortcomings, Irwin’s interpretation highlights an important point: if Theon indeed exists and is not just posited for the sake of argument, then his death must be the result of a Cambridge change. After all, he did not change in any way, so it does not make sense that it is he who should die – unless he never really existed to begin with.

Sedley’s interpretation fits better with the text. First of all, his assumption that Dion and Theon are related as whole and spatial part guarantees also that they are qualitatively identical except for the difference in the number of feet they have. Second, the idea that the puzzle works as a *reductio* of the GA explains the talk about substance and the appeal to SI₂. If the identity of all things is determined by their matter, then every part of an individual could be considered as an individual in its own right. It is this absurd consequence of the premises of the GA that the puzzle exploits and ridicules.

The puzzle starts with the supposition that a part of Dion is selected and declared to be another individual, Theon. Then Dion’s foot is chopped off and he comes to be composed of the exact same matter as his part, Theon. If we followed the GA’s reasoning, the chopping of the foot would be the end of Dion. Since his material constitution is changed by the operation, we would end up with Theon instead, the individual we have assigned to the footless portion of Dion’s former body.

⁴⁶ Sedley, “The Stoic Criterion,” 268.

⁴⁷ The word used here is *hupokeimenon*, however, since both *ousia* and *hupokeimenon* are used with reference to the material component (material substrate) of entities, I think it is safe to translate here both of them as substance (as Sedley) does, with the meaning of material substrate. The way *hupokeimenon* and *ousia* are used in the text makes it clear that they are to be understood as synonyms in this context.

⁴⁸ Sedley, “The Stoic Criterion,” 268.

However, this is not what happens in Chrysippus' scenario. On his account it is Dion who survives because by losing his foot he has "collapsed" (*ἀναδεδράμηκε*) into⁴⁹ the footless substance of Theon. But this is not something that could have actually happened, for it is impossible for two peculiarly qualified entities to occupy one substance. Thus, concludes Chrysippus, it is necessary that it is Dion who should survive.

Nevertheless, it is not necessary, or at least it does not quite follow from the fact that SI₂ would be violated by Dion and Theon coexisting that it is Dion who would survive. There has to be a hidden recognisability that warrants that conclusion. Sedley's suggestion is that Dion and Theon did not just differ in their material composition, but they also were distinct to the extent that they had a different history. One of them had a foot cut off, while the other one did not. Thus, we can identify the survivor based on his history. If the survivor had his foot cut off, he is identical with Dion, if he had not, he is identical with Theon. Given that our survivor's lower extremity is covered with bloody bandages, we can conclude that the survivor is Dion, the amputee.⁵⁰

If the proponents of the GA (or Chrysippus' targeted audience) subscribe to the idea that simultaneously predicable contradictory predicates (having an extremity amputated and not having an extremity amputated) imply distinctness, then they have to accept that the idea that matter could at all determine the identity of an individual has absurd consequences and as such should be dismissed. If one considers the history of the portion of matter that has remained after the amputation, two contradictory predicates can be applied to it: it can truly be said that the individual singled out by the footless portion both had and did not have his foot cut off. The absurdity of this consequence shows that arbitrary portions of matter cannot be identified as individuals. Since material constitution is thus disqualified as a criterion of identity, there is

⁴⁹ I take "collapsed into" to mean that Dion came to occupy the same substance as Theon.

⁵⁰ Sedley, "The Stoic Criterion," 269. This explanation of the survival of Theon should not be interpreted as an actual account of identity, but rather as an appeal to common sense. The actual reason for Theon's survival will be explained in chapters II-IV.

no reason for us to even suppose that Theon has ever existed as an individual distinct from Dion – unless he was a distinct, peculiarly qualified individual, with his own peculiar quality. So, there is not really any reason why it is him who should survive.⁵¹

While this interpretation makes sense of the outcome of the puzzle, the general message of the puzzle regarding synchronic and diachronic identity still remains unclear. We do not learn much about synchronic identity. Firstly, SI₂ is included as a premise in the *reductio* but it is not elaborated on any further. Secondly, while Chrysippus' *reductio* proves material constitution to be unfit for individuating entities, the argument does not really clarify as to why that is the case. Moreover, if the above interpretation is correct, then the argument is not very convincing. Chrysippus' appeal to the common-sense conviction that the history of an individual could be helpful in identifying them begs the question: "lost a foot" is only predicable of Dion if one believes that – contrary to the GA – Dion would survive losing a part of his matter. According to the reasoning of the GA, no one would have lost a foot in the Dion-Theon scenario, and the thought experiment, as we can reconstruct it based on the text, does nothing to refute this consideration beyond pointing out its unintuitiveness.

Of course, this does not mean that Chrysippus' theory of identity is unsound or that the GA is irrefutable. The puzzle – as we can reconstruct it – is unconvincing insofar as it begs the question, but Chrysippus is correct in assuming that it is Dion who survives. Among the two supposed individuals in the puzzle, it is only Dion who can be peculiarly qualified because he is the only organic unity.⁵² Clearly, the outcome of the puzzle would be different if part of Dion's body was a living entity different from him, such as a conjoined twin or a foetus.

⁵¹ For some reason, Chrysippus supposes that his opponents would agree with him, in that an individual's history is intuitively more relevant for its identity than its material constitution. I am not sure why he could have taken this for granted, but the possible reception of the argument is not important for our purposes here.

⁵² I offer a reconstruction of what it means to be a unity on the Stoic account in section 2.4. As per that reconstruction something is a unity if it has a leading part. In the puzzle, Chrysippus happened to choose a part of Dion that included a leading part, which is located in the heart. However, Theon does not have a leading part and is not an organic entity insofar as he is an arbitrary portion of a body and not a living organism.

Peculiar qualification is only reserved for natural bodies in the Stoic framework and is strongly associated with being an organized whole. This physical aspect of the theory will be elaborated in chapters II-IV.

1.2.3.2.1. Material Substrate and Individuation

1.2.3.2.1.1 Material Qualities

As to the interpretation of SI_1 and SI_2 , the thought experiment clearly supports the third interpretation (I3). Individuating entities based on their material constitution leads to absurd consequences and as such is out of question. However, there is one important issue raised by the absolute rejection of material constitution as a criterion of identity. If something cannot be identified based on its material constitution, then how is it possible to talk about “one” substance or a certain portion of matter and establish a one-to-one correspondence between substance and the peculiarly qualified? Are these things individual and do they persist in a limited sense? Or is it possible to point them out even if they lack individuality and identity?

A first answer to this question, in the vein of the third interpretation of SI_1 and SI_2 , is that a portion of matter has derivative unity, individuality and identity. It is *a* substance or *this* substance insofar as it serves as a substrate to a certain peculiarly qualified. In this sense, a substance *x* is different from a substance *y* only insofar as it belongs to Callias instead of Socrates – it has no unity, individuality or identity of its own. While this approach fares well with the evidence discussed, it entails that SI_1 and SI_2 contain redundant information.

So, interpretation (I1) should not be dismissed altogether. First of all, individuation and persistence through time are different issues, and there have been metaphysical theories which dealt with these problems in a different, unrelated way. This is David Sedley’s analysis of the Stoic account in “The Stoic Criterion of Identity”. He suggests that while diachronic identity is accounted for by peculiar qualification, co-specific individuals are “primarily” distinguished

by their different substances.⁵³ Moreover, as I explained above, the puzzle described by Philo does not cover all details of the Stoic theory of identity. Philo himself points out that Chrysippus wrote a whole treatise in response to the GA, and while we do not have access to that text, there is evidence that suggests that the theory may not have been as clear-cut as it is presented above, and that material substrate may play some role in individuation.

There are two possible ways in which the material substrate can play a role in individuation: it can either individuate through qualities inherent in matter or in virtue of other attributes such as the place occupied by the material substrate. Both of these options were explored in the history of philosophy, and both options have been offered as interpretations of Aristotle's theory of individuation.⁵⁴ While the extent to which Aristotle's works, especially the esoteric works, could have influenced Stoic thought is a matter of debate,⁵⁵ there is sufficient similarity between the Stoic and Peripatetic analysis of natural bodies into matter and a formative, active principle for us to consider Peripatetic accounts as models of interpretation.

To start with the first option, while there is no exhaustive list of common qualities that could be attributed to the material substrate, testimonies do list primary qualities associated with the elements composing the material substrate. The passive qualities that characterise the passive elements (water and earth) that make up qualified matter are dryness and wetness.⁵⁶ One could speculate that further qualities of the material substrate could be explained in terms of ratios of water and earth in matter.

⁵³ Sedley, "The Stoic Criterion," 267.

⁵⁴ See the work of Averroes, Avicenna and Thomas Aquinas. For a brief summary of mediaeval approaches to individuation see Peter King, "The Problem of Individuation in the Middle Ages," *Theoria* 66 (2000): 159-84.

⁵⁵ For two extreme views on the Stoic reception of Aristotle see: David Hahm, *The Origins of Stoic Cosmology*, (Columbus: Ohio State University Press, 1977) and F. H. Sandbach, *Aristotle and the Stoics*, (Cambridge: Cambridge Philological Society, 1985). For a more recent analysis see Thomas Bénatouil "Aristotle and the Stoa," in *Brill's Companion to the Reception of Aristotle in Antiquity*, ed. Andrea Falcon (Leiden: Brill, 2016), 56-75.

⁵⁶ Galen, *On Bodily Mass*, 7.525, 9-14 (= SVF II.418 = LS 45E)

Another quality attributed to matter is colour. Zeno reportedly thought of colours as the “first shapes in matter” or “first characteristics of matter”,⁵⁷ as well as “surface colouration of matter”.⁵⁸ This evidence could be interpreted in two ways, depending on the translation one chooses: (1) either colours are qualities that are to be accounted for by structural arrangements of matter or (2) colours are considered as one of the first qualities that unqualified matter receives when it is formed by god. Katerina Ierodiakonou argues for the second interpretation. She translates *schēmatismos* as ‘characteristic’, in light of how cognates of the term (*schēmatizein*, *aschēmatistos*) are used by Plutarch⁵⁹ and Alexander of Aphrodisias⁶⁰ in contexts that discuss the information of matter by the active principle in cosmology and ontology. She concludes that the passage should be understood as referring to colours being primary qualities of the elements on par with the properties of heat, cold, dryness and wetness. She supports her interpretation with passages from Plutarch⁶¹ that describe fire as bright and hot, while air as dark and cold.⁶²

Ierodiakonou’s interpretation resolves the seeming contradiction between attributing any sort of qualification to matter and maintaining that all qualification is ultimately accounted for by the active principle. While colours and other qualities can be accounted for in terms of the ratios of the passive elements and the shapes arising in matter due to these different ratios,⁶³ material composition and structural arrangement cannot account for qualification in matter by itself. Qualification is only present in matter because the elements that constitute qualified

⁵⁷ SVF I.91 Aetius I, 15,6 Pseudo-Galen, *History of Philosophy*, 27.

⁵⁸ David Hahm’s translation in his “Early Hellenistic Theories of Vision and the Perception of Colour,” in *Studies in Perception: Interrelations in the History of Philosophy and Science*, eds. Peter K. Machamer and Robert G. Turnbull (Columbus: Ohio State University Press, 1978), 85.

⁵⁹ *On Stoic Self-contradictions* 1054B

⁶⁰ *On the Soul* 3.28–4.4; *Quaestiones* 49.30–33; 52.21–23

⁶¹ The passages Ierodiakonou quotes are *On Stoic Self-contradictions* 1053E and *On the principle of cold* 952C.

⁶² Katerina Ierodiakonou, “Hellenistic Philosophers on the Phenomenon of Changing Colors,” in *The Frontiers of Ancient Science: Essays in Honor of Heinrich von Staden*, eds. Brooke Holmes and Klaus-Dietrich Fischer (Berlin: De Gruyter, 2015), 240–2.

⁶³ Ierodiakonou, “Hellenistic Philosophers on the Phenomenon of Changing Colors,” 242.

matter were first formed and qualified by the active principle. At the end of the day, all qualification is to be traced back to the active principle.

Insofar as individuation and SI_1 and SI_2 are concerned, this means that interpretations (I1) and (I3) both remain viable depending on where the line is drawn between the qualitative and material substrate of an individual body. Ultimately, individuation is determined by the active principle, but it cannot be excluded that some qualities inherent in qualified matter could have a role in individuation.

1.2.3.2.1.2 Place and individuation

Another idea to consider with respect to the role of the material substrate in individuation is that the difference between entities occupying different substrates could be explained by the simple fact that different portions of matter occupy different places. Place is mentioned as a criterion for distinctness in texts that discuss the distinctness of parts and wholes.⁶⁴ The notion of parthood is central to Stoic natural philosophy. Natural bodies are all parts of another natural body, the *kosmos*, as such they are both wholes and parts⁶⁵ and individuals within another individual body.

This idea seems to go against SI_2 , and especially its use in the Dion-Theon thought experiment. However, as will become clearer from the evidence discussed below, the tenet of partial wholes does not really entail that there would be several peculiarly qualified entities present in one substance. Individual natural bodies are not completely coextensive with the *kosmos*, only partially. Their substances are only parts of the substance of the *kosmos*, and as such are not identical to it.

⁶⁴ Cf. Themistius, *On Aristotle's On the Soul* I. 1. p.5 (= SVF II. 824) and T4 below.

⁶⁵ See Jonathan Barnes, "Bits and Pieces," in *Matter and Metaphysics. Fourth Symposium Hellenisticum*, eds. Jonathan Barnes and Mario Mignucci, (Naples: Bibliopolis, 1988), 226.

The main idea of the Stoic conception of the part-whole relationship is that parts are neither different from nor the same as the wholes that they are parts of. This view is presented by Sextus Empiricus below, but it is also supported by other evidence.⁶⁶

T3 Sextus Empiricus, *Against the Professors*, 9.336.

οἱ δὲ στωικοὶ οὔτε ἕτερον τοῦ ὅλου τὸ μέρος οὔτε τὸ αὐτό φασιν ὑπάρχειν· ἢ γὰρ χεὶρ οὔτε ἢ αὐτὴ τῷ ἀνθρώπῳ ἐστίν, οὐ γὰρ ἐστὶν ἄνθρωπος, οὔτε ἑτέρα παρὰ τὸν ἄνθρωπον, σὺν αὐτῇ γὰρ ὁ ἄνθρωπος νοεῖται ἄνθρωπος.

The Stoics say that the part is neither different from the whole, nor the same as the whole. For hand is not the same as man because a hand is not a man, but neither is it something other than man because when one thinks of man, it is thought of together with hand.

Sextus here explains the nature of the relationship in terms of how the concept of one entity relates to another. A person's hand is not different from the person because the concept of man would include the concept of hand. While the explanatory role of concepts in Stoic metaphysics is open to question, Sextus' account can be reformulated in terms of relationships between qualities: the quality of being a human (whatever that may be) includes the quality of possibly having a hand, and as such, the portion of matter that is qualified by the quality of being a human, could include a portion of matter that is qualified by the quality of being a hand.⁶⁷ This analysis also helps to make sense of the idea of natural bodies being both

⁶⁶ Cf. Seneca, *Letters* 113, 4-5 and the Stobaeus passage below.

⁶⁷ As István Bodnár pointed out to me, such speculations regarding what is contained in the quality of being a human easily lend themselves to well-known criticisms of essentialism. For example, one could ask whether a human would still be a human if they were to lose their hand. However, I would like to stress that while the example used by Sextus is that of a common quality, peculiar qualities play a more important role in Stoic physics, and it is not impossible that an entity's peculiar quality contain specification regarding the future loss or growth of limbs, especially if we consider the organic nature of the *kosmos*, and the causal interdependence of the bodies within. Nevertheless, such reflections are beyond the scope of this dissertation.

individuals and parts of a larger whole: entities can be considered as parts of the cosmos because the peculiar quality of the cosmos includes the peculiar qualities of the multitude of individual bodies that populate it.⁶⁸

Place is presented as an additional criterion of distinctness in an account describing part-whole relationships. In a passage discussing the relationship of substance and the peculiarly qualified natural body, Stobaeus states that substance is “all but the same” as the peculiar natural body which it is a part of and is coextensive with. The passage also states that in order for a thing *a* to be *different* from a thing *b*, they have to be separated in place and not be related as part and whole.

T4 Stobaeus, *Eclogae*, I.177, 21 – 179, 17 (including Posidonius fr.96 = LS 28D)

μη εἶναι δὲ ταὐτὸν τό τε ποιὸν ἰδίως καὶ τὴν οὐσίαν [ὅ] ἐξ ἧς ἔστι τοῦτο, μὴ μέντοι γε μηδ’ ἕτερον, ἀλλὰ μόνον οὐ ταὐτὸν διὰ τὸ καὶ μέρος εἶναι τὴν οὐσίαν καὶ τὸν αὐτὸν ἐπέχειν τόπον, τὰ δ’ ἕτερα τινῶν λεγόμενα δεῖν καὶ τόπῳ κεχωρίσθαι καὶ μηδ’ ἐν μέρει θεωρεῖσθαι.

The peculiarly qualified thing is not the same thing as its constituent substance. Nor on the other hand is it different from it, but is all but the same, in that the substance both is a part of it and occupies the same place as it whereas whatever is called different from something must be separated from it [in place] and not be thought of as even a part of it.⁶⁹

There are two things that should be noted regarding T4. Firstly, the text describes ideas attributed to Posidonius, and as such it may contain ideas that diverge from the Chrysippean approach to the role of material substrate with regards to identity. Secondly, the passage discusses a different kind of parthood than T3. While T3 discusses the relationship between a

⁶⁸The problematic relationship between the quality of a whole and the qualities of its parts is discussed in more detail in section 2.2.2.3.

⁶⁹ Translated by David Sedley, with my additions.

body and its spatial, material and qualitative subset, T4 discusses a relationship between bodies that are spatially and materially coextensive. The material substrate is thoroughly blended and thus spatially coextensive with the qualitative substrate and the mixture of these two constitute the peculiarly qualified individual body, which is again, coextensive with both the qualitative and the material substrate. This kind of part-whole relationship is very different from the one discussed in T3 and it points to a very important aspect of the Stoic theory: parts do not need to be spatially delimitable. This raises an interesting point with regards to the possible conflict between the doctrine of partial wholes and SI₂, as having peculiarly qualified non-spatial parts would clearly contradict SI₂. Indeed, there is very little evidence of peculiarly qualified bodies that are coextended. Whenever the controversial tenet of through and through blending (*krasis di'holou*) is discussed, the blended bodies in the examples are not peculiarly qualified (or only one of them is).

This all suggests that place does play some role in distinguishing entities. When it comes to the coextension of bodies: peculiarly qualified individuals can be partially, but not completely coextensive, and qualified bodies can be completely coextensive unless peculiarly qualified.⁷⁰ In other words, there cannot be two peculiarly qualified bodies in one place. So, it seems that substance in SI₂ might be understood as a portion of matter singled out by the place it occupies, which suggests that we should seriously consider place as a possible principle of individuation for material substances. This is obviously not possible if one opts for interpretation (I3) or accepts (I1) but accounts for the individuality of portions of matter in terms of material qualification. The advantage of allowing some sort of identity to portions of matter is avoiding some of the complications a theory faces when both unity and distinctness

⁷⁰ Sedley raises an important point regarding the individuating role of place. When Posidonius states that for two individuals to be different, they need to be spatially distinct, he seems to reject the Stoic commitment to the collocation of bodies, which Sedley identifies as a crucial tenet of Stoicism. ("Stoics and Their Critics", 36-7). A possible suggestion is that the Posidonius passage reflects on the differences between peculiarly qualified entities and other kinds of bodies. Truly distinct entities would have to occupy distinct places because peculiarly qualified entities cannot be coextensive. However, this does not apply to other bodies that are not peculiarly qualified.

are accounted for by the same principles. These difficulties are discussed in more detail in chapter II.

Unfortunately, accounting for the distinctness of portions of matter in virtue of the place they occupy has its disadvantages. It is not clear whether place itself can be individuated. First of all, place is an incorporeal, and while there are good reasons to believe that incorporeals are particulars, it is a further question whether a certain incorporeal can be individuated. There is certainly no textual evidence on the matter. Secondly, the extant descriptions of the concept of place identify place as that which is (fully)⁷¹ occupied by a body,⁷² which would suggest that even if particular places had an identity that identity would be derived from the bodies occupying them. This is really unfortunate given the advantages of the theory and raises some difficulties when it comes to accounting for the distinctness of parts.

1.2.4. Layers of Analysis

Another way to understand the relationship between the peculiarly qualified and substance, as well as the way peculiar qualification accounts for synchronic and diachronic identity is to identify what the qualified and the substance are and how the theory of peculiar qualification is related to the account of the physical and metaphysical constitution of the *kosmos* and the objects populating it. In what follows, I will survey the different entities that were identified as building blocks of the universe and the individual substances populating it and try to situate the qualified and the material substrate with respect to them.

According to the early Stoic physical theory, individual bodies (which include the *kosmos*, since it is itself a peculiarly qualified individual) are made up of a variety of different

⁷¹ Cf. Keimpe Algra, *Concepts of Space in Greek Thought*, (Leiden: Brill, 1995), 264-7.

⁷² Sextus Empiricus, *M*, 10.3-4 (= *SVF* II 505 = LS 49B)

layers. On the most basic level of analysis, everything in the *kosmos* is made up of the two principles: god and matter.⁷³ These principles are themselves bodies.⁷⁴ Matter is an unqualified, undefined mass, while god is quality and motion. Matter and god constitute the world by being extended through each other, forming a through and through blend, thus bringing about the variety of bodies that populate the world. God, being mixed with matter, acts on it and qualifies different chunks of matter in different ways, thus bringing about distinct entities.

The most basic bodies produced by the blending of god and matter are the four elements: fire, air, water and earth. The elements constitute a second layer of analysis when it comes to the composition of bodies, the characteristics of which are often explained by the ratio of their composing elements.

Finally, individuals have two further components into which they can be analysed: matter and *pneuma*. As opposed to artefacts, natural bodies are qualified and moved by the portion of *pneuma* in them. In the case of animals, the dichotomy of *pneuma* and qualified matter is further differentiated, as body and soul are again two qualitatively distinct corporeal components that are opposed to each other.

Clearly, in the case of individual bodies, the *pneuma* plays a role similar to god. The analogous functions in these two entities have prompted several commentators⁷⁵ to conclude that in Chrysippus' thought, *pneuma* has taken over the role of god, and the two terms are used interchangeably to refer to the same entity. Although we have some passages stating that god

⁷³ DL VII.134 (=SVF II.300, part II. 299= LS 44B) Sextus Empiricus, *M* 9.75-6 (=SVF II.311= LS 44C) Calcidius, *Commentary on Plato's Timaeus*, 292 and 293 (=SVF I.88, part = LS 44D and LS 44E, respectively), Alexander of Aphrodisias, *On Mixture*, 224,14-17 (=SVF II.442, part =LS 47I).

⁷⁴ DL VII.134(=SVF II.300, part II. 299= LS 44B).

⁷⁵ Michael Lapidge, "*ἀρχαί* and *στοιχεῖα*: A Problem in Stoic Cosmology," *Phronesis* 18 (1973): 276, and "Stoic Cosmology," in *The Stoics*, ed. John M. Rist, (Berkeley and Los Angeles: University of California Press, 1978), 170. Richard Sorabji, *Matter, Space and Motion: Theories in Antiquity and their Sequel*, (London: Duckworth, 1988), 85, Dirk Baltzly, "Stoicism" in *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta. Last modified April 10, 2018. <http://plato.stanford.edu/entries/stoicism/>.

is a kind of *pneuma*,⁷⁶ there are no passages that explicitly identify god with the *pneuma*.⁷⁷ Moreover, while their functions are similar, their nature is different, and they explain different phenomena. First, as I will argue in more detail in chapter IV, there are good reasons to believe that god himself is not material: taken together with matter (his substance) he is, but not considered without it. While he is identified with fieriness and called a creative fire,⁷⁸ he is not identical with the element fire, which he is a constituent of and prior to.⁷⁹ As opposed to this, the *pneuma* is a mixture of two elements,⁸⁰ which are material bodies (composed of matter and god). Moreover, the *pneuma* also differs from god in being subjected to significant changes brought about by its relatively passive counterpart, qualified matter. As I will discuss in more detail in chapters II and III, the *pneuma* of a living being undergoes various transformations, throughout the development of the entity, all of which are related to the *pneuma* being affected by other bodies. Not to mention the case of sense perception, which also presupposes the *pneuma* being acted on. The case of natural bodies also shows the extent to which the *pneuma* is a biological explanatory principle, more suited to give an explanation that is in concordance with directly observable biological phenomena than the more abstract god or creative fire.

⁷⁶ Alexander of Aphrodisias, *On Mixture*, 224. 14-22, 32, and SVF II.1027,1033, 1035, 1037, 1051, 1054.

⁷⁷ Cf. Josiah Gould, *The Philosophy of Chrysippus*, (Albany: SUNY Press, 1970), 102.

⁷⁸ Cicero *ND* II.57(= SVF I.171), Aetius, I, 7, 33 (= SVF II. 1027), Pseudo-Galen, *On Medical Definitions*, 95 Vol XIX, p. 371K (= SVF II.1133), Clement of Alexandria, *Stromata*, V.14. p.708 (= SVF II.1134).

⁷⁹ cf. Lapidge, “ἀρχαί and στοιχεῖα,” 275-6.

⁸⁰ Nemesius *On the Nature of Man*, 164,15-1 8(=SVF II.418) = LS 47D, Galen, *On Bodily Mass* 7.525,9-1 4(=SVF II.439, part = LS 47F), Plutarch, *On Common Conceptions* 1085C- D (=SVF II. 444, Part= LS 47G). Richard Sorabji has argued that the idea that the *pneuma* is a mixture of air and fire is just a speculation based on evidence that says that *pneuma* has the substance of air and fire. On his account *pneuma* is air or fire disposed in a certain way (*pōs ekhon*). (*Matter, Space and Motion*, 85-9.) While there is evidence that *pneuma* is hot air disposed in a certain way (cf. Plutarch, *On Stoic Self-contradictions* 1037B (=SVF II.128), Simplicius, *On Aristotle's Categories*, 217,32-218,1 (= SVF II.389 = LS 28L), Plutarch, *On Stoic Self-contradictions*, 1053F (=SVF II.449)) to the extent that it has a certain tension and thus is not lax, I do not think that the fact that being tense is a necessary element to being *pneuma* contradicts the idea that the *pneuma* is a mixture of air and fire, even if being a mixture of air and fire is not a sufficient condition for calling something *pneuma*. Insofar as *pneuma* is hot air, which is supported by a plethora of textual evidence, it is safe to assume that insofar as its component elements are concerned, it is a through and through blend of fire and air. It has also been proposed that *pneuma* is aether (John M. Rist, “On Greek Biology, Greek Cosmology and Some Sources of Theological *Pneuma*,” *Prudentia* (1985):27-48). This is a more likely account; however, the majority of evidence is still in support of the interpretation that *pneuma* is air and fire.

Thus, explanations involving matter and *pneuma* do not correspond directly to talk about the two principles. As to matter, in this explanatory framework, it is not an absolutely undefined, unqualified body, although it is relatively qualityless compared to the qualifying *pneuma*. Matter, contrasted with *pneuma*; is made of the denser “passive” elements, earth and water so it has at least the qualities of these: wetness and dryness. There is also the evidence that suggests that Zeno⁸¹ also considered some physical properties, such as colours to be “first shapes” or “first characteristics of matter”.⁸² As discussed in section 1.2.3.2.1.1, the import of that evidence depends on how we interpret it, however, is worth keeping it in mind that insofar as *pneuma* is contrasted with qualified matter (made of earth and water) there might be some basic qualities that are not *pneumata*.

A fourth kind of analysis peculiar to Stoic metaphysics is the theory of the four categories or genera. The exact role of the four categories is not clarified by our sources; nevertheless, we know that they were on the one hand used in the context of the problematic of identity and in general in discussions of change and persistence. On the other hand, they were also evoked in contexts where concepts are defined and in accounts concerning the nature of certain entities.

Besides substance – or substrate (*ousia* or *hupokeimenon*) – and qualified (*poion*), the two further categories are disposed in a certain way (*pōs ekhon*) and relatively disposed in a certain way (*pros ti pōs ekhon*). Stephen Menn has suggested that the theory of the four categories was developed as a means of accounting for all possible predicates in a corporealist framework. He takes the four *genera* to refer to aspects of individual objects, as characterized

⁸¹ Possibly in this context “Zeno” refers to the Stoics in general as it features in a compilation of the views of different philosophers and philosophical schools. (Both Aetius’ and Pseudo-Galen’s text discuss philosophical conceptions of colour and given the structural similarities of the two texts, it is likely that they rely on the same source.)

⁸² (SVF I.91 Aetius I, 15,6 Pseudo-Galen, *History of Philosophy*, 27) and footnote 57.

by four different kinds of predications which differ in function of the nature of the facts that make them true.⁸³

As Menn points out, the Stoic theory of predication is tightly knit to their theory of causation: predicates come to be predicable of bodies in function of a causal relationship taking place between them.⁸⁴ In order for a predicate *F* to be truly predicable of an object *a*, there has to be an object *f* that enters in a causal relationship with *a*, causing *a* to be *F*, thus bringing about that *F(a)* is true. Predicates (*katēgorēmata*) themselves are a subtype of sayables (*lekta*), and thus they are incorporeal, but the *fact* making the predication true is an interaction or some sort of relationship between bodies, since on the Stoic conception causal relationships can obtain only between bodies.⁸⁵ Thus, in the framework of the Stoic theory, the truth of all predicates has to be accounted for by means of interactions between corporeal objects. As the system of the four *genera* is a classificatory scheme for predicates, predicates are classified as describing an entity under one *genus* or another in function of the nature of the fact that makes the predicate in question true. Since such facts are causal relationships between corporeal entities, the predicates are classified with respect to how the bodies are causally related to one another.

In the case of predicates characterising objects viewed under the first and the second genera (*hupokeimenon* (subject) and *poion* (qualified) respectively), this corporeal relationship is that of immanence. Since entities are made up of a blend of matter and *pneuma*, entities are a *hupokeimenon* and a *poion* in virtue of having these other bodily entities (*ousia* (matter) and *poiotes* (quality) respectively) as parts *in* them. For example, it is true of Socrates that he exists because there is matter in him, constituting him, and he is a human because he has the quality

⁸³ Stephen Menn, "The Stoic Theory of Categories," *Oxford Studies in Ancient Philosophy* 17 (1999):218-20.

⁸⁴ *ibid.*, 219.

⁸⁵ Cicero, *Academica* I.39 (SVF I.90 = LS 45A), Sextus Empiricus, *M* 8.263 (SVF II.363 =LS 45B), Nemesius, *On the Nature of Man*, 78,7-79,2 (SVF I.518, part = LS 45C), Stobaeus, *Eclogae* I p. 138,23 (=SVF II.336).

of humanity in him. This quality is a portion of *pneuma* that is disposed in a certain way immanent in Socrates and constituting him.⁸⁶

As for the third and the fourth category, the *pōs ekhon* (*disposition*) and the *pros ti pōs ekhon* (*relative disposition*) respectively, there is no such immanent body in the subject that could account for the truth of the predication. Objects are *pros ti pōs ekhonta* in virtue of a relation to an external body.⁸⁷ For example someone is a father because he has a son. This predicate is only true of him in virtue of the existence of the external body in question. If his son were to die, he would cease to be a father.⁸⁸

So, on Menn's account, the subject/substrate (*hupokeimenon*) and the qualified (*poion*) are things the object is in virtue of having matter (*ousia*) and of having qualities (*poiotēs*). He stresses that subject and substance and the qualified and the quality are different things, the former ones refer to the entity itself, whereas *ousia* and *poiotēs* refer to constituents of the entity, which Menn identifies with the two principles constituting each entity. Interpreted in this light, SI₁ and SI₂ report on the relationship between the portion of matter (the passive principle) constituting the individual and the individual *qua* qualified. Furthermore, peculiar qualification is the result of the individual having a peculiar quality (*idia poiotēs*), a specific portion of the active principle as a corporeal constituent part.

I mostly agree with Menn's analysis of the four categories. I think that his observation that qualities are distinct from the qualified and are not bodies insofar as they are aspects of the qualified body,⁸⁹ but are rather bodies in their own right that constitute the individual as coextensive constitutive parts⁹⁰ is very important insofar as it is an unavoidable consequence

⁸⁶ Menn, "The Stoic Theory of Categories" *Oxford Studies in Ancient Philosophy* 17 (1999):221-2.

⁸⁷ Menn, *ibid.* 234-6.

⁸⁸ Simplicius, *On Aristotle's Categories* 166,15-29 (= *SVF* II.403, part = LS 29C).

⁸⁹ Pace Sorabji, *Matter, Space and Motion*, 89-93.

⁹⁰ Matter and *pneuma* (or quality) are not spatial parts of the body but are spatially coextensive with each other and with the body that they constitute.

of Stoic corporealism. Given that all states of affairs are caused by bodies, the qualification of bodies also has to be caused by a body that is not the same (*ou tauton*) as the individual. Nevertheless, I have to note that this subtle distinction, while necessary for theoretical coherence, is not always made in our texts: substance (*ousia*) and substrate (*hupokeimenon*) are often used interchangeably, and (peculiarly) qualified is often used with reference to the quality/ies⁹¹ of the individual,⁹² although evidence on grammatical discussions and a passage by Simplicius⁹³ support the distinction made by Menn.⁹⁴

Another problematic point about Menn's interpretation is that he conflates the active principle and *pneuma*, and thus presumes that the matter of individuals is completely unqualified and that qualities are portions of god. However, I do not think that god and *pneuma* are the same, and while god is often described as the principle responsible for qualification, in discussions of the qualities and metaphysical constituents of individual entities, *qualities* are for the most part defined as *pneumata*,⁹⁵ *pneuma* disposed in a certain way⁹⁶ or other modifications of *pneuma*.⁹⁷ While I do think that each entity is analysable into god and matter, as well as into a mixture of the four elements, I believe that the qualitative and material components of an entity relevant in the context of the four *genera* are its *pneuma* and qualified matter.

⁹¹ I am rephrasing Irwin here who talks about distinct subjects when talking about the four categories in "Stoic Individuals."

⁹² Cf. T1 and T4 Stobaeus, *Eclogae* I.177, 21 – 179, 17 (including *Posidonius fr.96* = LS 28D).

⁹³ Simplicius, *On Aristotle's Categories*, 214,24 (T5)

⁹⁴ Discussions on the references of parts of speech identify peculiar qualities and not the peculiarly qualified as the references of proper nouns. We can speculate that it is the nominal phrase formed with the addition of a determinant that would refer to the *peculiarly qualified*. cf. DL VII.58 and Jacques Brunschwig, "The Theory of the Proper Noun," in *Papers in Hellenistic Philosophy* (Cambridge: CUP, 1994), 41.

⁹⁵ Plutarch's *On Stoic Self-contradictions*, 1053f-1054b, Alexander of Aphrodisias, *On Aristotle's Topics* (SVF II.379), Pseudo-Galen, *On incorporeal qualities* 2 Vol xix p. 467 K.

⁹⁶ Cf. Plutarch, *On Stoic Self-contradictions* 1037B (= SVF II.128), Simplicius, *On Aristotle's Categories*, 217,32-218,1 (= SVF II.389 = LS 28L), Plutarch, *On Stoic Self-contradictions*, 1053F (=SVF II.449).

⁹⁷ Simplicius, *On Aristotle's Categories* 214,24 (= SVF II.391, part = LS 28M).

While the matter that is mixed with the *pneuma* is qualified, there are good reasons to suppose that these qualities are not such that would determine peculiar qualification. On the one hand, such material qualities might be subject to as much change as the matter they are dependent on, and thus cannot possibly constitute a criterion of identity for bodies. Secondly, these qualities, which are mostly the qualities of the elements, such as wetness and dryness are not such that could in and of themselves account for unity, especially because most co-specific entities would have the same material qualities, with slight variations in earth to water ratio.

Getting back to the problem of interpreting the theory of identity and individuation and the implications of SI₁ and SI₂, we can establish the following things. (1) Peculiar qualification accounts for perceptible qualitative uniqueness. (2) It also accounts for persistence through time. Merely material entities do not persist. (3) While the matter of entities is qualified and can be distinguished in a weaker sense, natural bodies are distinct in virtue of being peculiarly qualified. (4) While natural bodies' matter is qualified to some extent, peculiar qualification is something determined by the portion of *pneuma* constituting the entity.

The difficulty (which I call the *first interpretative puzzle*) concerning this theory is that criteria of identity have to account for both synchronic and diachronic identity, with respect to both the metaphysical and epistemological aspect of identity.⁹⁸ Given their multifarious roles, criteria of identity have to be both persistent and qualitatively unique, while at the same time accounting for objects' distinguishability and recognisability. This is problematic because unique, perceptible features such as having luscious hair or a slender waist are typically features of an individual that can change, and such a change is not really considered to affect the identity of the individual. Provided the fact that criteria of identity persist, they have to be essential properties, indispensable for the entity's persistence. However, typical instances of essential

⁹⁸ cf. Lewis, "The Stoics on Identity," 91 and Simplicius, On Aristotle's *On soul* 217,36-218,2 (=SVF II.395 = LS 28I).

properties (e.g. belonging to a certain species) are usually not such that in and of themselves they could account for the perceptible uniqueness of an entity.⁹⁹

Thus, it seems that the requirements imposed on peculiar qualities are in contradiction with each other. However, I believe that this apparent contradiction can be attenuated once we get a better understanding of the contexts in which the theory of peculiar qualification was shaped. There are two things to be considered concerning the supposed perceptible uniqueness of peculiar qualities. The first thing is that the fact that the qualitative uniqueness of entities has to be discernible does not mean that their peculiar qualities should be blatantly perceptible. When the Academics tried to ridicule the Stoic claim that each entity is peculiarly qualified by pointing to the vast number of cases of indiscernible entities, the Stoics pointed out that seemingly indiscernible entities are not as a matter of fact indiscernible: if you know enough about the "indiscernible" objects, or are sufficiently acquainted with them, then you will be able to tell them apart. It is well known that identical twins are discernible by their parents, and eggs are discernible by poultry farmers.¹⁰⁰ The Stoic consideration that knowledge affects the formation of impressions is also reflected in their distinction of expert (*technikos*) and non-expert impressions, which they explain by pointing out that experts perceive objects in their range of expertise differently from non-experts.¹⁰¹ What these considerations tell us about peculiar qualification is that whatever grants the infallible recognisability of objects need not be blatantly and immediately sensible. They may not be obvious at first sight, and certainly not obvious to anyone: they may require inspection, investigation, reflection and extensive knowledge about the object of perception.¹⁰²

⁹⁹ cf. Sedley, "The Stoic Criterion," 261, Irwin, "Stoic Individuals," 466-467, Lewis, "The Stoics on Identity," 93-95 Tamer Nawar, "The Stoics on Identity," 137-8, and Nyulász, *The Ontological Foundations*, 9.

¹⁰⁰ Cicero, *Academica* II. 56-8.

¹⁰¹ DL VII.51.

¹⁰² Frede, "Stoic Epistemology," 307, 316.

The second thing is that peculiar qualities themselves need not be qualitatively unique in a perceptible way.¹⁰³ On the metaphysical level, 'peculiarly qualified' need not mean "being qualitatively unique in a perceptible way." This condition is only to be met for peculiarly qualified objects on the epistemological level. Metaphysically, it is sufficient for the theory to be able to account for the distinctness and the persistence of entities based on the same, essential metaphysical principle. It is a further step, necessitated by the epistemological requirements of distinguishability and recognisability, to make sure that this metaphysical principle will cause the object to have qualitatively unique perceptible features.

Conversely, these unique perceptible features themselves, although necessary for recognisability and distinguishability, need not be essential qualities of the entity themselves, in the sense that they need not characterize the entity throughout its persistence.¹⁰⁴ The perceptible quality that makes for object *A*'s distinguishability from object *B* at a time t_0 need not be the same qualitative feature that makes for object *A*'s distinguishability from object *C* at a time t_1 or guarantee object *A*'s identifiability at times t_0 and t_1 . Insofar as the perceptible quality that object *A* has is a function of its peculiar qualification, there need not be a correspondence between synchronic and diachronic identity criteria on the epistemological level; it is sufficient if they are the same on a metaphysical level. To give an example, if Socrates' peculiar quality is a quality *D* that can be manifested in being *A* in circumstances *p* at time t_1 , and in being *B* under circumstances *q* at time t_2 , then to someone who understands that being *A* in circumstances *p* and being *B* under circumstances *q* are both indicative of having the peculiar quality *D* Socrates will be infallibly recognizable.

¹⁰³ Sedley, "The Stoic Criterion," 266.

¹⁰⁴ cf. Eric Lewis' criticism of Sedley's interpretation: Lewis, "The Stoics on Identity," 93-94. Nyulászai "Ontological Foundations," 10.

1.2.5. The account of Irwin and Lewis

The biggest challenge of an interpretation of the Stoic theory of identity is thus to pinpoint a metaphysical entity that is necessary and sufficient for the individuals' persistence and numerical uniqueness, and it is either itself qualitatively unique in a perceptible way, or is such that it can account for characteristics that are qualitatively unique and perceptible. The two authors whose reconstruction of the Stoic account I would like to discuss, argue that the soul of animals is such a kind of metaphysical entity: it is necessary and sufficient for the entity's persistence and individuation, and it is able to ensure their perceptible qualitative uniqueness.

Lewis' and Irwin's accounts are based on the accurate, and formerly discussed observation that peculiar qualification and hence individuation and identity must be in some way accounted for by the pneumatic constituent of the individual, which in the case of animals is the individual's soul, in the case of humans their rational soul.

Pneuma, besides being the stuff of qualities, also has other functions. It has an innate tension by which it holds natural bodies together, it is their principle of unity in a very physical sense, it literally makes them one, by keeping them from falling apart. It is also a life principle and the entity responsible for the functions and motions characteristic of different kinds of beings.¹⁰⁵

Since unity and qualification are imparted to objects by their share of *pneuma*, it makes sense to suppose that the identity and individuation of an object are accounted for by the specific kind of *pneuma* permeating it. Saying this much, however, is hardly satisfactory. One has to give reasons for identifying a quality that is a *pneuma* disposed in a certain way, with the soul itself.

¹⁰⁵ The function and composition of *pneuma* in different kinds of beings is discussed in more detail in chapter II.

Lewis and Irwin acknowledge the existence of these problems. They note that there is no extant text in which peculiar qualities would be identified with the soul in the case of animals, and proceed to show that the identification is reasonable because both qualities and the soul have been defined as portions of *pneuma* disposed in a certain way (*pōs ekhon*).¹⁰⁶ Moreover, they also explain their choice by suggesting that psychic qualities make a much better candidate for criteria of diachronic identity than qualities of the body, given that these latter can hardly be conceived as essential for individuals' identity through time.¹⁰⁷ Finally, they both give specific arguments as to why the soul is – in the case of animals – the pneumatic entity that is best suited to account for identity, individuation, distinguishability and recognisability. In what follows, I will start off with Irwin's arguments and then proceed to present those advanced by Lewis.

Irwin's argument for identifying peculiar qualities with the *soul* rests on two considerations he attributes to the Stoics: (1) that peculiar qualities should be “unifying qualities”, that is, besides individuating and identifying entities, they should also account for their unity, and (2) that these unifying qualities can only be qualities of belonging to a natural kind.¹⁰⁸ He supports his first assumption by the following passage by Simplicius:

T5 Simplicius *On Aristotle's Categories* 214,24 (= SVF II.391, part = LS 28M)

τὰς γὰρ ποιότητας ἐκτὰ λέγοντες οὗτοι ἐπὶ τῶν ἡνωμένων μόνων τὰ ἐκτὰ ἀπολείπουσιν,
ἐπὶ δὲ τῶν κατὰ συναφὴν οἶον νεῶς καὶ ἐπὶ τῶν κατὰ διάστασιν οἶον στρατοῦ
μηδὲν εἶναι ἐκτὸν μηδὲ εὐρίσκεσθαι πνευματικόν τι ἐν ἐπ' αὐτῶν μηδὲ
ἓνα λόγον ἔχον, ὥστε ἐπὶ τινα ὑπόστασιν ἐλθεῖν μιᾶς ἕξεως. τὸ δὲ ποιὸν
καὶ ἐν τοῖς ἐκ συναπτομένων θεωρεῖται καὶ ἐν τοῖς ἐκ διεστώτων· ὥς γὰρ

¹⁰⁶ cf. Lewis, “The Stoics on Identity,” 99, 106.

¹⁰⁷ Irwin, “Stoic Individuals,” 471, Lewis, “The Stoics on Identity,” 92-94.

¹⁰⁸ In Aristotelian parlance, unifying qualities can only be substantial forms.

εἷς γραμματικὸς ἐκ ποιᾶς ἀναλήψεως καὶ συγγυμνασίας ἐμμόνως ἔχει κατὰ διαφοράν, οὕτως καὶ ὁ χορὸς ἐκ ποιᾶς μελέτης ἐμμόνως ἔχει κατὰ διαφοράν. διὸ ποιὰ μὲν ὑπάρχει διὰ τὴν κατάταξιν καὶ τὴν πρὸς ἓν ἔργον συνεργίαν, δίχα δὲ ποιότητός ἐστιν ποιὰ· ἕξις γὰρ ἐν τούτοις οὐκ ἐστιν· οὐδὲ γὰρ ὅλως ἐν διεστώσαις οὐσίαις καὶ μηδεμίαν ἐχούσαις συμφυῇ πρὸς ἀλλήλας ἔνωσιν ἐστιν ποιότης ἢ ἕξις.

For they call qualities ‘havable’ (*hekton*), and allow what is havable to exist only in the case of unified things; whereas in the case of things which exist by contact, like a ship, or [whose constituents are separated], like an army, they rule out there being anything havable, or there being found in their case any single thing consisting of breath or possessing a single principle, such as to achieve a realization of a single tenor. The qualified, however, is seen even in things whose constituents are in contact or separated. For just as a single grammarian is enduringly differentiated as a result of a qualified study and education, likewise the chorus is enduringly differentiated as a result of a qualified training. So they are qualified on account of their organization and their co-operation towards the fulfilment of a single function. But they are qualified things which lack a quality. For there is no tenor (*hexis*) in them, since a quality or tenor is never found in separated substances which have no inherent union with each other. (Translated by David Sedley, with my terminological clarifications)

Simplicius here discusses the Stoic differentiation between unified and non-unified objects. On this account, it is only natural entities that form a real unity because they are

permeated by a unifying portion of *pneuma*, a havable (*hekton*),¹⁰⁹ which holds them together physically in virtue of its inner tension. Artefacts, which are unified by contact, that is by the touching of the parts, and groups and collections, whose separated constituents are part of a collective unity, only form unities to a lesser extent. All of the entities listed here are qualified, in the sense that they can be the subject of true qualitative predications. However, it is only unified bodies held together by a *hexis* that are qualified because they have a quality in them as a physical component of their body. In other words, it is only unified entities that really *have* qualities in the sense that their qualities are ontologically constitutive of them.

From Simplicius' statements that qualities are *hexeis* and that *hexeis* are what unify unified bodies, Irwin concludes that in the case of unified things it is the same things in respect of which entities are qualified and unified: their *hekton*, which is a quality. He distinguishes between unifying and non-unifying qualities, the former being *hekta*, the latter qualities that can be predicated of both unified and non-unified entities. He also takes peculiar qualities to be unifying qualities because he assumes that a unifying quality has to play a role in accounting for the entity's existence, individuation and persistence.¹¹⁰ To support his point he draws a parallel with Locke¹¹¹ attributing to the Stoics the view that "unity at a time is the basis of both distinctness at a time and persistence through time".¹¹² Thus, as he puts it, peculiar qualities should be "fundamentally principles of unity, and derivatively principles of distinctness and principles of persistence".¹¹³

As to Irwin's second consideration, when pondering what kind of quality could possibly be a principle of unity, individuation and identity, he comes to the conclusion that such a quality

¹⁰⁹ Simplicius uses in this passage two different, albeit related terms, *hekton* and *hexis*, for whatever it is in virtue of which unified bodies are unified. David Sedley reflects this lexical difference by rendering *hekton* as "haversable" and *hexis* as "tenor".

¹¹⁰ Irwin "Stoic Individuals," 469.

¹¹¹ Ibid. 470.

¹¹² Ibid. 469-70. Irwin quotes Locke's *An Essay Concerning Human Understanding* II. 27.5.

¹¹³ Ibid.

could only be the individual's very own common quality of belonging to a species.¹¹⁴ To give an example, on this analysis, Socrates' peculiar quality would be his own token of humanity. Combining this sortal essentialist take on identity with the consideration that qualities are *hexeis*, Irwin draws his final conclusion that the peculiar qualities of animals are their souls. He arrives at this conclusion by assuming that peculiar qualities correspond to an *infima species*, and as such, they have to reflect the characteristics of the broader species to which their subject belongs. Since he assumes that having a (rational) soul is the species-specific feature of humans, as well as their unifying *hexis*,¹¹⁵ Irwin concludes that human beings are peculiarly qualified by their individual rational souls.

Lewis comes to the same conclusion as Irwin through different arguments. His first argument is that the soul has individuating powers, and his second one is that the soul is a necessary and sufficient condition for the animal's existence. As for his first argument, he notes that although no extant texts explicitly attribute individuating powers to the soul, several texts attest to the *pneuma's* unifying and qualifying powers, which according to him amounts to saying that the *pneuma* of each life-form is responsible for its individuation and identity.¹¹⁶ He provides additional support for this claim by devising an ingenious account of the soul's qualitative uniqueness. He derives the soul's individuality from the qualitative uniqueness of the mental contents the individual has. As he argues, given the Stoic theory of perception, it just cannot be possible that two individuals ever have the same mental contents. On the Stoic

¹¹⁴ Ibid. Irwin supports this statement with a Diogenes Laertius passage: "The species (*eidos*) is what is included in the genus, as man is included in animal. The most generic is the thing that being a genus has no genus, such as being. The most specific is the thing that being a species has no species, such as Socrates." (DL VII. 61, Irwin's translation) Peculiar qualities are not mentioned here. Irwin most probably identifies peculiar qualities and "a species that has no species" with DL VII.58 in mind, which states that (proper) names refer to "a quality peculiar to an individual".

¹¹⁵ Ibid. 470-471.

¹¹⁶ Lewis, "The Stoics on Identity," 99.

view impressions (*phantasiai*) are physical imprints¹¹⁷ on the soul. As no two entities can ever occupy the same spatial position at the same time, no two animate beings can ever have the exact same impressions. Their corporeal souls, altered in different ways, will be structured differently and thus they will be qualitatively unique.¹¹⁸

It has to be noted at this point that this argument cannot be taken into consideration as it cannot be incorporated in an all-encompassing account of identity. If our reason for believing that the soul is the best candidate for individuating ensouled entities is that each soul's unique mental contents (and unique physical shape) make it qualitatively unique and thus a perfect independent principle of individuation, then we are stating that the soul (and the rational soul) has some qualities that other modifications of *pneuma* (*hexis* and *phusis*) do not have, and it is in virtue of these qualities that it can be a principle of individuation. This line of reasoning would force us to conclude either that other modifications of *pneuma* cannot function as principles of individuation or that they fulfil this role in virtue of some other properties they have.

The first possibility is unacceptable because it would entail that inanimate natural bodies and plants cannot be individuated and identified, an impossible consequence for the Stoic theory. If we consider the epistemological motivations for establishing their theory of identity, it is clear that the Stoics wanted to maintain that all kinds of natural entities, whether ensouled or not, have to be distinguishable and re-identifiable.¹¹⁹ The indistinguishability of unensouled entities poses a problem just as serious for the possibility of cognition as the indistinguishability

¹¹⁷ Or on the Chrysippean account, alterations (*heteroiōsis*) cf. Sextus Empiricus, *M* 7.230 = *SVF* I.58, 7. 227-30, 7.372-3 = *SVF* II.56. (cf. Robert J. Hankinson "Stoic Epistemology," in *The Cambridge Companion to the Stoics*, 62.

¹¹⁸ Lewis, "The Stoics on Identity," 107-108. This argument is criticized by Nawar, who points out that this account has the same shortcomings as the sundrome account attributed to Dexippus. "The Stoics on Identity," 143.

¹¹⁹ Cf. Sedley, "The Stoic Criterion," 262.

of ensouled ones.¹²⁰ This is apparent from the examples of indistinguishable non-animals featuring in the Stoic-Academic debate about the possibility of cognition, such as grains of wheat and figs.¹²¹ Another reason why the Stoics had to ensure the identity of all sorts of entities is tied to their belief in the eternal recurrence of events and individuals. They believed that the world is periodically destroyed by conflagration and then is born again from its ashes.¹²² Because they believed that in each cycle the world will be the same as it previously was – populated by the same individuals, who will then participate in the same events – it is vital that the identity of all individuals is fixed, not just the identity of those with a soul, especially because of the causal interactions that take place between entities.¹²³

As to the second possibility, I do not think that there is an alternative way of accounting for the individuating and identifying power of the *hexis* and nature. However, I do not think that such an alternative account is necessary, if an all-encompassing general theory of identity can be formulated.

Lewis' second argument, which focuses on diachronic identity, states that the soul is a necessary condition for the persistence of animals. He argues that animals come to exist when their soul comes to be and cease to exist when their soul is dissolved.¹²⁴ As Lewis points out, according to the Stoic doctrine, death is the soul's separation from the body, the soul of the

¹²⁰ This point has been brought to my attention by Gábor Betegh. It has to be noted however, that the Stoic theory cannot account for the infallible distinguishability and recognizability of artefacts and collectives. These things cannot be peculiarly qualified, as they do not *have* qualities, given that they lack a unifying *pneuma*. Thus, the identification of wax pomegranates, ships and armies will still present a problem to the supposedly infallible wise man.

¹²¹ Plutarch *On Common Conceptions* 1077C.

¹²² Lactantius, *Divine institutes* (SVF II.623=LS 52B), Nemesius, *On the Nature of Man*, 309,5-311,2 (SVF II.625 = LS 55C), Eusebius, *Evangelical preparation* 15.19.1-2 (SVF II.599 = LS 55D).

¹²³ Marwan Rashed suggested an interesting account of the identity and individuation of souls that would preclude the problem raised here. He suggests that souls are individuated and identified in the same way in subsequent worlds in virtue of the position of the stars at their birth. Cf. his "Alexander of Aphrodisias on Particulars," 168-172.

¹²⁴ Lewis, "The Stoics on Identity," 97-99.

virtuous surviving the separation, and living on in a disembodied state.¹²⁵ When the soul dissolves, either at death or later, the individual ceases to exist. Furthermore, as he argues, animals do not exist prior to having a soul. According to a tenet of the Stoic theory of ontogenesis, animal embryos exist as plant-like life-forms and only develop a soul upon birth.¹²⁶ He interprets this idea as implying that individual animals' existence only starts from the moment of birth, as he puts it: "Prior to being ensouled no individual animal exists, since no animal exists at all."¹²⁷

All in all, I agree with the conclusion of the two authors' analysis that *humans* are individuated and identified in virtue of some feature of their rational soul.¹²⁸ However, I also believe that despite the correctness of their conclusion, neither Irwin nor Lewis present an accurate reconstruction of the whole of the Stoic theory of identity, and this inaccuracy is visibly manifest in the unsoundness and insufficiency of their arguments. Their arguments operate with unexamined presuppositions about Stoic metaphysics, biology and psychology, which are often unfounded.

Their reasoning for identifying peculiar qualities with the soul rests on two assumptions (a) that entities are unified, individuated and identified in virtue of the same metaphysical principle, the essence of the individual, which is a numerically distinct token of their natural kind, and (b) that this principle is the soul.

¹²⁵ Sextus Empiricus *M* 7.234 (= LS 53F), Calcidius *Commentary on Plato's Timaeus*, 220 (= LS 53G), Nemesius *On the Nature of Man*, 78,7-79,2(= LS 45D), quoted by Lewis, "The Stoics on Identity," 97. For the idea that the soul of the virtuous survive death see Eusebius, *Evangelical Preparation*, 15.20.6 (=SVF II.809 = LS 53W)

¹²⁶ Hierocles, *Elements of Ethics*, 1.5-33, 4.38-53 (=LS 53B), Plutarch, *On Stoic Self-contradictions*, 1052F. Tertullian, *On the Soul* 25 (=SVF II.805), and Philo of Alexandria *On the Creation of the Cosmos, According to Moses*, 67, 5-12. (=SVF II.745).

¹²⁷ Lewis, "The Stoics on Identity," 99.

¹²⁸ The difference between my proposed account and Lewis' and Irwin's account is that they believe that the principle of identity is the rational soul itself, why I argue that the rational soul is only a principle of identity in virtue of being constituted by *logos*. This account is elaborated in chapters II-III.

As to the first consideration, Lewis and Irwin attribute to the Stoics a theory of identity according to which peculiar qualities are distinct¹²⁹ instances of common qualities. On this theory, entities are unified by being an instance of a natural kind, since in order to delimit an individual object and to pick it out as a unity, we have to be able to identify it as *some thing*, *i.e.* as an instance of a kind.¹³⁰ Unity is presupposed by individuation and identity because in order to identify two things as one at the same time or at a different time, we also have to identify them as *some thing*. On this account, something is identical to itself both at a time and at different times insofar as it has its own instance of a species-defining common quality. This claim seems acceptable in the context of diachronic identity. The vast majority of philosophers agree that belonging to the same natural kind is essential for an entity's persistence. Accounting for identity at a time seems to be a more problematic issue in this theoretical framework, however. It is not clear how can two entities belonging to the same natural kind be individuated with respect to belonging to said natural kind. Most proponents of this theory suggest that the numerical distinctness of co-specific entities is secured by the numerical distinctness of their species-quality.¹³¹

Whether the above theory corresponds to the Stoic one in all respects is open to question.¹³² In the next two chapters I will have a closer look at the account of unity and diachronic identity, and the role of *pneuma* with respect to these two issues and investigate in detail whether peculiar qualities are what Irwin understands by “unifying qualities”. In chapter II, I will look at the relationship between unity, individuation and identity in the Stoic

¹²⁹ They are numerically distinct according to Irwin and qualitatively distinct according to Lewis. For the sake of simplicity, I will ignore this difference between their account.

¹³⁰ Cf. David Wiggins, *Sameness and Substance Renewed*, (Cambridge: CUP 2001), 7, E.J. Lowe, *The Possibility of Metaphysics* (Oxford: Clarendon, 1998), 60-63, 201 (Lowe refers to what I call a “principle of unity” as a “principle of individuation” and he refers to what I call “principle of individuation” as a criterion of identity.) Also, cf. A.C. Lloyd, “Aristotle's Principle of Individuation,” *Mind*, 79 (1970): 519 and Michael Frede, “Individuals in Aristotle,” In *Essays in Ancient Philosophy* (Minneapolis: University of Minnesota Press, 1987), 63-71.

¹³¹ E.g. Michael Frede, *ibid.*

¹³² For one thing, it is doubtful whether the early Stoic theory stipulated that principles of identity also have to be principles of unity. Cf. Nawar, “The Stoics on Identity,” 139 and Nyulász, “The Ontological Foundations,” 16.

framework, and evaluate whether the evidence on that relationship supports the idea that the early Stoics were sortal essentialists. In chapter III, I will look at sortal essentialism, from the point of view of identity through time in order to establish whether belonging to a certain kind would be considered as essential for persistence by early Stoics.

As to the second consideration, the question we should ask first is whether by saying that animals are identified by their soul Irwin and Lewis mean that animals are identified by the portion of *pneuma* that is specific to them, implying that animals' identity is a case of a general theory of identity according to which natural bodies are identified and individuated by their *pneuma*; or whether they mean that animals are identified and individuated by their soul because it is the kind of *pneuma* that is the best suited for their identification. I believe that Irwin and Lewis endorse the second interpretation. While claiming that entities are individuated and identified by their portion of *pneuma* is undoubtedly true, it is also a platitude: of course entities will be peculiarly qualified by their qualifying principle. An interesting interpretation of the Stoic theory of identity and individuation has to go beyond this claim and point out what it is about the *pneuma* of natural bodies that accounts for their identity and individuation.

Lewis and Irwin identify the peculiar qualities of animals with their soul because they have a certain theory of identity and individuation, and also because they believe that psychic qualities fit perfectly the requirements that peculiar qualities have to meet. As they argue, psychic qualities such as virtues are better suited for the role of peculiar qualities than bodily ones because there are good reasons to consider them as essential and unique dispositional properties that are manifest in recognizable and distinguishable acts and behaviour.¹³³ As opposed to psychic qualities, qualities of the body can be considered perceptibly unique, but by no means essential. The loss of one's feet or one's fingers do not result in a loss of identity,

¹³³ Irwin, "Stoic Individuals," 471, Lewis, "The Stoics on Identity," 92-94.

whereas the loss of some psychic qualities such as memories or psychic dispositions might (at least according to some accounts of identity).¹³⁴

The problems with this line of argumentation have been pointed out before. Claiming that psychic qualities are better suited than qualities of the body to account for identity and individuation, makes one wonder how the identity and individuation of unensouled entities would be accounted for – they only have bodily qualities that were found to be unsuited to account for identity. Nevertheless, let us now ignore this part of the problem and focus on whether Irwin's and Lewis' arguments can provide sufficient support for their claim that animals' principle of individuation and criterion of identity is their soul.

The statement that the principle of individuation is the soul is argued for in detail by Irwin. The argument is based on the idea that peculiar qualities have unifying roles. Irwin understands the Simplicius text he quotes to support his position as saying that all qualities have a unifying role. From this he infers that peculiar qualities also have a unifying role, which means that besides principles of individuation and identity they are also principles of unity. His next step consists in claiming, in conformity with assumption (a), that the unifying, individuating and identifying quality must be a species-specific property. Which, according to him, is the soul (cf. assumption (b)).

I see several problems with this argument. To begin with, none of Irwin's statements follow from the Simplicius text he is quoting. First, Simplicius does not state that the soul is the principle of unity of animals. He mentions a unifying *hexis* – this may or may not be identified with soul in the case of animals. Second, he does not state that that *hexis* is the peculiar quality of the animal. The text does not even mention peculiar qualities. All that is said is that unified entities are unified by *hexeis*, that qualities are *hexeis*, and that for something to *have* a quality it has to be unified by a *hexis*.

¹³⁴ Irwin, *ibid.*474, Lewis, *ibid.*94.

For Irwin's interpretation to apply, two conditions have to be met. First, it has to be the case that the unifying *hexis* of animals is their soul. Second, it has to be the case that the soul, as a *hexis*, is characterised by only one quality, viz. the entity's peculiar quality. If both these conditions obtain, then we can legitimately conclude that an entity's soul is both its principle of unity and individuation. However, there are reasons to doubt both that it is the soul of animals that is their principle of unity and also that souls are characterized only by peculiar qualities. I will investigate these questions in more detail in chapter II.

As to the idea that the soul is the criterion of diachronic identity, Lewis is right in pointing out that the soul is sufficient for the persistence of humans, since there are several texts¹³⁵ that claim that humans (as opposed to non-rational animals) continue to exist as souls after death (defined by Stoic thinkers as the separation of the body from the soul).¹³⁶ They persist as long as their soul persists. However, I am not convinced about the correctness of his other deduction, according to which the soul is necessary for persistence. As it will be discussed in detail in chapters II and III, and as it is also brought up by Lewis, complex natural bodies such as animals and humans change kinds during their natural development. While Lewis believes that this entails that the existence of the individual animal or human only starts when they reach their animal or human status, I believe that it is a much more natural interpretation to suppose that individuals survive changes in their *pneuma* and the consequent changes in their natural kind.

¹³⁵ e.g. Eusebius, *Evangelical Preparation*, 15.20.6 (SVF II.809 = LS 53W)

¹³⁶ Sextus Empiricus, *M* 7.234 = LS 53E.

1.3. Conclusion

This chapter looked at the problem of the early Stoic account of qualification and the composition of natural bodies by focusing on a problem that is central to the ontology of natural entities. It presented the difficulties related to interpreting the evidence regarding the account of synchronic and diachronic identity and laid the foundation for the issues discussed in chapters II-IV.

The conclusion of the chapter is that *prima facie* the problem of identity is insoluble. In order to resolve the interpretative difficulties regarding the evidence on accounts of identity, one has to investigate the specificities of early Stoic accounts of biology, cosmology and metaphysics. An accurate reconstruction of the doctrine of peculiar qualification requires an understanding of the relationship between qualification and unity, qualification and identity through time, as well as an analysis of the nature of entities responsible for peculiar qualification. These issues will be discussed in detail in chapters II to IV.

II. Unity

As we have seen, the idea that principles of individuation and identity should also be principles of unity has an important role in Irwin's argument for identifying the peculiar quality of animate beings with their soul. In this chapter I will examine how this idea is present in Stoic thought and whether it indeed supports Irwin's conclusion. While the chapter starts with examining the relationship between unity and individuation brought up in chapter I, it moves on to a general discussion of the unity of natural bodies, discussing the unity and the unifying role of the *pneuma*, the relationship between unity and qualification and the possibility of a metaphysical account of unity. The chapter discusses first aspects of unity in general (II.I); then moves on to an investigation of the homogeneity of *pneuma* (II.II); continues with the early Stoic views on the relationship between qualification and unity (II.III) and finally offers a solution according to which unity is primarily a physical (biological) matter determined by the presence of the *hēgemonikon*. (II.IV)

2.1. Unity – Preliminary Considerations

Unity has been central to discussions of existence and identity since antiquity. As discussed in chapter I, many philosophers claim that unity is a prerequisite for individuation and identity, to the extent that they believe that a principle of individuation and identity also has to be a principle of unity. Furthermore, in many metaphysical theories, substantiality and existence are also dependent on unity. Given that it is such a key issue, philosophers have often reflected on what accounts for the fact that something can be conceived as a unity, especially if the entity in question is in some respect divisible into a plurality of ingredients.

The answer presented by Irwin, espoused by numerous philosophers, is that a unity is something that is a single instance of an indivisible species property, a substantial form in Aristotelian parlance.¹³⁷ Such a principle of unity explains the fact that a multiplicity of entities form a unity or that an entity can be considered as a unity distinct from other entities, in terms of countability and predication. An entity is one, if a species property can be truly predicated of it and if it counts as one instance of the species in question. On this account, unity is a prerequisite for individuality and identity to the extent that it delimits and picks out the entity that needs to be individualized and identified.¹³⁸

Irwin's analysis applies to the Stoic case to the extent that, as described by SI1 and SI2, a peculiar quality is a principle of unity in the sense of countability: we can count bodies by counting peculiar qualities. However, the fact that the number of peculiar qualities in the world is equal to the number of peculiarly qualified substances does not necessarily mean that peculiar qualities need to be principles of unity. It only shows that there is a strong relation between unity and individuation. Moreover, the fact that peculiarly qualified entities are also unities gives us no reason to infer that peculiar qualities should be species qualities of some kind, unless we have independent reasons to suppose that species qualities had a unifying role in early Stoic theory.

In the Stoic context, explicit discussions of unity take a predominantly physical point of view. As discussed in chapter I, natural bodies are unified (*hēnōmena*) in virtue of having *pneuma* as a constituent that holds them together, due to its tensional motion (*tonikē kinēsis*), which explains its binding power. Such bodies are called unified (*hēnōmena*) bodies,

¹³⁷ Irwin, "Stoic Individuals," 470-1.

¹³⁸ Cf. A.C. Lloyd, "Aristotle's Principle of Individuation," 519, and Jennifer Whiting, "Form and Individuation in Aristotle." *History of Philosophy Quarterly* 3 (1986): 359-362.

distinguished from artefacts that are only conjoined but not unified, and collectives, which are described as disjoined or separated bodies.¹³⁹

While the terms used to describe unity are for the most part physical, the theory undoubtedly has a metaphysical aspect as well. *Pneuma* does not only hold entities together because it is the strongest glue to be found in nature. Our texts make it clear that the *pneuma* also has a biological and metaphysical role, and that these roles play an important part in accounting for the fact that bodies permeated by *pneuma* are the truest unities. *Pneuma* is a life principle and a soul for more evolved beings, as well as a principle of motion and qualification. *Pneumata* bring about different qualities in different bodies in virtue of their different tension (or their tensional motion). Thus, a strong relationship between unity and qualification (and thus peculiar qualification) can clearly be established: both metaphysical roles are fulfilled by the *pneuma*.

Moreover, we have seen that qualification is a prerequisite for unity, to the extent that reality is structured by qualification. Given that the cosmos is a continuous mass of gunky matter, it is shaped and divided up into individual entities by nothing but qualitative differences. The fact that different bodies must be different qualitatively implies that there has to be an aspect of unity that is related to being qualified in a certain way, besides physical unity.

However, as I have explained previously, the fact that it is the *pneumata* of individual bodies that account for their unity, qualification, individuation and identity does not necessarily entail that these functions are fulfilled by the soul. The *pneuma* is a multifarious, qualitatively heterogeneous entity. There are a lot of things that are *pneumata* or pertain to *pneuma*. First of all, there are its two component parts, fire and air; second, there are different modifications of it, such as soul, nature, tenor; third there are different parts of the soul (the leading part, five

¹³⁹ (Simplicius, *On Aristotle's Categories* 214, 24-37 (= SVF II.391 part = LS 28M)), Sextus Empiricus, *M* 9. 78-80. Plutarch, *Advice to Bride and Groom* 34, 142e12-143a2 (= SVF II.366) id. *The Obsolescence of Oracles* 426a5-11 (= SVF II.368), Achilles Tatius, *Introduction* 14, 13-22 (= SVF II.367), cf. SVF II.1013.

senses, the reproductive organs and voice); and finally there are differently disposed *pneumata*: qualities, virtues, knowledge. The soul might not be the one aspect of *pneuma* that explains why the entity permeated by *pneuma* is one, and it might not be animals' peculiar quality either.

In order to investigate this issue, I will first examine the extent to which *pneuma* is homogeneous and the relationship between its different modifications, and secondly, I will look at the early Stoic theory of unity, focusing especially on the relationship between unity and qualification.

2.2. Homogeneity of *pneuma*

The Stoics espoused a doctrine according to which different kinds of natural bodies have different *pneumata*, which are themselves characterized and which characterize the natural body in question with different powers. Tenor characterizes stones and logs, nature characterizes plants, the soul characterizes animals, and the rational soul characterizes humans. The different *pneumata* are distinct on several accounts. They are described as having different functions: (a) *hexis* sustains (*sunechei*), (b) nature is responsible for growth (*auxēsis*) and nourishment (*trophē*), (c) the soul is characterized by impression (*phantasia*) and impulse (*hormē*), and is described by most sources as being composed of eight parts: the *hēgemonikon*, the five senses, the reproductive part, and voice,¹⁴⁰ (d) as to the rational soul, it is characterized by having common notions¹⁴¹ and by the ability of rational assent and judgment, as well as the ability to produce meaningful and articulated utterances.¹⁴²

¹⁴⁰ DL VII.110, 157 (= SVF II.828), Porphyry, in Stobaeus *Eclogae* I.p.369,5. (= SVF II.830) Iamblichus in Stobaeus *Eclogae* I.p.3695 (= SVF II.831), Philo *Questions and Answers on Genesis* I.75. (= SVF II.832), Aetius IV.21.1-4 (= SVF II.836 = LS 53H).

¹⁴¹ SVF I.149.

¹⁴² Sextus Empiricus *M* 8.275-6 (= SVF II.223, part = LS 53T) DL VII.55-57 (SVF II.183 = LS 33G, and SVF III. 20 = LS 33A), Galen *PHP* V.2.49, V.3.1. (SVF II.481, part = LS 53V).

The difference between these *pneumata* and the difference between the kind of beings they characterize is a well attested Stoic tenet. The Stoics are clearly identified as people who would have at least agreed with this division of beings: (1) the doctrine features in book VII of Diogenes Laertius' *Lives of Eminent Philosophers*;¹⁴³ (2) it is presented by Plutarch in his *On Moral Virtue*, as a doctrine that is both obvious, and is also accepted by his opponents (the aim and the context of the whole treatise clearly suggest that these are the Stoics); (3) it is also discussed by Alexander of Aphrodisias in a context of polemic against the Stoics¹⁴⁴ and finally (4) the Stoics are explicitly mentioned by Pseudo-Galen, as the philosophers introducing the concept of *hexis*.¹⁴⁵

As to whether this idea is exclusively Stoic, the author of the *Medical Introduction* suggests that it is in its exact formulation, i.e. with the inclusion of stones and logs as a different category, characterized by a further *pneuma* besides the psychic and the natural. On the other hand, he remarks that the distinction between soul and nature dates back to the "ancients", moreover the idea is presented as "obvious" by Plutarch.¹⁴⁶ Both formulations suggest that the idea was not exclusive to Stoic thinkers in its entirety. Nevertheless, while the distinction between different classes of beings with reference to fundamental differences between their qualifying principle¹⁴⁷ or the distinction between different kinds of *pneumata*¹⁴⁸ may not be exclusively Stoic, the idea that minerals and logs are natural bodies that have their own kind of unifying principle is indeed one that is mostly found in Stoic contexts.

¹⁴³ cf. DL VII.86. (T12 below).

¹⁴⁴ Alexander of Aphrodisias, *Supplement to on the Soul*, 140.27.

¹⁴⁵ Pseudo-Galen's *Medical Introduction* XIV.697. 6-8 (SVF II.716). πνεύματα δὲ κατὰ τοὺς παλαιούς δύο ἐστὶ, τὸ τε ψυχικὸν καὶ τὸ φυσικόν. οἱ δὲ Στωϊκοὶ καὶ τρίτον εἰσάγουσι τὸ ἐκτικόν, ὃ καλοῦσιν ἕξιν.

¹⁴⁶ Plutarch, *On Moral Virtue* 451B-D

¹⁴⁷ A classification of beings based on the kind of soul they have can also be found in Aristotle. e.g. DA II.2-3. *Physics* 8. Cf. Brad Inwood's discussion of these passages in *Ethics and Human Action in Early Stoicism*, (Oxford: OUP, 1985), 18.

¹⁴⁸ Erasistratus and later Galen distinguished between a vital (*zōtikon*) and a psychic *pneuma*. (Galen *PHP* p.164, 281K. Cf. Julia Annas, *Hellenistic Philosophy of Mind*, 25.

The different *pneumata* have different physical characteristics too: superior *pneumata* are finer¹⁴⁹ and drier¹⁵⁰ than inferior ones. Moreover, different kinds of *pneumata* bestow different motive powers on the entities they characterize, as this text by Origen illustrates:

T6 Origen, *On Principles* 3.1.2-3 (= SVF II.988, = LS 53A)

Τῶν κινουμένων τὰ μὲν τινα ἐν ἑαυτοῖς ἔχει τὴν τῆς κινήσεως αἰτίαν, ἕτερα δὲ ἔξωθεν μόνον κινεῖται. ἔξωθεν μὲν οὖν μόνον κινεῖται τὰ φορητά, οἷον ξύλα καὶ λίθοι καὶ πᾶσα ἢ ὑπὸ ἔξεως μόνῃς συνεχομένη ὕλη. [...] ἐν ἑαυτοῖς δὲ ἔχει τὴν αἰτίαν τοῦ κινεῖσθαι ζῶα καὶ φυτὰ καὶ ἀπαξαπλῶς ὅσα ὑπὸ φύσεως καὶ ψυχῆς συνέχεται· ἐξ ὧν φασιν εἶναι καὶ τὰ μέταλλα, πρὸς δὲ τούτοις καὶ τὸ πῦρ αὐτοκίνητόν ἐστι, τάχα δὲ καὶ αἱ πηγαί. τῶν δὲ ἐν ἑαυτοῖς τὴν αἰτίαν τοῦ κινεῖσθαι ἔχόντων τὰ μὲν φασιν ἐξ ἑαυτῶν κινεῖσθαι, τὰ δὲ ἀφ' ἑαυτῶν· ἐξ ἑαυτῶν μὲν τὰ ἄψυχα, ἀφ' ἑαυτῶν δὲ τὰ ἔμψυχα. καὶ ἀφ' ἑαυτῶν κινεῖται τὰ ἔμψυχα φαντασίας ἐγγινομένης ὁρμὴν προκαλουμένης. [...] Τὸ μέντοι λογικὸν ζῷον καὶ λόγον ἔχει πρὸς τῇ φανταστικῇ φύσει, τὸν κρίνοντα τὰς φαντασίας καὶ τινὰς μὲν ἀποδοκιμάζοντα, τινὰς δὲ παραδεχόμενον, ἵνα ἄγῃται τὸ ζῷον κατ' αὐτάς.

Of moving things, some have the cause of movement in themselves, while others are moved only from outside. The latter comprise things which are transportable, like logs and stones and every material thing which is sustained by tenor alone... Animals and plants have the cause of movement in themselves, and so, quite simply does everything sustained by physique or soul, which they say also includes metals, [and besides these also fire is self-moved, and perhaps also water-springs]. Some things of this kind, they say, are moved 'out of themselves, and others 'by themselves': the former comprise soulless things, the latter ones which are ensouled. Ensouled things are moved 'by themselves' when an impression occurs within them which calls forth an impulse... A rational animal, however, in addition

¹⁴⁹ Hierocles, *Elements of Ethics*, I.15-30, Plutarch *On Stoic Self-contradictions* 41, 1052f-1053a (= SVF II.806).

¹⁵⁰ Galen, *Commentary on book 6 of Hippocrates' Epidemics* ed. Bas. V 510 K. XVII B. 250. (= SVF II.715).

to its impressionistic nature, has reason which passes judgment on impressions, rejecting some and accepting others in order that the animal may be guided accordingly. (Translated by Anthony Long, with my additions)

So, inanimate natural bodies are moved from outside (*exōthen*), plants are moved “out of themselves” (*ex heautōn*) and animals are moved by themselves (*aph' heautōn*), as to rational animals, they are not mentioned here as a separate group, but Origen has a similar enumeration of classes of beings and their ways of motion in his *On Prayer* VI.1. (SVF II. 989), where he describes rational beings as moving 'through themselves' (*di' heautōn*).¹⁵¹

A crucial question concerning the issue of homogeneity of *pneuma* is whether entities belonging to the three upper classes of natural bodies have only one kind of *pneuma*, or several kinds at the same time. This question can also be formulated in terms of the functions of the different *pneumata*. Do superior *pneumata* also have the functions of inferior *pneumata* besides their peculiar functions, or are the peculiar functions of a certain kind of *pneuma* the sole kind of functions it has? To give an example, in the case of an animal, would the soul of the animal also perform the roles of sustenance, nutrition and growth besides having impression and impulse or would an animal have a tenor and a nature too in addition to its soul?

¹⁵¹ The two texts by Origen, as well as a passage from Simplicius' *Commentary on Aristotle's Categories* 306. 19-27 (=SVF II.499) have been discussed in Brad Inwood, *Ethics and Human Action*, 19, 24-5 and “Walking and Talking: Reflections on Divisions of Soul in Stoicism,” in *Partitioning the Soul. Debates from Plato to Leibniz*, eds. Klaus Corcilius and Dominik Perler (Berlin, Boston: De Gruyter, 2014), 64-5, David Hahm, “Self-Motion in Stoic Philosophy,” in *Self-Motion from Aristotle to Newton*, eds. Mary Louise Gill and James G. Lennox (Princeton, New Jersey: Princeton UP, 1994), 175-225, as well as Thomas Bénatouïl, “Échelle de la nature et division des mouvements chez Aristote et les stoïciens,” *Revue de Métaphysique et de Morale* 28 (2005): 537-556. Furthermore, the difference between kinds of entities based on their source of motion is also discussed by Clement of Alexandria *Stromata* II.20 (= SVF II.714)

Commentators disagree on this question, even though the issue is rarely problematized. Brad Inwood,¹⁵² Julia Annas,¹⁵³ Terence Irwin,¹⁵⁴ David Hahm¹⁵⁵ and Ricardo Salles¹⁵⁶ suggest that more developed entities have only one kind of *pneuma*, which subsumes the functions of inferior *pneumata* (I will call this the subsumption view), whereas Bernard Besnier,¹⁵⁷ Eric Lewis,¹⁵⁸ Hendrik Lorenz,¹⁵⁹ Suzanne Bobzien,¹⁶⁰ Anthony Long¹⁶¹ and Anna Eunyoung Ju¹⁶² support the interpretation according to which developed entities are permeated by more than one kind of *pneuma*, each kind of *pneuma* fulfilling its suitable function (I will call this the addition view).¹⁶³

2.2.1. Textual Evidence

In what follows, I will take a closer look at the texts describing the different kinds of *pneuma*. As there are many passages reporting on this Stoic tenet, I will only examine those describing the doctrine in greatest detail as well as those featuring the most prominently in the

¹⁵² Inwood, *Ethics and Human Action*, 19, 24-5.

¹⁵³ Annas, *Hellenistic Philosophy of Mind*, 50-3. She actually wavers between the two interpretations.

¹⁵⁴ Irwin "Stoic Individuals," 470-1.

¹⁵⁵ David Hahm, *The Origins of Stoic Cosmology*, 163-4.

¹⁵⁶ Ricardo Salles, "Why is the Cosmos Intelligent (1)," *Rhizomata* 6 (2018):58. Salles claims that *pneumata* can have different powers, due to the difference between their tensions. E.g. nature has a different tension than *hexis* and therefore can account for cohesion, as well as nutrition and growth. In another paper ("Phaedo 85E-86D and Stoic Pneumatic Theory," in *Rereading Ancient Philosophy: Old Chestnuts and Sacred Cows*, eds. Verity Harte and Raphael Woolf, (Cambridge: CUP, 2017), 230) Salles suggests that the *pneuma* permeating an individual body is different in different parts of the body, it is *hexis* in some parts, *phusis* in others, etc. This view is closer to the addition interpretation, although Salles sees these *pneumata* more as variations than parts.

¹⁵⁷ Bernard Besnier, "La conception stoïcienne de la matière," *Revue de Métaphysique et de Morale* 1 (2003): 53.

¹⁵⁸ Lewis, "The Stoics on Identity," 99.

¹⁵⁹ Hendrik Lorenz, "Ancient Theories of Soul," in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta. last modified April 22, 2009. <http://plato.stanford.edu/archives/sum2009/entries/ancient-soul>.

¹⁶⁰ Suzanne Bobzien, *Determinism and Freedom in Stoic Philosophy*, (Oxford: Clarendon Press, 1998), 17.

¹⁶¹ Long, "Soul and Body," 34-57, and his "Stoic Psychology," in *The Cambridge History of Hellenistic Philosophy*, 560-584, and LS 320.

¹⁶² Ju, Anna Eunyoung, "Chrysippus on Nature and Soul in Animals," *The Classical Quarterly* 57 (2007): 97-108.

¹⁶³ The terms "subsumption" and "addition view" are also used by Brad Inwood in his "Walking and Talking," 66.

literature, cited as evidence for either the addition or the subsumption view. I will begin with the texts that give a general overview and try to see whether they support either of the two interpretations.

T7 Philo of Alexandria, *Allegories of the Laws* II 22-23 (SVF II.458 = LS 47P)

τούτου προειρημένου κάκεῖνο λεκτέον, ὅτι ὁ γυμνὸς καὶ ἀνένδετος σώματι νοῦς—
περὶ γὰρ τοῦ μήπω ἐνδεδεμένου ἐστὶν ὁ λόγος—πολλὰς ἔχει δυνάμεις, ἐκτικὴν φυτικὴν
ψυχικὴν λογικὴν διανοητικὴν, ἄλλας μυρίας κατὰ τε εἶδη καὶ γένη. ἡ μὲν ἕξις κοινὴ καὶ
τῶν ἀψύχων ἐστὶ λίθων καὶ ξύλων, ἧς μετέχει καὶ τὰ ἐν ἡμῖν ἐοικότα (5) λίθοις ὅστέα. ἡ
δὲ φύσις διατείνει καὶ ἐπὶ τὰ φυτά· καὶ ἐν ἡμῖν δὲ ἐστὶν ἐοικότα φυτοῖς, ὄνυχές τε καὶ
τρίχες· ἔστι δὲ ἡ φύσις ἕξις ἤδη κινουμένη. ψυχὴ δὲ ἐστὶ φύσις προσειληφυῖα φαντασίαν
καὶ ὁρμήν· αὕτη κοινὴ καὶ τῶν ἀλόγων ἐστίν· ἔχει δὲ καὶ ὁ ἡμέτερος νοῦς ἀναλογοῦν τι
ἀλόγου ψυχῇ. πάλιν ἡ διανοητικὴ δύναμις ἰδίᾳ τοῦ νοῦ ἐστὶ, καὶ ἡ λογικὴ κοινὴ μὲν τάχα
καὶ τῶν θειοτέρων φύσεων, ἰδίᾳ δὲ ὡς ἐν θνητοῖς ἀνθρώπου.

[That having been explained, it also has to be said that] intelligence, [being naked and not bound up with the body – for the account is about that which is not bound yet –] has many powers, the tenor kind, the physical, the psychic, the rational, the calculative [and countless others in species and in genus]. Tenor is shared by lifeless [soulless] things, stones and logs, and our bones, which resemble stones, also participate in it. Physique [nature] also extends to plants, and in us there are things like plants – nails and hair. Physique [nature] is tenor in actual motion. Soul is physique [nature] which has also acquired impression and impulse. This is also shared by irrational animals. [Our intelligence also has something analogous to irrational soul, and indeed the calculative power is peculiar to intelligence, and while the rational power may be also common with more divine natures, amongst mortals it is peculiar to man.] (Translated by Anthony Long, with my additions).

τῶν γὰρ σωμάτων τὰ μὲν ἐνεδήσατο ἔξει, τὰ δὲ φύσει, τὰ δὲ ψυχῇ, τὰ δὲ λογικῇ ψυχῇ. λίθων μὲν οὖν καὶ ξύλων, ἃ δὴ τῆς συμφυΐας ἀπέσπασται, δεσμὸν κραταιότατον ἔξιν εἰργάζετο· ἡ δὲ ἐστὶ πνεῦμα ἀναστρέφον ἐφ' ἑαυτό [...] τὴν δὲ φύσιν ἀπένειμε τοῖς φυτοῖς κερασάμενος αὐτὴν ἐκ πλείστων δυνάμεων, θρεπτικῆς τε καὶ μεταβλητικῆς καὶ αὐξητικῆς. [...] ψυχὴν δὲ φύσεως τρισὶ διαλλάττουσαν ὁ ποιὼν ἐποίει, αἰσθήσει φαντασίᾳ, ὁρμῇ· τὰ μὲν γὰρ φυτὰ ἀόρμητα, ἀφάνταστα, αἰσθήσεως ἀμέτοχα, τῶν δὲ ζώων ἕκαστον ἀθρόων μετέχει τῶν εἰρημένων. [...] ἴδωμεν δὲ τίνι τῶν ἄλλων ζώων ὑπερβέβληκεν ἄνθρωπος. ἐξαίρετον οὗτος τοίνυν γέρας ἔλαχε διάνοιαν, ἥ τὰς ἀπάντων φύσεις σωμάτων τε ὁμοῦ καὶ πραγμάτων εἴωθε καταλαμβάνειν. [...] τοῦτο τῆς ψυχῆς τὸ εἶδος οὐκ ἐκ τῶν αὐτῶν στοιχείων, ἐξ ὧν τὰ ἄλλα ἀπετελεῖτο, διεπλάσθη, καθαρωτέρας δὲ καὶ ἀμείνονος ἔλαχε τῆς οὐσίας, ἐξ ἧς αἱ θεῖαι φύσεις ἐδημιουργοῦντο· παρὸ καὶ μόνον τῶν ἐν ἡμῖν εἰκότως ἄφθαρτον ἔδοξεν εἶναι διάνοια.

He (God) bound some of the bodies by tenor, others by physique [nature], others by soul, and others by rational soul. In stones, and logs which have been severed from their physical connection, he created tenor, which is the strongest bond, this is breath which turns back towards itself. [...] And to plants he assigned nature, which he has mixed from a vast number of powers: the nutritive, the changeable and that of growth. [...] And the maker made the soul different from nature in three respects: in respect of perception, impression and impulse. For while plants do not have impulse, impression or perception, each of the animals participate in the aforementioned completely. [...] Let us see in which way man surpasses the other animals. He has been allotted this extraordinary gift, thought, accustomed to grasp the nature of all bodies and things all at once. [...] This species of soul is not completed from the same elements as of which the other species of souls were: it has been allotted the purest and the most unmixed substance of which divine natures were

made. Wherefore, the only thing in us, which seems likely to be immortal is thought.
(Translated by Anthony Long, with my additions.)

T9 Clement of Alexandria *Stromata* II.20 (= SVF II.714)

Τῶν γὰρ κινουμένων τὰ μὲν καθ' ὁρμὴν καὶ φαντασίαν κινεῖται, ὡς τὰ ζῷα, τὰ δὲ κατὰ μετάθεσιν, ὡς τὰ ἄψυχα. κινεῖσθαι δὲ καὶ τῶν ἀψύχων τὰ φυτὰ μεταβατικῶς φασιν εἰς αὐξησιν, εἴ τις αὐτοῖς ἄψυχα εἶναι συγχωρήσει τὰ φυτά. ἔξεως μὲν οὖν οἱ λίθοι, φύσεως δὲ τὰ φυτά, ὁρμῆς δὲ καὶ φαντασίας τῶν τε αὖ δεῖν τῶν προειρημένων καὶ τὰ ἄλογα μετέχει ζῷα.

For of objects that are moved, some are moved by impulse and appearance, as animals; and some by transposition, as inanimate objects. And of things without soul, plants, they say, are moved by transposition in order to grow, if we will concede to them that plants are without soul. To stones, then, belongs a [tenor]. Plants have a nature; and the irrational animals possess impulse and perception, and likewise the two characteristics already specified. (Translated by William Wilson, with my modifications for the sake of terminological consistency)

T10 Plutarch, *On Moral Virtue*, 451B-D

Καθόλου δὲ τῶν ὄντων αὐτοὶ τέ φασι καὶ δῆλόν ἐστιν ὅτι τὰ μὲν ἔξει διοικεῖται τὰ δὲ φύσει τὰ δ' ἀλόγῳ ψυχῇ τὰ δὲ καὶ λόγον ἔχουσι καὶ διάνοιαν, ὧν ὁμοῦ τι πάντων ὁ ἄνθρωπος μετέσχηκε καὶ γέγονεν ἐν πάσαις ταῖς εἰρημέναις διαφοραῖς· καὶ γὰρ ἔξει συνέχεται καὶ φύσει τρέφεται καὶ λόγῳ χρῆται καὶ διανοία.

And in general, both as my opponents themselves admit and as is quite obvious, in this world some things are governed by [tenor], others by a nature, some by an irrational soul, others by a rational and intellectual one; and in practically all these things man participates

and he is subject to all the differences I have mentioned. For he is [sustained] by his [tenor], nurtured by his nature, and makes use of reason and intellect. (Translated by W. C. Helmbold, with slight modifications on my part for the sake of terminological consistency)¹⁶⁴

If we consider the sole evidence provided by **T7-T8**, we get an ambiguous picture. **T7** seems to support the subsumption view, as it suggests that in the case of rational animals the functions of sustainment, growth and nutrition are fulfilled by powers (*dunameis*) of the intellect (*nous* (intelligence in Long's translation)). However, we have to keep in mind that Philo here talks about the intellect as being not yet bound with the body.¹⁶⁵ This raises a question about whether the views transmitted here are genuinely and exclusively Stoic.

First, the idea that the intellect exists separately from the body before ensoulment is definitely not Stoic. Second, the text does not describe how things like sustainment (of the body),¹⁶⁶ nutrition and growth take place in the body. As such, it does not necessarily contradict the addition interpretation: it cannot be excluded that while the intellect does have functions analogous to tenor, nature and (irrational) soul, these *pneumata* still coexist with the intellect and it is these latter *pneumata* that fulfil their characteristic functions in the body of the rational animal. This is also confirmed by the passages that follow **T7** in the *Allegories of the Laws*, where Philo discusses that after the creation of intelligence, God creates the faculty of perception (*aisthēsis*), and then points out that these two are distinct faculties. Intelligence is immaterial, and immortal, created in the image of god and placed in man from outside

¹⁶⁴ Plutarch, *On Moral Virtue*, 451B- D, the end of the passage is omitted in Df. 472.

¹⁶⁵ Cf. Harry A. Wolfson, *Philo – Foundations of Religious Philosophy in Judaism, Christianity and Islam*, (Cambridge, Massachusetts: Harvard University Press, 1947), 362-363.

¹⁶⁶ I assume that the function of the *hexis* is the sustainment of the body, which might be different from the self-sustainment of the soul.

(*thurathen*)¹⁶⁷ whereas perception is a material, earthly, and mortal soul.¹⁶⁸ This distinction is also apparent from **T8**, where thought (*dianoia*) is said to be fundamentally different from all other species of soul, in virtue of its pure, unmixed and divine substance.

Moreover, it has to be added that while Philo's texts contain important information on the Stoic doctrine, they should not be taken as completely adequate descriptions of it. Philo is not a doxographer, but rather an eclectic thinker, with many influences. He takes bits of Platonic, Peripatetic and Stoic tenets and uses them in his own way, for his own purposes. Furthermore, Philo's thought is not always characterized by philosophical and terminological rigour. All in all, I do not think we should take him to be a reliable source, and we should avoid using his texts, his usage of terms, and understanding of Stoic concepts as the sole basis of interpretation. Evidence from him should be used only in support of other, more reliable testimony unless he is directly quoting Stoic sources. Thus, we can accept the evidence provided by Philo on the kinds of *pneuma* and the differences between them, as this kind of evidence is also described in other texts, but we should not read much into his specifications concerning the relation between them: his testimony should not be taken as decisive evidence for or against the addition or the subsumption view.¹⁶⁹

As to **T9** and **T10**, both seem to be supportive of the addition view. Clement suggests that irrational animals partake in impression and impulse as well as the aforementioned *hexis* and *phusis*, and similarly, Origen (in **T6**) suggests that rational animals have reason (*logos*) in addition to (*pros*) a soul that only has sensual impressions. However, although the way Clement and Origen formulate their point suggests that *logos*, as well as impression and impulse are additional to inferior states, and thus seems to confirm the addition hypothesis, their testimony

¹⁶⁷ Philo of Alexandria, *On the Creation of the Cosmos, According to Moses* 67. Besides the obvious biblical elements, Philo's account is also inspired by Aristotelian material (GA 2.3, 736b27-29).

¹⁶⁸ *Allegories of the Laws* I.32-33. On the difference between perception and mind see also Wolfson, "Philo," 387-8

¹⁶⁹ cf. Inwood, "Ethics and Human Action," 23-4.

could equally be interpreted in the framework of the subsumption view. What is added in both texts is not a further kind of *pneuma*, but rather a further function, or capacity (impulse and impression in Clement, and *logos* in Origen). Thus, **T6** and **T9** should rather be considered to convey an ambiguous message than as definite textual support for the addition view.

T10, on the other hand, seems to make a clear case for the addition view. Plutarch states quite clearly that humans do not only have rational soul, but they partake in all kinds of *pneumata*. What is more, he also states it clearly that the functions of sustenance and that of nature and growth are fulfilled by tenor and nature respectively. Unless we suppose that Plutarch is misinterpreting the Stoic doctrine here, in **T10** we have evidence that definitely supports the addition view.

All in all, based on the evidence of **T7-T9** we have an ambiguous picture, **T7** is best considered unreliable, **T8** is neutral, **T6** and **T9** can be interpreted in both ways, and finally the sole **T10** supports the addition view unambiguously. Nevertheless, there are other, less often quoted texts that can be brought up in support of either view. Upholders of the addition view cite the following passages in support of their interpretation:

T11 Pseudo-Galen, *Medical Introduction* XIV. 726 7-10 (SVF II. 716)

τοῦ δὲ ἐμφύτου πνεύματος διττὸν εἶδος. τὸ μὲν φυσικόν, τὸ δὲ ψυχικόν. εἰσὶ δὲ οἱ καὶ τρίτον εἰσάγουσι, τὸ ἐκτικόν. ἐκτικὸν μὲν οὖν ἐστὶ πνεῦμα, τὸ συνέχον τοὺς λίθους. φυσικὸν δὲ τὸ τρέφον τὰ ζῶα καὶ τὰ φυτά. ψυχικὸν δὲ τὸ ἐπὶ τῶν ἐμψύχων αἰσθητικά τε ποιοῦν τὰ ζῶα καὶ κινούμενα πᾶσαν κίνησιν. [...] τὸ μὲν οὖν ψυχικὸν ἐν τῇ κεφαλῇ κατῴκισται. τὸ δὲ φυσικὸν ἐν καρδίᾳ. τὸ δὲ ἐκτικὸν ἐν παντὶ τῷ σώματι.

There are two kinds of innate *pneuma*, the natural kind and the psychic kind. Some people [the Stoics]¹⁷⁰ also posit a third, the tenor kind; the *pneuma*, which sustains stones is the tenor kind, that which nurtures both animals and plants is of the natural kind, and that which, in ensouled beings makes animals capable of sensation and of moving in every way is of the psychic kind. ... [The psychic one is settled in the head, the natural one in the heart and *hexis* throughout the whole body.] (Translated by Anna Eunyoung Ju, with my additions (the last sentence that does not feature in the text quoted by Ju) and modifications for the sake of terminological consistency.)

T12 Galen, *Against Julianus*, XVIII.A, 266K. (SVF II.718)

ἅπαν μὲν γὰρ φυτὸν ὑπὸ φύσεως διοικεῖται, πᾶν δὲ ζῶον ὑπὸ φύσεως τε ἅμα καὶ ψυχῆς, εἴ γε δὴ τὴν μὲν τοῦ τρέφεσθαι τε καὶ αὐξάνεσθαι καὶ τῶν τοιούτων ἔργων αἰτίαν ὀνομάζομεν ἅπαντες ἄνθρωποι φύσιν, τὴν δὲ τῆς αἰσθήσεως τε καὶ τῆς <ἐφ> ἐξῆς αὐτῇ κινήσεως ψυχὴν.

For all plants are governed by nature, and all animals by both nature and soul at the same time, if, as all men do, we call the cause of nurture, growth and other similar functions nature, and the cause of perception and of the resulting motion soul. (My translation, following Richard Dufour's)¹⁷¹

T13 Diogenes Laertius VII.86 (=SVF III.178 = LS 57A)

οὐδέν τε, φασί, διήλλαξεν ἡ φύσις ἐπὶ τῶν φυτῶν καὶ ἐπὶ τῶν ζώων, ὅτι χωρὶς ὁρμῆς καὶ αἰσθήσεως κάκεῖνα οἰκονομεῖ καὶ ἐφ' ἡμῶν τινα φυτοειδῶς γίνεται. ἐκ περιττοῦ δὲ τῆς ὁρμῆς τοῖς ζώοις ἐπιγενομένης, ἥ συγχρόμενα πορεύεται πρὸς τὰ οἰκεῖα, τούτοις μὲν τὸ

¹⁷⁰ cf. Pseudo-Galen's *Medical Introduction* XIV.697. 6-8 (SVF II.716)

¹⁷¹ Anna Eunyoung Ju translates the passage the following way: doctrine: 'For every plant is governed by the agency of nature and every animal by the agency of nature and at the same time of soul if, at any rate, we all name the cause of nutrition, growth and such activities "nature", and that of sensation and motion out of itself "soul". "Chrysippus on Nature and Soul."98.

κατὰ φύσιν τῷ κατὰ τὴν ὁρμὴν διοικεῖσθαι· τοῦ δὲ λόγου τοῖς λογικοῖς κατὰ τελειοτέραν
προστασίαν δεδομένου, τὸ κατὰ λόγον ζῆν ὀρθῶς γίνεσθαι <τού> τοῖς κατὰ φύσιν·
τεχνίτης γὰρ οὗτος ἐπιγίνεται τῆς ὁρμῆς

And nature, they say, made no difference originally between plants and animals, for she regulates the life of plants too, in their case without impulse and sensation, just as also certain processes go on of a vegetative kind in us. But when in the case of animals impulse has been superadded, whereby they are enabled to go in quest of their proper aliment, for them, say the Stoics, nature's rule is to follow the direction of impulse. But when reason by way of a more perfect leadership has been bestowed on the beings we call rational, for them life according to reason rightly becomes the natural life. For reason supervenes to shape impulse in an expert and artful way. (Translated by R.D Hicks, with my modifications)

As opposed to Ju, who quotes these passages in her "Chrysippus on Nature and Soul in Animals," I am not convinced that these passages indeed support the addition view. To start with Diogenes, he does not talk about the soul being "superadded" (*epigenomenē*) to nature, but about the superaddition of impression and impulse, that is the superaddition of faculties to the natural *pneuma*. He uses the same formulation in the case of the acquisition of rationality, it is not a rational soul that is superadded to the soul, but it is reason "supervening" (*epigignetai*) on impulse. In both cases, if there is a process of addition, it is the addition of further faculties, not further *pneuma*. Moreover, the usage of *epigignomai* suggests the supposition of a relationship of ontological dependence between the pre-existing *pneuma* and the added faculty.

As to the idea that nature "regulates" (*oikonomēi*) both the life of plants and animals, I am not sure whether nature should be taken here to refer to a kind of *pneuma*. In paragraph 85, Diogenes also talks about how nature shapes the animal's constitution, and there, nature is

understood in the sense of a general regulative principle which defines the characteristics and the aims of natural bodies

T 14 Diogenes Laertius VII.85 (=SVF III.178 = LS 57A)

Τὴν δὲ πρώτην ὁρμὴν φασὶ τὸ ζῶον ἴσχειν ἐπὶ τὸ τηρεῖν ἑαυτό, οἰκειούσης αὐτῷ τῆς φύσεως ἀπ' ἀρχῆς, καθά φησιν ὁ Χρύσιππος ἐν τῷ πρώτῳ Περὶ τελῶν, πρῶτον οἰκεῖον λέγων εἶναι παντὶ ζῳῷ τὴν αὐτοῦ σύστασιν καὶ τὴν ταύτης συνείδησιν: οὔτε γὰρ ἀλλοτριῶσαι εἰκὸς ἦν αὐτὸ <αὐτῷ> τὸ ζῶον, οὔτε ποιήσασαν αὐτό, μήτ' ἀλλοτριῶσαι μήτ' οἰκειῶσαι. ἀπολείπεται τοίνυν λέγειν συστησάμενην αὐτὸ οἰκειῶσαι πρὸς ἑαυτό: οὔτω γὰρ τὰ τε βλάπτοντα διωθεῖται καὶ τὰ οἰκεῖα προσίεται.

An animal's first impulse, say the Stoics, is to self-preservation because nature from the outset endears it to itself, as Chrysippus affirms in the first book of his work *On Ends* : his words are, "The dearest thing to every animal is its own constitution and its consciousness thereof" ; for it was not likely that nature should estrange the living thing from itself or that she should leave the creature she has made without either estrangement from or affection for its own constitution. We are forced then to conclude that nature in constituting the animal made it near and dear to itself; for so it comes to repel all that is injurious and give free access to all that is serviceable or akin to it. (Translated by R.D Hicks)

On all accounts, I am not sure whether there is really that much that can be culled from **T13** in support of the addition view.

On to **T11-12**, at first blush these passages seem to provide much better support for the addition view. However, although it is clearly stated that animals are both governed by nature and soul, I am not sure whether the view transmitted here is really Stoic. We know that Galen, following Erasistratus, himself distinguished between a vital (*zōtikon*) and a psychic *pneuma*,

and supposed that animals have both and that both fulfil distinct functions,¹⁷² so the view expressed here, may very well be his own. Ju recognizes this difficulty and points out that while Galen may not be relying on a Stoic source in **T12**, the qualifying conditional, in which Galen explains why he uses here the terms nature and soul, suggests that he is expressing a Stoic view here.¹⁷³ Again, I do not find Ju's argument convincing. I think that it is equally possible that Galen is stating his own view here, albeit using Stoic terms, the meaning of which he then later explains in the qualifying conditional.

Finally, **T11** seems to present evidence for the addition view, stating that animals and plants are both nurtured by natural *pneuma*, and to convey Stoic material, since it mentions tenor, the introduction of which is in the very same work attributed to the Stoics (here left unnamed). However, if we keep reading the text beyond the passage quoted by Ju, a few lines later we will read that the three kinds of *pneuma* are located in different parts of the body. "The psychic one is settled in the head, the natural one in the heart and the hectic one throughout the whole body." This indication of spatial location is definitely not Stoic. The view concerning three different locations is not attested by other Stoic sources. Moreover, the idea that the psychic *pneuma* would be located in the head goes clearly against the Stoic view, according to which the soul originates from the heart. The model presented here shows Platonic influences and is much closer to that of the aforementioned Erasistratus (followed by Galen), who suggested that vital *pneuma* is produced in the heart whereas the psychic one is manufactured in the brain.¹⁷⁴ Thus, we can safely assume that the view presented here is not Stoic. At best, it is some sort of combination of a Stoic and a Platonic account. Based on this inconsistency with the Stoic teaching we can conclude that even if the passage does feature some Stoic elements, the trustworthiness of its account might be questioned.

¹⁷² e.g. *PHP* p.444-446 608-609K

¹⁷³ Ju, "Chrysippus on Nature and Soul," 98.

¹⁷⁴ Pseudo-Galen, *Medical Introduction* XIV.697. 6-8 (*SVF* II.716).

In conclusion, these additional passages brought up by Ju (and also referred to by Long) do not provide decisive evidence for the addition view. Although they certainly allow for a reading supportive of the addition interpretation, other readings cannot be excluded.

This means that we cannot decide whether the early Stoics endorsed the subsumption or the addition view merely on the basis of the direct evidence on the *pneumata* of more evolved natural bodies. Besides the sole passage of **T10** there are no texts which could be taken to support either view unambiguously. Since I do not think that one passage is sufficient evidence to bolster an interpretation, I suggest relying on philosophical considerations and concordance with other doctrines of early Stoic thought to decide for the validity of either interpretation.

2.2.2. Physics

There are two main arguments for the addition view. First, proponents of the addition view stress that (with one exception)¹⁷⁵ the soul is not described by our texts as taking on the functions of nature (nourishment and growth), and can hardly be considered to fulfil these functions given that it is only described by our sources as characterized by impulse and impression.¹⁷⁶ Nutrition and growth do not feature among the parts of the soul in the aforementioned eightfold division. Moreover, there is evidence that nature was not considered as a part of the soul, but definitely as something distinct from it. A passage that discusses that one of Panaetius' innovations was to make the reproductive faculty a part of nature instead of soul, shows that the two *pneumata* must have been considered as distinct both by Panaetius and his predecessors.¹⁷⁷

¹⁷⁵ Calcidius, *Commentary on Plato's Timaeus*, 220 (=SVF II.879, part = LS 53G). This passage is analysed in detail in Ju's "Chrysippus on Nature and Soul."97-108).

¹⁷⁶ LS I.320, and Long, "Soul and Body," 44. This consideration is also the basic idea behind Ju's "Chrysippus on Nature and Soul."

¹⁷⁷ Nemesius, *On the Nature of Man*, 212,6-9 (Panaetius fr. 86 = LS 53I). It has to be noted that elsewhere Nemesius attributes a division of soul parts to Panaetius that does not correspond completely to the Chrysippean

The second line of argument, discussed at length by Anthony Long, relies on the idea that body and soul should have two distinct unifying and formative principles in Stoic the framework. This conclusion of his is based on the idea that the soul and the body are two distinct and active bodies, which together form the composite animal by being completely mixed.¹⁷⁸ In this model, the relationship of soul and body is not that of form and matter, or to give a Stoic example, a relationship comparable to the one between the two principles. While matter and god are both bodies, and as such are both capable of participating in causal interaction, their relationship is different from that of soul and body in two important respects. First, matter is extremely passive and is acted upon by the extremely active god.¹⁷⁹ As opposed to this, body and soul are almost equally active and passive and acting on each other by means of touching.¹⁸⁰ This tactile interaction is a central premise for arguments for the corporeality of the soul and it also plays an important role in explaining *oikeiōsis*, the self-awareness and awareness of body, which is a necessary condition for animals to fulfil their end: self-preservation and living in accordance with nature.¹⁸¹

model of *hexis-phusis-psuchē*. (*Psuchē*, *phusis*, *zoē* instead). See Nemesius, *On the Nature of Man*, 26, cf. Francesca Alesse, *Panezio di Rodei: Testimonianze*, (Bibliopolis: Naples, 1997), 261-2.

¹⁷⁸ The relationship of the soul and the body is given as a prime example of 'through and through blending' (*krasis di'holou*) by the Stoics (see Alexander of Aphrodisias, *On Mixture*, 217.32)

¹⁷⁹ Sextus *M* 9.11, = *SVF* II.301, 75-6 (= *SVF* II.311 = LS 44C), Theodoret of Cyrus, *Cure of the Greek Maladies* IV.13 (=Df. 312). While I agree with Vanessa de Harven that reducing the Stoic principles to matter and form is mistaken, insofar as they are both bodies, and thus both have some causal power and resistance, I think it is fair to say that matter is the most passive body. While god is acted upon by matter insofar as matter offers some resistance to the machinations of god, this simple interaction between god and matter is not the same as the much more diversified interaction between body and soul, when events and processes in the body bring about events and processes in the soul and vice versa. See de Harven, "Resistance" 7-12.

¹⁸⁰ Long, "Soul and Body," 50.

¹⁸¹ Another important issue related to the doctrine of *oikeiōsis* and the interaction of soul and body is brought up by Reier Helle in his "Hierocles and the Stoic Theory of Blending," *Phronesis* 63 (2018): 89-98. Helle points out that the idea that the soul and body are completely coextensive and entangled in a through and through blend contradicts the idea that the soul and body are separate subjects that affect each other. One important characteristic of through and through blending is that even the smallest parts of the mixture are mixture, so not even the tiniest part can be pointed out as one of the composing elements. As Helle observes, if the components are not separated, then they cannot act on each other. His suggestion is to attribute an innovative account of through and through blending to Hierocles that is closer to the understanding of juxtaposition than the Chrysippean account. Helle reveals a crucial contradiction at the very heart of the Stoic account of the relationship between soul and body, that has been somehow overlooked by commentators. His discovery has far-reaching consequences for the study of early Stoic physics. While discussing the consequences of Helle's findings is beyond the scope of this

A second difference is that as opposed to god and matter¹⁸² soul and body can be separated from each other. After death, defined as the soul's separation from the body,¹⁸³ the soul of humans persists on its own, without the body.¹⁸⁴ Furthermore, Long believes that the body can also exist in separation from the soul. Animals only become ensouled upon birth, the foetus and the embryo are plantlike life-forms, directed and organized by nature (and possibly by *hexis*).¹⁸⁵ Supposing that the fully developed plantlike foetus is nothing but the new-born animal without the soul, Long equates the foetus and the animal body, and thus interprets this tenet as evidence for the idea that the body and soul are distinct, unified bodies. Thus, the relationship of soul and body is a blending of two distinct bodies, each having their own "substrate" and qualifying principle. Since in the Stoic framework a unifying formative principle has to be a *pneuma*, the body has to have its own kind of *pneuma*, different from the soul.

Long also believes that there are other reasons why soul and body should be considered as having each their own formative principles. Body and soul seem to be distinct subjects insofar as there are certain properties (e.g. virtues) that belong to the soul and then other ones which belong to the body.¹⁸⁶ Since a body has properties in virtue of having a certain *pneuma*, insofar as we want to distinguish a bodily subject to which the bodily qualities pertain, we also have to attribute a distinct qualifying *pneuma* to the body.

dissertation, the inconsistency that he points out lends further support to my final conclusion, regarding the conflict between two concepts of corporealism.

¹⁸² The two principles are described as inseparable. (Calcidius, *Commentary on Plato's Timaeus* 293(= LS 44E) and 294 (= IG 65), SVF II. 306, SVF II.318,1054, Proclus, *Commentary on Plato's Timaeus* 81e (=SVF II.307), 126 b 297 (=SVF II.1042), 299 c (=SVF II.307).

¹⁸³ Sextus Empiricus *M* 7.234 (= LS 53F), Calcidius, *Commentary on Plato's Timaeus*, 220 (= LS 53G), Nemesius, *On the Nature of Man*, 78,7-79,2(= LS 45D).

¹⁸⁴ Eusebius, *Evangelical Preparation*, 15.20.6 (SVF II.809 = LS 53W), Aetius IV, 7, 3 (=SVF II.810), Theodoret of Cyrus, *Cure of the Greek Maladies* V, 23 (= Df.815), DL VII.157 (=SVF II.811), Lactantius, *Divine Institutes* VII.20 (=SVF II.813), Cicero *Tusculan Disputations* I.31. (= SVF II.822).

¹⁸⁵ Long seems to think that *phusis* and soul are additional to *hexis*, but he recognizes that the *logikē psuchē* is not an addition but a qualitative difference "Soul and Body," 38, 40 and 49-53. To this extent, I read his paper differently from Inwood, who takes Long to apply the addition analysis only to the relationship of nature and soul. ("Walking and Talking," 66).

¹⁸⁶ Long, "Soul and Body," 35, 41. cf. Sextus Empiricus, *M* 7.235.

While the tactile interaction and the implied distinctness of soul and body is an indubitable fact, proponents of the subsumption view also have several Stoic doctrines in support of their analysis. First of all, the relationship between *pneumata* is not additional at each level. While it is not clear whether in plants nature subsumes *hexis*, as there is no textual evidence on the pneumatic organization of plants, Long himself admits that there is certainly no addition of *pneuma* on the topmost level. Having a rational soul is not described in terms of having additional capacities besides natural and psychic ones, but rather in terms of the rationalization of psychic capacities.¹⁸⁷ Thus if Long's account were correct, then the Stoic account of the *pneumata* of natural bodies would be asymmetrical, the lower levels would differ from each other in the number of *pneumata* they have, whereas the two upper levels would differ qualitatively.

Secondly, positing several *pneumata* in one body without being able to explain how these different *pneumata* constitute one *pneuma* or how they are all parts of the individual (the unified soul-body composite) raises an issue about unity. If chunks of matter are differentiated, qualified and delimited by *pneumata*, then there is no reason why a mixture of matter, *hexis*, *phusis* and soul would give us one body instead of three. While we have seen that it is possible for bodies to be coextensive, we have not explored the metaphysical account that explains how different bodies form a unified entity that is not distinct from them but also not identical to them. The merely physical account of unity presented above cannot explain how natural bodies are unities, if they have simultaneously several different coextensive *pneumata*. Thus, unless the Stoics thought that animate natural bodies are not real unities – which we know was not the case – they had to be able to account for the fact that they are unities despite being constituted by several *pneumata*.

¹⁸⁷ As Long points out, *logos* supervenes on psychic capacities, such as impulse and impression, as well as *sunkathatesis*. He quotes DL VII.51, 86 and Stobaeus, *Eclogae* II.86.17 and 88.1 (=SVF III.169 and 171 respectively) in support of his point. Moreover, it has to be noted that the language of rationalization is not used for physical functions, there is no talk of rational growth and nourishment.

Finally, the role of the *hexis* and *phusis* as formative principles of an animal body is also open to question. One could ask how a principle that is only suited to guarantee cohesion and one that could only account for growth and nutrition could differentiate, form and unify a body characterized by a structure suited to carry out functions characteristic of the soul, such as self-motion and perception.

The arguments for both interpretations are powerful and are firmly rooted in textual evidence. Not only is it hard to decide between the two interpretations, but the conflict between them suggests the lack of a coherent theory on the role of *pneumata* and the soul-body relationship. It seems that maintaining an account of the unity of animals means giving up on the distinctness of soul and body, and *vice versa*.

Long's solution to the apparent contradiction between the above tenets is to distinguish between a narrower and broader meaning of "soul", following a passage in Sextus Empiricus' *Against the Physicists*.¹⁸⁸ In the narrower usage, "soul" refers only to the *hēgemonikon*, whereas in the broader usage, it refers to the whole portion of *pneuma* permeating the animal body. Sextus also observes that in death it is only the leading part (i.e. the soul in the narrow sense) that is separated from the body, and it is the leading part that is understood by soul when the Stoics talk about the soul in opposition to the body. As Long concludes, by this distinction between a "generic" and a "specific" sense of "soul" we can solve puzzles of unity and qualification. Even if the body is unified and organized by *hexis* and *phusis*, as opposed to the soul in the specific sense, the whole entity (i.e. the soul-body complex) is unified and organized by a soul, insofar as it is held together by the soul in the generic sense, that is, the whole portion of *pneuma*, containing soul, *phusis* and *hexis*.

¹⁸⁸ "φασὶ γὰρ ψυχὴν λέγεσθαι διχῶς, τό τε συνέχον τὴν ὅλην σύγκρισιν καὶ κατ' ἰδίαν τὸ ἡγεμονικόν. ὅταν γὰρ εἴπωμεν συνεστάναι τὸν ἄνθρωπον ἐκ ψυχῆς καὶ σώματος, ἢ τὸν θάνατον εἶναι χωρισμὸν ψυχῆς ἀπὸ σώματος, ἰδίως καλοῦμεν τὸ ἡγεμονικόν." *M* VII.234-5. (= LS 53F).

However, this distinction does not solve the contradiction. It is not clear that if nature and soul are indeed two different pneumatic bodies that are qualitatively and tonically distinct, then how can the *pneuma* that Sextus calls soul “in the generic sense” be one thing instead of being just a juxtaposition of distinct *pneumata*.¹⁸⁹ On the other hand, if nature and soul are not different *pneumata*, but nature is just a power or function of the soul (in the generic sense, soul in the specific sense being just another power of this former), then the problem of explaining the distinctness of the soul and body and the ensuing causal interaction between them still holds. Moreover, while the distinction makes it clear what “soul in the specific sense” refers to, the reference to “soul in the generic sense” is more ambiguous: it can refer to the other parts of soul: the senses, the reproductive organs and the voice, or to *pneumata* such as nature and *hexis*.¹⁹⁰

In what follows, I aim to give an account that can coherently account for both the unity of animals and the distinctness of the soul and body. In order to do so, I will examine Long’s claims that the ensouled body is governed by several *pneumata* and the related supposition that the body of an animal can persist as a qualified unity in separation from the soul. I will do that by looking at different stages of existence in animals’ career in which soul and body are supposed to exist independently: before birth and after death. I will examine whether the transition from the life-form of a plant to an animal life-form consists in an addition of *pneuma* or rather a transformation of *pneuma* from *phusis* to soul. Then, I will move on to a discussion of the supposed persistence of body after death. I will examine whether we have any reason to suppose that a corpse is unified and qualified by *hexis* and *phusis*. Based on careful examination

¹⁸⁹ The relationship between parts of *pneuma* and the whole *pneuma* brings to mind the problem of the relationship between individual bodies and the *cosmos*. While the two issues are analogous, there are several important differences. First, *pneumata* are not peculiarly qualified. The second difference is closely related to the first one: as opposed to individual bodies and the *cosmos*, *pneumata* such as *hexis*, *phusis* and soul are not related to each other as wholes and parts, and are spatially coextended, at least according to the Chrysippean account of mixture (cf. Helle, “Hierocles and the Stoic Theory of Blending.” 89-98. Thirdly, the *pneuma* is itself a supposed principle of unity, so guaranteeing its unity is especially important.

¹⁹⁰ I have to thank István Bodnár for pointing this out to me.

of the textual evidence, I will conclude that we have no reason to suppose that the *hexis* and *phusis* persist after death as principles unifying and qualifying the whole body and that the principle unifying and qualifying the body departs upon death.

2.2.2.1. Ontogenesis

If Long's account is accurate, then the evidence should state that the development of the animal consists in either developing or acquiring new *pneumata*. However, there is not much to unambiguously support this reading. In what follows, I will present the Stoic account of ontogenesis by looking at the passages that discuss the doctrine in its most explicit form. I will focus on whether the transmitted accounts of pneumatic development are described in terms of the addition of a new portion of *pneuma*, and on indications of whether *hexis* and nature persist in animals.

On the Stoic account, individuals belonging to the “upper classes” of the hierarchy of beings develop from individuals belonging to “lower classes”. Plants develop from seeds,¹⁹¹ animals develop from plants, and finally, humans develop from animals. Animals and plants both develop from a seed (*sperma*), that is a portion of *pneuma* contained in some material vehicle (water in the case of animals and possibly earth in the case of plants).¹⁹² The seed, upon falling in an environment that is favourable for its development – the ground for most

¹⁹¹ To my knowledge there is no text that would explicitly state that the seeds from which animate beings develop belong to the category of inanimates, i.e. natural substances held together by a *hexis*. However, this is a logical inference considering how the development of individuals is described on the upper levels of the hierarchy, and some texts (Hierocles, *Elements of Ethics* 6-15, = LS 53B = Df. 744a, Tertullian, *On the Soul* 25 = SVF II.805, Philo of Alexandria, *On the Creation of the Cosmos, According to Moses*, 67, 5-12 = SVF II.745, Eusebius' *Evangelical Preparation* = SVF I.128) on Stoic embryology also suggest that the sperm is held together by a *hexis*, inasmuch as it does not move of its own accord until it has “fallen” in the womb, where it will be set into motion, being received in a suitable environment, which most possibly affects its *pneuma*. (Cf. David Hahm, “Self-motion,” 218-9.) This inference is slightly undermined by Philo's report according to which both plants and the sperm have nature. (*On the Indestructibility of the World* 75, 7-10 = SVF II. 459).

¹⁹² Our sources are inconsistent in respect of identifying the seed with the mixture of the carrying matter and the *pneuma*, (e.g. Pseudo-Galen, *Medical Definitions* XIX, 439 = SVF II.742) or just the *pneuma* qualifying the ejaculate (e.g. DL VII.158 = SVF II 741, Pseudo-Galen, *Medical Definitions* XIX, 370, 14-371,3 = SVF II.742).

plants and the mother's womb for animals – starts getting into motion: its *pneuma* becomes a nature, and as such begins to take charge of the growth and nutrition of the embryo. The most comprehensive descriptions¹⁹³ of this process can be found in two texts on conception and foetal development:

T15 Eusebius, *Evangelical Preparation*, 15.20.1 = SVF I.128

Τὸ δὲ σπέρμα φησὶν ὁ Ζήνων εἶναι ὃ μεθίστησιν ἄνθρωπος πνεῦμα μεθ' ὑγροῦ, ψυχῆς μέρος <καὶ> ἀπόσπασμα καὶ τοῦ σπέρματος τοῦ τῶν προγόνων κέρασμα καὶ μίγμα τῶν τῆς ψυχῆς μερῶν συνεληλυθός· ἔχον γὰρ τοὺς λόγους τῷ ὅλῳ τοὺς αὐτοὺς τοῦτο, ὅταν ἀφεθῇ εἰς τὴν μήτραν, συλληφθὲν ὑπ' ἄλλου πνεύματος μέρος ψυχῆς τῆς τοῦ θήλεος καὶ συμφυῆς γενόμενον κρυφθὲν τε φύει κινούμενον καὶ ἀναρριπιζόμενον ὑπ' ἐκείνου, προσλαμβάνον ἀεὶ εἰς τὸ ὑγρὸν καὶ αὐξόμενον ἐξ ἑαυτοῦ.”

The seed, says Zeno, which man emits is breath combined with moisture, a portion and fragment of soul, and a blending of the parents' seed, and a composite mixture of the various parts of the soul. For this, having the same ratios (*logoi*) as the whole (i.e. the soul of the parent), when emitted into the womb is caught up by another breath, a portion of the female's soul, and grows into one with it, and being there stirred and kindled by it grows in secret, continually receiving additions to the moisture and increasing of itself. (Translated by E.H. Gifford, with some emendations on my part)

¹⁹³ Less comprehensive (and possibly less accurate) descriptions can be found in Tertullian, *On the Soul* 25(= SVF II.805), and Philo of Alexandria, *On the Creation of the Cosmos, According to Moses*, 67, 5-12. (=SVF II.745).

T16 Hierocles *Elements of Ethics* I.5-15

Τὸ τοῖνυν σπέρμα καταπεσὸν εἰς ὑστέραν ἔν τε καιρῷ τῷ προσήκοντι καὶ ἅμα ὑπ' ἐρρωμένου τοῦ ἀγγείου συλληφθὲν οὐκέτι ἡρεμεῖ, καθάπερ τέως, ἀλλ' ἀνακινηθὲν ἄρχεται τῶν ἰδίων ἔργων, παρά τε τοῦ κυοφοροῦντος σώματος ἐπισπώμενον τὴν ὕλην διαπλάττει τὸ ἔμβρυον κατὰ τινὰς ἀπαραβάτους τάξεις, ἕωςπερ οὗ πρὸς τέλος ἀφίκηται καὶ πρὸς ἀπότεξιν εὐτρεπὲς ἀπεργάσεται τὸ δημιούργημα. Τοῦτον μέντοι πάντα τὸν χρόνον (λέγω δὲ τὸν ἀπὸ συλλήψεως μέχρι ἀποτέξεως) διαμένει φύσις, τοῦτ' ἔστι πνεῦμα, μεταβεβληκὸς ἐκ σπέρματος καὶ ὁδῷ κεινούμενον ἀπ' ἀρχῆς εἰς τέλος.¹⁹⁴

Thus, the seed that drops into the uterus at the right moment and at the same time is received by a healthy womb no longer stays inert as it was until then but rather, now set in motion, begins its proper activities and, drawing to itself the matter of the body that bears it,¹⁹⁵ forms the embryo in accord with certain arrangements that cannot be transgressed, until it arrives at the limit and has rendered the creature ready for birth. However, during all this time I mean that which goes from conception to birth it remains as a nature [φύσις], that is a *pneuma* (breath), transformed from the status of a seed and proceeding from the beginning to the end in a preestablished order (Translated by David Konstan).

¹⁹⁴The reconstructed version of the text by Ilaria Ramelli is as follows: “Τὸ τοῖνυν σπέρμα καταπεσὸν εἰς ὑστέραν ἔν τε καιρῷ τῷ προσήκοντι καὶ ἅμα ὑπ' ἐρρωμένου τοῦ ἀγγείου συλληφθὲν οὐκέτι ἡρεμεῖ καθάπερ τέως, ἀλλ' ἀνακινηθὲν ἄρχεται τῶν ἰδίων ἔργων, παρά τε τοῦ κυοφοροῦντος σώματος ἐπισπώμενον τὴν ὕλην διαπλάττει τὸ ἔμβρυον κατὰ τινὰς ἀπαραβάτους τάξεις, ἕωςπερ οὗ πρὸς τέλος ἀφίκηται καὶ πρὸς ἀπότεξιν εὐτρεπὲς ἀπεργάσεται τὸ δημιούργημα. Τοῦτον μέντοι πάντα τὸν χρόνον—λέγω δὲ τὸν ἀπὸ συλλήψεως μέχρι ἀποτέξεως—διαμένει φύσις, τοῦτό δ' ἔστι πνεῦμα, μεταβεβληκὸς ἐκ σπέρματος καὶ ὁδῷ κεινούμενον [15] ἀπ' ἀρχῆς εἰς τέλος.” (Text reconstructed and edited by Ilaria Ramelli) Hierocles the Stoic, *Elements of Ethics. Fragments and Excerpts*, tr. David Konstan. Ed. Ilaria Ramelli, (Atlanta: Society of Biblical Literature, 2009), 2.

¹⁹⁵ István Bodnár suggested an alternate translation to this clause: “[...]drawing to itself matter from the childbearing body[...].”

As to the Stoic doctrine that animals develop from plants, it is a core tenet of Stoic embryology that embryos are plants and not animals,¹⁹⁶ they acquire a soul at birth, upon their first inhalation of the outer air. This process is also described by Hierocles:

T17 Hierocles *Elements of Ethics* I.15-30

ἤδη δὲ κατὰ μὲν τὰ πρῶτα τοῦ χρόνου παχύτερόν πῶς ἐστι πνεῦμα ἢ φύσις καὶ μακρὰν ἀφεστηκυῖα ψυχῆς, κατόπιν δὲ τούτων κάπειδαν σχεδὸν ἦκηι τῆς ἀποτέξεως, ἀπολεπτύνεται ῥιπιζομένη τοῖς συνεχέσιν εἰς..... καὶ ..το τυχόν ἐστι ψυχῇ διὸ δὴ καὶ θύραζε χωρήσασα ἱκανοῦται τῷ περιέχοντι, ὥστε οἷον στομωθεῖσα πρὸς αὐτοῦ μεταβαλεῖν εἰς ψυχὴν. καθάπερ γὰρ τὸ ἐν τοῖς λίθοις πνεῦμα ταχέως ὑπὸ πληγῆς ἐκπυροῦται διὰ τὴν πρὸς ταύτην τὴν μεταβολὴν ἐτοιμότητα, τὸν αὐτὸν τρόπον καὶ φύσις ἐμβρύου πέπονός ἤδη γεγονότος οὐ βραδύνει τὸ μεταβάλλειν εἰς ψυχὴν ἐμπεσοῦσα τῷ περιέχοντι. ταύτη δὲ πᾶν τὸ ἐκπεσὸν ὑστέρας εὐθέως ἐστὶ ζῶιον [...]¹⁹⁷

Now, in the first phases of this period of time the “nature” is a kind of particularly dense *pneuma* and far removed from soul; following this, however, and once it has nearly arrived at birth, it thins out, buffeted as it is by continuous doings, and, in respect to quantity, it is soul. Thus, once it arrives at the exit, it is adapted to the environment, so that, toughened, so to speak, by this, it changes into soul. For, just as the *pneuma* that is in stones bursts into flame as a result of a blow of its disposition to this alteration, in the same way, too, the nature of the embryo, when it has become mature, is not slow to change to soul, when it comes out into the surrounding

¹⁹⁶ Cf. The Hierocles passage quoted below, as well as Tertullian, *On the Soul*, 25 = SVF II.805, Philo of Alexandria, *On the Creation of the Cosmos according to Moses*, 67 = SVF II.745) Pseudo-Galen, *Medical Definitions*. XIX 452. = SVF II.757, Plutarch, *On Stoic Self-contradictions* 41, 1052f-1053a = SVF II.806.

¹⁹⁷ The reconstructed version of the text by Ilaria Ramelli is as follows: “ἤδη δὲ κατὰ μὲν τὰ πρῶτα τοῦ χρόνου παχύτερόν πῶς ἐστι πνεῦμα ἢ φύσις καὶ μακρὰν ἀφεστηκυῖα ψυχῆς, κατόπιν δὲ τούτων κάπειδαν σχεδὸν ἦκηι τῆς ἀποτέξεως, ἀπολεπτύνεται ῥιπιζομένη τοῖς συνεχέσιν ἔργοις καὶ κατὰ τὸ ποσὸν ἐστι ψυχῇ [20] διὸ δὴ καὶ θύραζε χωρήσασα ἱκανοῦται τῷ περιέχοντι, ὥστε οἷον στομωθεῖσα πρὸς αὐτοῦ μεταβάλλειν εἰς ψυχὴν. καθάπερ γὰρ τὸ ἐν τοῖς λίθοις πνεῦμα ταχέως ὑπὸ πληγῆς ἐκπυροῦται διὰ τὴν πρὸς ταύτην τὴν μεταβολὴν ἐτοιμότητα, τὸν αὐτὸν τρόπον [25] καὶ φύσις ἐμβρύου πέπονός ἤδη γεγονότος οὐ βραδύνει τὸ μεταβαλεῖν εἰς ψυχὴν ἐμπεσοῦσα τῷ περιέχοντι. ταύτη δὲ πᾶν τὸ ἐκπεσὸν ὑστέρας εὐθέως ἐστὶ ζῶιον [...] Hierocles the Stoic, *Elements of Ethics. Fragments and Excerpts*, 2.

environment. For this reason, everything that comes out of the uterus is immediately an animal [...] (Translated by David Konstan)

As it is apparent from Hierocles' evidence, ensoulment coincides with birth because this event entails a change of environment. Upon being born, the embryo inhales its first breath of outside air. Thus, nature, the warm inborn *pneuma* is tempered (*stomōtheisa*) by the colder outer air, and, as a consequence, changes its physical constitution (rarefies according to most accounts).¹⁹⁸ As we might expect, this change in constitution entails a qualitative change: rarefaction leads to a change of the kind of the *pneuma*, it changes from denser nature to a subtler soul.

The final case of the development of an "upper class" entity from a "lower class" one is the case of irrational animals turning into rational humans. According to the Stoic belief, children below the age of fourteen¹⁹⁹ are irrational, animal-like creatures. They become rational adults by acquiring common concepts (*koinai ennoiai*). Common concepts are acquired gradually, through the synthesis of memories left by impressions. Impressions are individual physical imprints (*tupoi*) or other structural modifications²⁰⁰ of the soul, acquired mostly through the physical imprinting of sensory objects on the pneumatic matter.²⁰¹ The imprinting of the sense-object leaves a mark – this is what a memory of an individual object is –, the accumulation of these marks leads to experience, and experience leads to the development of common concepts.²⁰²

¹⁹⁸ Cf. T17, as well as Plotinus, *Enneads* IV.7.11, (= *SVF* II.804), Tertullian *On the Soul*, 25 (= *SVF* II.805), 8. Plutarch, *On Stoic Self-contradictions*, 1052f, 1053d, *On the Principle of Cold*, 946 C.

¹⁹⁹ *SVF* I.149 cf. Hankinson, "Stoic Epistemology," 62.

²⁰⁰ Lewis, "The Stoics on Identity," 107-108.

²⁰¹ All kind of sense perception was conceived as taking place by means of touching by the Stoics. Cf. ch IV.

²⁰² Aetius IV.11.1- 4 = *SVF* II.83 = LS 39E, Aetius V, 12, 3 = *SVF* II.753.

In all cases of pneumatic development, the new kind of *pneuma* emerges as a result of the effects of the external environment. The seed starts getting in motion upon falling into the uterus and being seized by the maternal *pneuma*,²⁰³ the *phusis* rarefies by being tempered or struck by the cold air, and the soul changes by virtue of accumulating imprints, leading to experiences. A further common feature is that the change in kind of *pneuma* is a qualitative change: the seed is set into motion, the nature rarefies, and the soul becomes rational. Finally, we can also observe that both in the case of nature's transformation to soul and soul's transformation to rational soul, the change can be explained in terms of a change in the physical structure of the *pneuma*: by rarefaction and imprinting respectively. Moreover, as I have already noted, with respect to **T13**, if there is anything that is added to a *pneuma*, it is not a further *pneuma*, but a capacity.

All in all, the textual evidence does not suggest an addition of *pneuma* in any case, but rather a comprehensive qualitative transformation of the previous *pneuma*. While in the case of the seed it could be argued that it acquires the mother's *pneuma*, first, as I have remarked, the role of maternal *pneuma* in generation is unclear and second, the seed is described as acquiring motion upon being seized by maternal *pneuma*, not as acquiring *pneuma*. While it could also be suggested that the soul is the inhaled outside air that is added to the inborn physical *pneuma*, this idea is not very plausible either. The textual evidence is unanimous in

²⁰³ The textual evidence disagrees on the question whether the seed of females participated in generation. Diogenes Laertius (DL VII.158) reports that Sphaerus thought the female seed to be infertile due to its lack of tension, "wateriness" and "scantiness", and Galen says that the Stoics thought that the female only contributes by feeding the embryo, which develops from the *pneuma* and the carrying matter of the male seed. Galen, *On the Formation of the Foetus* IV, 699, 3-18. = SVF II.743 and Philo of Alexandria, *On the Creation of the Cosmos according to Moses*, 67 = SVF II.745. The idea that on the Stoic account the embryo develops merely from the male seed, fashioned by its *pneuma*, using its wet vehicle as a substance is argued for at length by John M. Rist in his "On Greek Biology, Greek Cosmology," 42-4. As opposed to this, Aetius (V.11.3= SVF II.749) reports that both parents contribute with their seed to the generation of the offspring and the *pneuma* of the mother also seems to play a role in the Eusebius (T15) and the Hierocles passage (T16). According to David Hahm ("Self-motion," 218), by discrediting the female seed's capacities, the Stoics merely meant that it cannot generate on its own, without the contribution of the father. According to Inwood, the disagreement might reflect a doctrinal disagreement amongst Stoic thinkers. ("Walking and Talking," 68).

describing the process of ensoulment as the tempering and thus rarefaction of physical *pneuma*, moreover, the soul is identified as connate *pneuma* by both Chrysippus²⁰⁴ and Zeno.²⁰⁵

A further idea could be that in each case the qualitative transformation is only partial and there remains a part of *pneuma* that is denser, colder, wetter, or more inert than the other parts. This possibility cannot be excluded, although there is not much textual evidence to support it, furthermore it is open to question how some parts of *pneuma* could remain unaffected by the physical transformation of the whole.

It could also be argued that the soul can fulfil functions of nourishment and growth based on the Eusebius passage (T15), in which the maternal soul is described as attending to the growth and nutrition of the foetus. However, it should be noted that the evidence on the role of female soul in the Stoic theory of gestation seems to be contradictory. While some passages suggest that both the male and the female soul contribute to the development of the embryo, others suggest that the female body just serves as an incubator (that also provides food) during pregnancy. Moreover, it should be noted, that using the distinction of Sextus, we could claim that the female soul mentioned here is the soul in the general sense, so the embryo is actually nourished by the nature of the mother instead of her soul (taken in the specific sense).²⁰⁶

A last point that I would like to address concerns Long's idea that the body should be organized and unified by nature because it is nature that has shaped and organized it prior to ensoulment. It is true that the fact that the foetus (that is a fully formed and functional although yet unborn baby) has been formed merely by nature suggests that on the Stoic account, it is possible that a non-animal *pneuma* is capable to bring about and run a body that is equipped for psychic functions. However, this mere fact does not exclude that upon birth the functions

²⁰⁴ Galen *PHP* III.1 (112) (= *SVF* II.885)

²⁰⁵ Tertullian, *On the Soul*, 5. (= *SVF* I.137)

²⁰⁶ The early Stoic theory of ontogenesis will be discussed in more detail in chapter III.

of unification, organization, and growth and nourishment of the animal body are taken over by the soul.

2.2.2.2. Death

The other aspect of early Stoic biology that should be investigated for an understanding of the relationship of soul and body is death. Long argues that the fact that the soul persists for some time after death and that the body can exist as a unified living being before ensoulment provides sufficient proof for the possibility of their independent existence. If Long's claim were true, then the body, existing independently of the soul, would vegetate, i.e. grow, be nurtured and held together. While this is true about the body that exists before ensoulment, i.e. the foetus, it is by no means true of the body left behind after the departure of the soul, i.e. the corpse. While the corpse does not become a pile of mud (i.e. earth and water) right upon the departure of the soul, it does start its gradual decomposition from the moment of death: after a while it will dissolve and assimilate to the wet ground. There is no evidence that any Stoic thinker would have conceived of a corpse as of a vegetating body in a coma, instead of a lifeless entity that is slowly disintegrating once its soul has departed. No processes of nourishment and growth can possibly be observed in a dead body, taken as an organic whole,²⁰⁷ thus there is no reason to suppose that a corpse would be governed by nature, which strongly suggests that body and soul are not governed by distinct principles, or if so then both these principles leave the body upon death.

While there is no evidence that would directly report on what happens to the body after death, there are some passages, based on which we could get an idea of the extent to which corpses were still permeated by nature and *hexis*. A passage by Diogenes Laertius, which is

²⁰⁷ There are some parts of the body, such as nails and hair that can be thought of as undergoing nourishment and growth. I discuss this idea in more detail below.

used by Long to support his thesis that animals have both *hexis* and soul, attributes *hexis* only to certain parts of the animal body, namely the bones.²⁰⁸ What Diogenes says here is that divine *nous* permeates different parts of the human body to a different extent: it permeates bones and sinews as *hexis* and the *hēgemonikon* as *nous*. This passage is very similar to Philo's testimony in the *Allegories of the Laws* II 22-23,²⁰⁹ where the *nous* is said to have different powers, a *hexis*-like one penetrating bones and a *phusis*-like one accounting for the growth and nutrition of nails and hair.²¹⁰ The idea presented here is that if there is *hexis* and *phusis* present in animal bodies, that *hexis* and that *phusis* would not bind and keep alive the whole animal body, but only some parts of it.²¹¹

These parts were certainly not chosen at random. It is common knowledge that in animal bodies it is the bones that survive the longest, remaining intact for decades or centuries after the rest of the body has decomposed. Moreover, it is also commonly (although, as Brad Inwood pointed out to me, mistakenly)²¹² thought that the nails and the hair keep growing even after death. These observations might have suggested to some Stoics that these body-parts were run by something independent from the soul, since their coherence and growth continued after the soul's separation of the body.

What this passage (T7) shows is that if there is indeed a *hexis* and a *phusis* in an animal body, besides the soul, then such *pneumata* should continue fulfilling their function after death,

²⁰⁸ Τὸν δὴ κόσμον διοικεῖσθαι κατὰ νοῦν καὶ πρόνοιαν, καθά φησι Χρύσιππος τ' ἐν τῷ πέμπτῳ Περὶ προνοίας καὶ Ποσειδώνιος ἐν τῷ τρισκαιδεκάτῳ Περὶ θεῶν, εἰς ἅπαν αὐτοῦ μέρος διήκοντος τοῦ νοῦ, καθάπερ ἐφ' ἡμῶν τῆς ψυχῆς· ἀλλ' ἤδη δι' ὧν μὲν μάλα λον, δι' ὧν δὲ ἥττον. δι' ὧν μὲν γὰρ ὡς ἕξις κεχώρηκεν, ὡς διὰ τῶν ὀστέων καὶ τῶν νεύρων· δι' ὧν δὲ ὡς νοῦς, ὡς διὰ τοῦ ἡγεμονικοῦ. DL VII. 138-9

²⁰⁹ T7 Philo of Alexandria, *Allegories of the Laws* II 22-23 (SVF II.458 = LS 47P).

²¹⁰ I rejected Philo's evidence as unreliable earlier. However, while it might not constitute evidence reliable enough to decide between the addition and subsumption views, it might contain some nuggets of information on Stoic tenets.

²¹¹ Again, a note should be made about the inclusion of this piece of evidence by Philo. I have already discussed this passage and concluded that the ideas presented within are not purely Stoic, but rather are inspired by both Platonic and Stoic elements. It might be the case that the idea that nails and hair are governed by *phusis* is not a Stoic idea, however it is a logical complementation and a reasonable further development of the view presented in Diogenes Laertius that some body parts are governed exclusively by *hexis*.

²¹² It has been recognized that the nails and hair of corpses only appear to have grown after death because the skin of the dead body shrinks, and thus retracting exposes previously covered portions of hair and nails.

since the departure of the soul should not affect them. However, the fact that we observe continued functioning in only some parts of the body, suggests that whatever has accounted for the overall cohesion and the growth and nurture of the body has departed, along with the soul.

This interpretation makes good sense of most of the evidence and attributes a more plausible account of death to Stoic thinkers. However, it is not quite compatible with the information transmitted by Sextus in *Against the Professors* 7.234. What should we make of Sextus' distinction between the two meanings of the soul and his statement that it is only the *hēgemonikon* that is separated from the body upon death, if the almost complete decomposition of animal bodies suggests that all of their hectic and physical powers also leave them upon death?

I believe we can make sense of Sextus' words and reconcile them with the idea that whatever unifies and qualifies animal bodies also leaves them upon death, if we understand his statement about only the *hēgemonikon* leaving the body as meaning that it is only the *hēgemonikon* that survives the separation from the body. If we were to suppose that the *hēgemonikon* is tenser than other parts of the soul, then we can easily account for this fact: while the whole of the soul leaves the body, it is only the *hēgemonikon* that is sufficiently tense to stay tied together, while the other parts of the soul dissolve and disperse.²¹³ This interpretation can also be supported by both the idea that it is only the soul of rational animals that survives after death²¹⁴ and that the souls of the virtuous survive longer than those of fools.²¹⁵ Both virtue and rationality are associated with a tense character of the soul,²¹⁶ thus it would make sense that in both of these cases and in the case of the *hēgemonikon*, persistence was related to tension.

²¹³ Cf. Annas, *Hellenistic Philosophy of Mind*, 68.

²¹⁴ Eusebius, *Evangelical Preparation*, 15.20.6(SVF II.809 = LS 53W).

²¹⁵ *ibid.*

²¹⁶ Stobaeus, *Eclogae* II. 74, 16 (=SVF III.112 = LS 41H), Plutarch, *On Moral Virtue* 440E-441D (= LS 61B), Galen, *PHP* 4.6.2-3 (= LS 65T) cf. Baltzly, "Stoicism".

A second problem with supposing that the body has isolated parts governed by *hexis* and *phusis* independent from the unifying *pneuma* is that such a supposition is at odds with my former conclusion that upon ensoulment and the development of rationality, there is a general qualitative transformation of the whole of the *pneuma*. If the whole of the *pneuma* undergoes qualitative transformation, then how can some parts of it retain their prior state? If the *pneuma* of bones, nails and hair can retain their respective *hexis*-like and *phusis*-like nature then why could other parts of *pneuma* not do so? We could speculate that these isolated *pneumata* have been tucked away and as such are not affected by the overall qualitative change in the *pneuma*, or consider that they are genuinely different *pneumata*, however, in that case we should be able to account for the fact that they are still parts of the unified animal body.

There are several ways to deal with this issue. First, it could be argued that the bones, nail and hair are special parts of the body, which are less connected to the whole body than other parts and seem to have an independent life.²¹⁷ At least hair and nails seem to be less unified with the body to the extent that the sympathy between them and the other body parts is less strong. While cutting a finger affects the whole body,²¹⁸ cutting a hair or a nail does not hurt at all, although ripping them out would certainly register as painful. While they are in contact at their roots with the *pneuma* unifying the whole body and responsible for sense-perception, it seems that they are not permeated by the *pneuma* responsible for perception. I am not sure whether the same argument could be made about bones, since they cannot really be examined in isolation from the living body in the same way that nails and hair can.²¹⁹

Finally, there are two remaining difficulties concerning the account of death that have to be explained. The first issue concerns the fact that the decomposition of bodies is gradual. It is

²¹⁷ I am thankful to István Bodnár for a discussion of the status of hair, nails and bones in relation to the whole of the body.

²¹⁸ Sextus Empiricus, *M*, 9.80

²¹⁹ In contemporary biology, hair and nails are considered as dead portions of matter, bones, on the other hand, are very much alive. Even the hard, mineralized parts are constantly regenerating.

hard to see how the fact that bodies and body parts stay together and keep some characteristic qualities for at least some time, such as their colour, texture, size, can be explained in a framework in which unity and qualification is only possible in virtue of the presence of a *pneuma*. In such a framework, the temporary persistence of the unity and qualities of bodies could only be explained by supposing that there is a *pneuma* that remains in the body, but gradually “evaporates” after death. However, there is not much evidence to support this reading, and furthermore it is hard to see what reason could be given to explain why the unifying and qualifying *pneuma* of bodies would leave the corpse in small portions. I believe that the temporary unification and qualification of the corpse can be better understood in light of a closer investigation of the Stoic account of unity and qualification that I will carry out in section 2.3.

The second issue concerns the distinctness of soul, nature and *hexis*. The fact that the disruption of the overall cohesion of the body and the cessation of its vegetative functions coincide with the departure of the soul does not necessarily entail that *hexis*, *phusis* and soul are not distinct. It is equally possible that while they are distinct, there is a very strong relationship between them. This could also explain why it is the case that the departure of the soul entails the departure of nature and *hexis* or results in their dissolution. While the fact that transitions between life-forms are described as qualitative transformations in *pneuma* strongly suggests that the functions of *hexis* and nature are taken over by the soul, the lack of mention of growth and nutrition along with other soul parts suggest that there might be a reason for us to suppose that soul, nature and *hexis* are, after all, closely connected, but distinct principles. This is also supported by the case of bones, hair and nails, as well as by Nemesius’ evidence, reporting on Panaetius,²²⁰ which clearly distinguishes between soul and nature. I believe that in order to get a better understanding of the relationship between *hexis*, nature and soul, we

²²⁰ Nemesius, *On the Nature of Man*, 212,6-9 (Panaetius fr. 86 = LS 53I).

have to first understand the aforementioned multifarious nature of the animal soul, which I will discuss in more detail in the next sub-section.

So, the evidence from ontogenesis clearly suggests that the unifying and qualifying *pneuma* undergoes qualitative transformation upon transitioning from one life-form to another. That does not exclude that some parts of *pneuma* maintain a former state; however, there is strong, although not conclusive evidence that the overall nature of the *pneuma* changes. On the other hand, the evidence from accounts of death suggests that the unifying and qualifying principle of the natural body leaves the body upon death. However, whether that unifying and qualifying principle is the soul should be subject to further investigation.

2.2.2.3. Parts and powers

Since descriptions of *pneuma* in biological and psychological contexts are not decisive concerning the homogeneity of the *pneuma* of animals, I suggest taking a closer look at descriptions of *pneumata* in metaphysical and logical contexts and try to interpret them in light of the Stoic theory of parthood, mixture and colocation.

We have seen that in order for the theory to be coherent, the following conditions need to be met: (1) the cohesion and qualification of the body cannot be accounted for by a principle identical to the soul; (2) both the unity of the unifying *pneuma* and the whole composite have to be accounted for and (3) we also have to explain why it is the case that the departure of the soul coincides with the dissolution and loss of qualification of the body. The solution that I propose is that the soul and the unifying and qualifying principle(s) of the body are different but one at the same time, in the sense that the unifying and qualifying principle is inherent in the soul, but not identical to it. In what follows, I will look at accounts of parthood, mixture and colocation to see how that is possible.

In his discussion of the *pneumata* of animals, Brad Inwood distinguishes between parts and powers of the soul. Relying on a passage by Iamblichus,²²¹ he suggests that the entities described as parts of the soul (the *hēgemonikon*, the five senses, the reproductive and the vocal faculties) are referred to as parts of soul because they are spatially distinct portions of *pneuma*, their spatial distinctness being based on the spatial distinctness of the organs they correspond to.²²² Powers of the soul, on the other hand, cannot be identified as spatially distinct portions of *pneuma*. Powers are functions of *pneuma*. There is no one to one correspondence between a power and a portion of *pneuma*: a portion of *pneuma* can have different powers at the same time. To use the example given by Iamblichus, assent, impulse and reason are powers of the *hēgemonikon* part. They are not spatially distinct bits of *pneuma* in the heart but instead are “differentiated by a peculiarity of quality (*idiotēs poiōtētos*) in regard to the same substrate.” Iamblichus compares these powers to the qualities of a substrate: they can be spatiotemporally co-present just like sweetness and fragrance in an apple. Thus, on Inwood’s interpretation, *hexis* and nature are not parts of the soul, but their functions (coherence, nutrition and growth) are powers of some unnamed part of the soul. Their “substrate” is not specified and they themselves as functions are not enumerated with the other powers of the soul because they are not peculiar to the animal soul, as they are functions also shared by the *pneumata* of other natural bodies.²²³

This interpretation raises two questions. First of all, it is not clear what Iamblichus means by a difference in the “peculiarity of the quality” in the same substrate.²²⁴ While there is no extant account explaining how qualities would be differentiated from each other in the Stoic framework, the word *idios* and its derivatives were used in discussions of distinctness for a

²²¹ *On the Soul*, labelled “On the Powers of the Soul,” in Stobaeus *Eclogae* I.49,33-34. Inwood, “Walking and Talking”, 72-3.

²²² Stobaeus *Eclogae* I.49.33.

²²³ Inwood, “Walking and Talking,” 73.

²²⁴ I am relying on the translation of Anthony A. Long in LS I.

variety of entities besides natural bodies. Given that qualities, virtues and other mental “powers” such as knowledge or impressions are defined by the evidence as *pneuma*, soul or the *hēgemonikon* disposed in a certain way (*pōs ekhonta*), I think that the mental functions mentioned by Iamblichus should also be considered as such modifications of *pneuma*, the “peculiarity” of which consists in distinctness with respect to the third category. On Inwood’s reading this would mean that cohesion, nutrition and growth are structures or motions in *pneuma* (just like perception and impulse). This actually corresponds to the descriptions of these pneumatic functions: cohesion is a function of tensional motion (*tonikē kinēsis*); growth and nutrition are also motions (*kinēseis*); impressions are structural changes in the *pneuma*; and impulses are defined as the first motions of the soul.²²⁵ Finally, as I have already noted, rationality is a result of a structural change as well: the formation of common notions.

The other question regarding this interpretation is that Inwood’s and Iamblichus’ conception of a part of *pneuma* relies on the idea that the body is a differentiated entity. This is problematic because either it entails that the body has an organizing principle different from the soul, which Inwood denies, or else it entails that the structure of the soul is defined by the structure of the body, although this relation of determination and differentiation should work the opposite way. If it is the soul that differentiates, unifies and qualifies bodies, then the body, if it were left without a soul, would just be a pile of earth and water, just as Long points it out.²²⁶ But if that is the case, then the body, being an amorphous blob of mud, cannot account for setting apart parts of the soul as spatially distinct. If soul parts cannot be distinguished based on the spatial distinctness of their corresponding organs, then their distinctness should be accounted for based on the distinctness in *pneuma*.

²²⁵ Philo of Alexandria, *God’s Immutability*, 35 (=SVF II. 458).

²²⁶ Long, “Soul and Body,” 40.

The distinctness of pneumatic parts needs to be accounted for in terms of qualification, as the role of place in distinguishing between portions of matter is problematic and is not clarified by the evidence. This still leaves us two options, depending on how we interpret qualitative differences in *pneuma*: in terms of the elemental composition of *pneumata* (i.e. the air to fire ratio, and the ensuing humidity, density and tension) or with reference to the differences in pneumatic tensions' structures. Unfortunately, both options are problematic and raise issues with respect to the unity of *pneuma*.

Accounting for the distinctness of pneumatic parts in terms of the elemental composition of portions of *pneuma* is problematic on two counts. First, there is the issue of unity. If I want to explain qualification (including tension) in terms of elemental composition but allow that a chunk of *pneuma* is composed of parts that are each characterised by different air to fire ratios, then I have to somehow account for how part A and B with ratios $x:y$ and $z:v$ belong to a larger chunk C that is characterised by a ratio $q:p$. In this situation, the unity of C needs to be explained with reference to a principle that is distinct from the qualitative unity that results from C being characterised by ratio $q:p$. In order to state that C is characterised by a ratio $q:p$, I first have to identify and delimit C in some way. Thus, there is no satisfying explanation for the unity of heterogeneous *pneumata* available at the level of elemental composition.

Conversely, elemental composition is also insufficient to account for the unity and thus distinctness of a part of the *pneuma*. If a portion of *pneuma* is made up of smaller portions of *pneuma* that are composed of air and fire mixed in various different ratios, then again, in order to point out part A as a part characterised by a ratio $x:y$, I would have to first delimit and distinguish it from other parts of *pneuma*. In order to do so, I have to establish the unity of part A with reference to an additional principle.

As to the approach distinguishing between pneumatic parts based on differences in tension and structure, the first problem with this account concerns the spatiotemporal

coextension of tensions and structural qualifications. This is a general problem with the Stoic account of differentiation among *pneumata* in terms of tension, motion and structure, and it had been often brought up in the context of impressions, memories and knowledge. It is hard to see how a portion of *pneuma* can be structured in different ways at the same time or how it can have different tensions at the same time. Moreover, it is also hard to see how entities can be picked out in a portion of *pneuma*, if the structures and tensions that are supposed to account for their differentiation overlap.

The second issue related to this account again concerns the unity of the *pneuma*. If *pneumata* are qualified by their tension and their structural properties, then all parts of *pneuma* should be differentiated by different tensions and structures. However, as a uniformly qualified entity, say nature or soul, the *pneuma* also has to have its own, uniform and homogeneous qualifying tension, one that is different from the tensional and structural characteristics of the other *pneumata* constituting it, and which defines it as a soul, nature or *hexis*. Somehow, we have to account for the fact that the structurally and tonically diverse *pneumata* belong to one structurally and tonically homogeneous *pneuma*. So, we are back to the original problem of the simultaneous unity and diversity of *pneumata*.

There are two considerations that can attenuate the difficulties related to the coextension and delimitation of pneumatic parts. On the one hand we could suppose that the relationship between *pneumata* and their parts is similar to the relationship between the *kosmos* and the individuals that are part of it as discussed in section 1.2.3.2.1.2. In that case, we should suppose that the quality characterising a portion of *pneuma* would contain the qualities of its parts.²²⁷

On the other hand, we should also consider that the colocation and ensuing unity of distinct bodies and their characterising qualities is a possible and completely normal phenomenon in early Stoic philosophy. Bodies mixed in a through and through blend can be

²²⁷ The analogy has its limitations.

spatiotemporally coextensive, while retaining their original qualities and *ousia*. In such a mixture the constituting bodies are so well blended that there is no spatial part of the blend that could be pointed out as either of the composing bodies, however the substance and the determining qualities of the constituents remain the same. As a result, they preserve their identity and can be separated in their entirety from the blend at any time.²²⁸ If we take coextensive qualities as coextensive pneumatic bodies, each characterised by a different tension or a structure, instead of picturing different structures and tensions superimposed on a single substrate, then we can make sense of their coextension in this framework. Moreover, by appeal to the theory of through and through blending, we can also give an account of the relationship between *hexis*, nature and the soul in the specific sense. We can just think of these *pneumata* as completely blended constitutive parts of the soul in the generic sense.

By employing the concept of through and through blending, we can make sense of formerly problematic points concerning the nature of *pneuma*. First, we can explain the descriptions of qualitative change in *pneuma* through ontogenesis in terms of through and through blending, by assuming that only some parts of *pneuma* change their qualities. Since in a through and through blend, the qualities of the individual components affect the quality of the blend, a change in these parts influences the overall quality of the mixture (that is the whole *pneuma* of the natural body, “the soul in the generic sense”), thus changing the nature of the unifying *pneuma* and, as a consequence, that of the natural body. However, even though the blend as a whole changes, it is possible that some portions of it remain unchanged *qua* parts: if they were isolated from the blend, they would still have their original qualities.

While a lot of difficulties concerning *pneuma* can be explained by reliance on the notion of through and through blending, the issue of unity – our main concern – still remains

²²⁸ Cf. Alexander of Aphrodisias, *On mixture* 216, 14-218,6 (=SVF 2.473= LS 48C), Stobaeus *Eclogae* I.155.5-11 (=SVF II.471)

problematic. The tenet of through and through blending suggests that it is sufficient for entities to be spatiotemporally coextensive in order to constitute a unity.²²⁹ This in itself is problematic, as it again supposes that place plays some sort of metaphysical role, now not only serving as a principle of distinctness but also of unity. However, as it has been pointed out previously, there is little reason to believe that a systematic metaphysical account of unity and distinctness involving place was ever worked out. Furthermore, since the qualities of the ingredients all play a role in determining the qualification of the blend, the complex body that is the end result of the blending does not seem to be qualitatively unified in the sense of having a single overarching quality that applies to the whole of the *pneuma*. Instead, the pneumatic body's qualification is determined in a bottom-up way, i.e. by the ingredients of the body, instead of a top-down one, i.e. by having a single quality, tension or motion. This goes against what has been established in this chapter regarding unity and in chapter I regarding the account of identity and individuation.

A further issue with the above solution based on through and through blending is that it operates within a framework that takes pneumatic bodies as metaphysically prior to the qualities and tensions qualifying these bodies. The idea that coextensive *pneumata* should be construed as a blend of bodies, the unity of which is a brute fact rather than something to be accounted for in terms of their qualification, is in blatant contradiction with the analysis of natural bodies presented in chapter I. This is a general difficulty brought up by the doctrine of *krasis di'holou* which posits bodies as the most basic metaphysical entities and thus goes against the quasi-hylomorphic analysis of natural bodies described in some of our texts.

At this point, we should seriously consider the possibility that unity taken in a metaphysical sense, determined by qualification, was not a central issue for early Stoic thinkers. The bulk of the surviving evidence points in the same direction: unity was considered

²²⁹ By unity, here I mean a unity in which the components are not destroyed but preserved.

a physical matter, which can be sufficiently explained by positing a physical force holding natural bodies together. The fact that spatiotemporally coextensive but distinct and qualitatively disparate bodies can be considered as constituting a unity suggests that qualitative and structural heterogeneity may not have been important for unity for the Stoics. As long as a body has one *pneuma*, which seems to be taken to be a basic, unexplained fact by them, it can be considered as one body.

Nevertheless, I will make one final attempt at unearthing a metaphysical theory of unity, by looking at passages discussing the differences between unified and non-unified bodies and the way these are qualified. I will investigate whether unified bodies have a quality that could be identified as a principle of unity.

2.3. Unity and Qualification

In this section, I examine the relationship between unity and qualification in order to see whether unity is determined by having a certain “unifying” quality, that is a single quality characterising the whole and delimiting it as a single entity. I will also investigate whether qualities characterising complex bodies as unities are species qualities – as Irwin suggests. I conclude that while there is mention of qualities characterising a unifying *pneuma*, these qualities do not seem to play a central role in accounting for unity. As to the nature of these qualities, they are not classic species qualities nor are they qualities that could be exclusively reserved to a species, or even such that could be solely predicated of unified bodies.

2.3.1. Unified and non-unified bodies

As a starting point for this discussion I am returning to the Stoic distinction between unified, conjoined and disjoined bodies.²³⁰ This distinction between bodies is a distinction between levels of unity. While only one among the three groups are actually called unified, it is not unreasonable to consider conjoined and disjoined bodies as lesser forms of unity. Unified bodies are unified because they have a single tenor (*hexis*) constitutive of them that holds their parts together. This category covers natural bodies, such as minerals, plants and animals. Conjoined bodies are not unities, because their constituent parts are not held together by a single *pneuma*, they are held together by other physical means, such as glue and nails. Examples of conjoined bodies include artefacts, such as a ship or a house. Finally, disjoined bodies' constituents are not united by one *hexis*, and are not united physically in any way. An example of a disjoined body would be a collection of bodies such as a chorus or an army.

The way the differences between the three groups are explicated again makes clear that unity is very much a physical matter and is defined by the kind (or the absence) of conjunction holding together the parts of a body. This essentially physical nature of unity is also confirmed by Sextus Empiricus' testimony, according to which one important characteristic of a unified body is that there is a sympathy between the constitutive parts. If there is a change in any of the parts, both the whole and the other parts will be affected by it:²³¹

²³⁰ Cf. The brief discussion of this tenet in 1.2.5, with respect to T5. Different authors use different terms for these different kinds of bodies (Simplicius, *On Aristotle's Categories* 214, 24-37 (SVF II.391 part =LS 28M)), Sextus Empiricus, *M* 9.78-80. Plutarch, *Advice to Bride and Groom* 34, 142e12-143a2 = SVF II.366 =, id. *The Obsolescence of Oracles* 426a5-11 = SVF II.368, Achilles Tatius, *Introduction* 14, 13-22 = SVF II.367, cf. SVF II.1013

²³¹ While this understanding of unity explains the role of *pneuma* in unification, it raises a question about the unity of inanimate natural bodies. It is not clear what sympathy amounts to in the case of a completely inert, lifeless body.

T18 Sextus Empiricus, *Against the Professors* IX.79-80

ἐπεὶ οὖν καὶ ὁ κόσμος σῶμά ἐστιν, ἥτοι ἡνωμένον ἐστὶ σῶμα ἢ ἐκ συναπτομένων ἢ ἐκ διεστώτων. οὔτε δὲ ἐκ συναπτομένων οὔτε ἐκ διεστώτων, ὥς δείκνυμεν ἐκ τῶν περὶ αὐτὸν συμπαθειῶν. [...] ἐπὶ μὲν γὰρ τῶν ἐκ συναπτομένων ἢ διεστώτων οὐ συμπάσχει τὰ μέρη ἀλλήλοις, εἴγε ἐν στρατιᾷ πάντων, εἰ τύχοι, διαφθαρέντων τῶν στρατιωτῶν οὐδὲν κατὰ διάδοσιν πάσχειν φαίνεται ὁ περισωθείς· ἐπὶ δὲ τῶν ἡνωμένων συμπάθειά τις ἔστιν, εἴγε δακτύλου τεμνομένου τὸ ὅλον συνδιατίθεται σῶμα.

Since, then, the world too is a body, it is either a unified body or from things fastened together or from things standing apart. But it is not from things fastened together or from things standing apart as we show from the affinities present in it. [...] For in the case of those from things fastened together or things standing apart, the parts do not have an affinity with one another – in an army, for example, when everyone has been wiped out, the survivor does not appear to suffer anything by way of an influence, but in the case of unified bodies there is an affinity – if a finger is cut the whole body is affected. (Richard Bett's translation)

However, while Stoic thinkers seem to conceive of unity as a primarily physical and biological relation between parts,²³² one might expect that there are also metaphysical characteristics that entities belonging to these different groups of bodies share. Most importantly, we might expect that the presence of a single unifying *pneuma* is manifested metaphysically in being qualified in a certain way or in identity and individuality criteria different from those of non-unified bodies. In **T5** Simplicius discusses the relationship between qualification and unifying tenors. He says that unifying tenors are similar to a breath or to

²³² Natural bodies are one physically in the sense that their parts constitute one entity by virtue of being held together by a unifying force that prevents the entity from falling apart and disintegrating into parts. On the other hand, they are also one biologically, in the sense that the parts are part of one organism, that moves and functions together as a whole, the parts all synchronized and controlled by one directive centre (the *hēgemonikon*).

having a single principle (*logos*), which would suggest that having a single governing tenor entails being characterized by a single quality. Furthermore, the text also states that unified bodies also differ from conjoined and disjoined ones in terms of the metaphysical grounds for the predicability of quality-predicates. One of the main metaphysical consequences of having a single tenor governing the body is that the body in question is qualified in virtue of having a quality as a (meta)physical constituent. While this is an important difference concerning metaphysical constitution, it is not very helpful in assessing the relationship between unity and qualification. Qualities are *pneumata*, more precisely, *pneuma* disposed in a certain way (*pōs ekhon*), so it comes as no surprise that having *pneuma* is a prerequisite of qualification. What is interesting (and possibly helpful), for our inquiry about the relationship between qualification and unity and the existence of the so-called “unifying qualities” is not so much the fact that unities are qualified in virtue of having *pneumata pōs ekhonta*, but rather that non-unified bodies can be qualified in virtue of a different metaphysical structure. A closer analysis of the possible difference between these two types of qualification might possibly bring us closer to an understanding of the relationship of unity and qualification.

The first thing to be cleared up about the qualification of non-unified bodies, is that it is not qualification in the strictest sense. This is the main message of **T5**, although it is not evident if we read it outside the context of the whole work. Just a couple of pages before this passage, Simplicius explains that the Stoics distinguished between three meanings of qualified:

T19 Simplicius, *On Aristotle’s Categories* 212,12-213,1 (SVF II.390, part = LS 28N)

Τῶν δὲ Στωικῶν τινες τριχῶς τὸ ποιὸν ἀφορίζόμενοι τὰ μὲν δύο σημαίνόμενα ἐπὶ πλεόν
τῆς ποιότητος λέγουσιν, τὸ δὲ ἓν ἥτοι τοῦ ἐνὸς μέρος συναπαρτίζειν αὐτῇ φασιν. λέγουσιν
γὰρ ποιὸν καθ’ ἓν μὲν σημαίνόμενον πᾶν τὸ κατὰ διαφοράν, εἴτε κινούμενον εἴη εἴτε
ἰσχύμενον καὶ εἴτε δυσαναλύτως εἴτε εὐαναλύτως ἔχει· κατὰ τοῦτο δὲ οὐ μόνον ὁ φρόνιμος
καὶ ὁ πῦξ προτείνων, ἀλλὰ καὶ ὁ τρέχων ποιοί. καθ’ ἕτερον δὲ καθ’ ὃ οὐκέτι τὰς κινήσεις

περιελάμβανον, ἀλλὰ μόνον τὰς σχέσεις, ὃ δὴ καὶ ὠρίζοντο τὸ ἰσχύμενον κατὰ διαφορὰν, οἷός ἐστιν ὁ φρόνιμος καὶ ὁ προβεβλημένος. τρίτον δὲ εἰσῆγον εἰδικώτατον ποιὸν καθ' ὅτι οὐκέτι τοὺς μὴ ἐμμόνως ἰσχυμένους περιελάμβανον οὐδὲ ἦσαν ποιοὶ κατ' αὐτοὺς ὁ πῦξ προτείνων καὶ ὁ προβεβλημένος· καὶ τούτων δὲ τῶν ἐμμόνως ἰσχυμένων κατὰ διαφορὰν οἱ μὲν ἀπηρτισμένως κατὰ τὴν ἐκφορὰν αὐτῶν καὶ τὴν ἐπίνοιάν εἰσι τοιοῦτοι, οἱ δὲ οὐκ ἀπηρτισμένως, καὶ τούτους μὲν παρηγοῦντο, τοὺς δὲ ἀπαρτίζοντας καὶ ἐμμόνους ὄντας κατὰ διαφορὰν ποιούς ἐτίθεντο. ἀπαρτίζειν δὲ κατὰ τὴν ἐκφορὰν ἔλεγον τοὺς τῇ ποιότητι συνεξισουμένους, ὡς τὸν γραμματικὸν καὶ τὸν φρόνιμον· οὔτε γὰρ πλεονάζει οὔτε ἐλλείπει τούτων ἑκάτερος παρὰ τὴν ποιότητα· ὁμοίως δὲ καὶ ὁ φίλος καὶ ὁ φίλινος. οἱ μέντοι μετὰ τῆς ἐνεργείας τοιοῦτοι, ὥσπερ ὁ ὀψοφάγος καὶ ὁ οἰνόφλυξ, ἔχοντες μέρη τοιαῦτα δι' ὧν ἀπολαύουσιν οὕτως λέγονται. διὸ καὶ εἰ μὲν τις ὀψοφάγος, καὶ φίλος πάντως· εἰ δὲ φίλος, οὐ πάντως ὀψοφάγος· ἐπιλείποντων γὰρ τῶν μερῶν δι' ὧν ὀψοφαγεῖ τῆς μὲν ὀψοφαγίας ἀπολέλγεται, τὴν δὲ φίλον ἐξὶν οὐκ ἀνήρηκεν. τριχῶς οὖν τοῦ ποιοῦ λεγομένου ἢ ποιότης κατὰ τὸ τελευταῖον ποιὸν συναπαρτίζει πρὸς τὸ ποιόν. διὸ καὶ ὅταν ὀρίζονται τὴν ποιότητα σχέσιν ποιοῦ, οὕτως ἀκουστέον τοῦ ὅρου ὡς τοῦ τρίτου ποιοῦ παραλαμβανομένου· μοναχῶς μὲν γὰρ ἡ ποιότης λέγεται κατ' αὐτοὺς τοὺς Στωικούς, τριχῶς δὲ ὁ ποιός.

Some Stoics give a threefold definition of 'qualified', and say that two of the meanings are broader than quality, but that one, or part of one, matches it. For they say that on one meaning everything differentiated is qualified, whether its condition be a process or a state, and difficult or easy to destroy. In this sense not only the prudent individual, and the individual sticking his fist out, but also the individual running, are qualified individuals. There is a second sense, in which they no longer include processes, but only states, and which they also defined as 'in a differentiated state': for example, the prudent individual and the individual with his guard up. The third and most specific sense of qualified which they introduced is one in which they no longer include those in non-enduring states, and in

which the individual sticking his fist out and the individual with his guard up did not count as qualified individuals.

Even of these, the ones ‘in an enduring state’, some are of this kind in a way which matches the expression and notion of them, others in a way which does not match; and the latter they excluded, but the former, those ‘matching and in an enduring differentiated state’, they set down as qualified individuals.

By ‘matching the expression’, they meant those commensurate with the corresponding quality, like the grammarian and the prudent individual; for each of these is neither broader nor narrower than the corresponding quality. Similarly the gourmet and the wine-lover; whereas those who combine these properties with the corresponding activities, such as the glutton and the tippler, are so called if they have their bodily parts in a suitable condition for indulging themselves. So if someone is a glutton, he is necessarily a gourmet too. But if he is a gourmet, he is not necessarily a glutton too; for when the bodily parts through which he practices gluttony become defective, he is free of his gluttony, but has not lost the tenor of a gourmet. Thus ‘qualified’ has three senses, and it is in the last sense of qualified that the quality matches the qualified. Consequently, when they define quality as ‘the state of the qualified thing’, we must understand the definition as if the third sense of qualified were being adopted. For ‘quality’ has a single sense, according to the Stoics themselves, while ‘qualified’ has three. (David Sedley’s translation)

T20 Simplicius, *On Aristotle’s Categories* 222, 30-3 (= SVF II.378 = LS 28H)

Οἱ δὲ Στωικοὶ τὸ κοινὸν τῆς ποιότητος τὸ ἐπὶ τῶν σωμάτων λέγουσιν διαφορὰν εἶναι οὐσίας οὐκ ἀποδιαληπτὴν καθ’ ἑαυτήν, ἀλλ’ εἰς ἐννόημα καὶ ιδιότητα ἀπολήγουσαν, οὔτε χρόνον οὔτε ἰσχύι εἰδοποιουμένην, ἀλλὰ τῇ ἐξ αὐτῆς τοιουτότητι, καθ’ ἣν ποιοῦ ὑφίσταται γένεσις.

The Stoics say that what is common to the quality which pertains to bodies is to be that which differentiates substance, not separable per se, but delimited by a concept and a peculiarity, and not specified by its duration or strength but by the intrinsic ‘suchness’ in accordance with which the qualified thing is generated. (David Sedley’s translation)

T19, discussing the three meanings of the qualified (*poion*), features prominently in Stephen Menn’s aforementioned historical reconstruction of the doctrine of the four categories. He believes that Simplicius’ discussion here reflects the diachronic process of the separation of the third category (*pōs ekhon*) from the second category (*poion*).²³³ What is described here as qualified in the strictest sense is what became the category of *poion* and what is referred to as qualified in a looser sense covers both the category of the *poion* and the category of the *pōs ekhon*.²³⁴

So, non-unified bodies, which, according to this passage, would be qualified in a loose sense, are actually “qualified” inasmuch as they are *pōs ekhonta*. While they are not a unified body that has taken up a certain state or structure, the qualities that are predicated of them are true in virtue of a certain structure in which their parts have been arranged or in virtue of a shared state between parts. For example, a ship is fast, or a hammer works well because it has certain components arranged in a certain structure; a chorus is harmonious and an army fights well because it has certain members and the members are in a certain state or are in a certain relational structure. Thus, these entities are “qualified” in the loose sense of the word.

This analysis allows for several conclusions. First of all, it clarifies that being arranged in a structure conducive to the achievement of a purpose is not sufficient for unity in its truest sense. Furthermore, the distinction between the different meanings of qualified suggests that not all properties commonly considered as qualities might be considered so by early Stoics,

²³³ Menn, “The Stoic Theory,” 232-4.

²³⁴ Menn, “The Stoic Theory,” 223.

which means that some “qualities” may not be *pneumata*. However, Simplicius’ description of what is qualified in the strictest sense does not make it very clear how predicates predicable in virtue of a pneumatic constituent are different from “qualities” that are predicable by virtue of the relationships between parts of an artefact or a collection. In **T19** he suggests that one important difference is whether the predicate in question refers to an enduring state, whereas in **T20**, he says that duration or strength does not matter, but instead qualities should correspond to some “intrinsic suchness” of the “peculiarity” and the “concept” “in accordance with which the qualified thing is generated.”

While the “intrinsic suchness” is not very helpful in determining what a quality is, “in accordance with which the qualified thing is generated” strongly suggests that qualities are indeed species properties. Clearly, something is generated in accordance with a property that best expresses what it is or what it should ideally be, which, according to most thinkers, is the property of belonging to a certain species.

However, if we look at examples of qualities given by these texts, they are not classic species qualities such as “horseness”, “humanity”, “sunfloweriness.” Instead, the examples are such non-species-qualities that could characterise a host of different kinds of entities and are not necessarily exclusive to a species. In **T19** the examples of qualities are virtues, such as prudence (which are indeed specific to humans). Other examples are behavioural dispositions such as gourmand and wine-lover, which might be applied to animals with some exaggeration. In another passage,²³⁵ in which Simplicius talks about tenors (*hexeis*), which he describes as having a “peculiarity and mark”,²³⁶ the generic quality of wine and almonds (these may or may not be unified bodies according to early Stoics) is identified as sweetness. The text also implies that dogs have some quality (unspecified here) which the Maltese and Molossian kinds lack.²³⁷

²³⁵ Simplicius *On Aristotle’s Categories* 237,25-238, 20 (SVF II.393, part = LS 47S part)

²³⁶ David Sedley’s translation (LS I).

²³⁷ Simplicius, *On Aristotle’s Categories*, 237,25-238,20 (=SVF II.293 part = LS 47S, part).

This kind of description of the qualities that are inherent in unifying tenors is not only found in the evidence provided by Simplicius. Plutarch gives similar examples when paraphrasing how Chrysippus himself discusses the role tenors play in qualification and unification in his book *On tenors*.

T21 Plutarch, *On Stoic Self-contradictions* 1053F-1054B (LS 47M)

ἐν τοῖς περὶ Ἑξεων οὐδὲν ἄλλο τὰς ἕξεις πλήν ἀέρας εἶναί φησιν· ὑπὸ τούτων γὰρ συνέχεται τὰ σώματα· καὶ τοῦ ποιὸν ἕκαστον εἶναι τῶν ἕξει συνεχομένων αἷτιος ὁ συνέχων ἀήρ ἐστίν, ὃν σκληρότητα μὲν ἐν σιδήρῳ πυκνότητα δ' ἐν λίθῳ λευκότητα δ' ἐν ἀργύρῳ καλοῦσι,

In his book *On tenors*, he [Chrysippus] again says that tenors are nothing but currents of air: “It is by these that bodies are sustained. The sustaining air is responsible for the quality of each of the bodies which are sustained by tenor; in iron this quality²³⁸ is called hardness, in stone density, and in silver whiteness.” (David Sedley’s translation)

Here too the examples of qualities described as “the quality of each” are such that could characterize other kinds of bodies as well, hardness, density and whiteness are all qualities that could be shared by other metals, minerals, but also by plants, animals and humans. None of the qualities mentioned here are classic examples of species qualities. These observations allow for the following conclusions concerning qualification: (1) natural bodies have a single, unifying *pneuma*; (2) this *pneuma* imparts some quality to the whole unified body; (3) this imparted quality is a characteristic central to what the unified body is; (4) this quality is not

²³⁸ As István Bodnár pointed it out to me, strictly speaking what is called “hardness,” “density,” and “whiteness” in the text is the portion of air, which in turn is a quality of these entities.

necessarily a species-specific quality, although it is described as characterising one kind or species.

These results are rather confusing. They suggest that there is a certain relationship between being unified and being qualified and that qualification might also be characteristic of the entire species. However, these characterising qualities are not species-specific in the sense that while they might be essential qualities of the members of a certain species, they are not exclusive to a single species (e.g. sweetness is a shared quality of wine and almonds). Moreover, the nature of the characterizing quality itself seems to be a lot less important than the fact that the quality in question is the modification of a unifying *pneuma*. Which again, confirms what has been stated before: unity is above all a physical issue for Stoic thinkers.

Before proceeding, I have to remark on an important discovery that the discussion of the qualification and unity of non-unified bodies allowed for: not all qualification is due to having some *pneuma*. This realization can help us making sense of the seeming unity and qualification of corpses. I suggest that we take corpses to be artefacts. They are unified to the extent that their parts are physically connected to each other and qualified insofar as the arrangement of their parts allows for the predication of an apparent quality. Due to natural processes affecting the material of the parts, corpses decay over time: the drying out of the corpse (i.e. the loss of parts of water from the body) results in the weakening of the physical ties between the portions of matter forming the corpse, leading to its eventual dissolution.

2.4. The *Hēgemonikon* as a Principle of Unity

So far, I have made the following observations concerning the relationship of unity, qualification and individuation. The problem of unity is primarily a physical problem for the Stoics: a principle of unity is a force that guarantees that an object made of several parts does not fall apart. That force is inherent in *pneuma*; thus it is the *pneuma* of an entity that is its

principle of unity. However, the metaphysical aspect of this account of unity is far from clear. The *pneuma* of bodies is a qualitatively heterogeneous entity, and while it is a principle of unity, it is hard to see how it itself is unified and one. The evidence on the qualification of unified objects suggests that unification by *pneuma* entails qualitative unification, but the examples and explanations do not really clarify how a portion of *pneuma* is one and what unification looks like on the level of qualification.

In order to deal with these issues, I suggest giving up on investigating the issue from a metaphysical point of view and instead try and understand the unifying nature of *pneuma* as a phenomenon of natural philosophy. In doing so, we can understand the account of unity, the relationship between *pneumata*, as well as the strong relationship between unity and peculiar qualification. We should pose the question of unity by asking about the unity, life and coordinated functioning of natural bodies, and thus we will find that all these matters are determined by the *hēgemonikon* or *hēgemonikon*-like directive centres of natural bodies.²³⁹

The *hēgemonikon* is a biological directive centre that regulates life-processes and also plays a role in defining the metaphysical characteristics of the body. It is a centre that is found in all living natural bodies: it is the centre from which *pneuma* flows to the other parts of the body,²⁴⁰ it is where consciousness is located in conscious entities, it is the directive centre that regulates all life processes as well as the directive centre that orchestrates the course of evolution throughout embryonic development.²⁴¹ It is the part of the animal, of the embryo, and of the seed, which has made the animal what it is. This is clearly illustrated by the fact that

²³⁹ Of course, this account does not work for lifeless natural bodies, since they do not have a *hēgemonikon*. However, it is safe to assume that since their *pneuma* is homogeneous and uniform, it is not in need of a unifying directive centre.

²⁴⁰ Cf. Teun Tieleman, "Zeno and Psychological Monism: Some Observations on the Textual Evidence," in *The Philosophy of Zeno*, eds. Theodore Scaltsas and Andrew S. Mason, *The Municipality of Larnaca*. n/a. 190.

²⁴¹ Cf. Galen's *On the Formation of the Foetus* 4.698,2-9 (= SVF II.761, part = LS 53D).

the Stoics stated that the first body part that is formed is the heart (i.e. the organ where the *hēgemonikon* is located) because it is this organ that helps forming the other body parts.²⁴²

As the general directive centre, from which the *pneuma* flows, the *hēgemonikon* accounts for the body's unity and qualification at the same time. Since *pneuma* flows from the *hēgemonikon*, this centre is also involved in peculiar qualification, which explains the relationship between unity and peculiar qualification. Moreover, the *hēgemonikon* provides a simple metaphysical principle of unity: being a unity consists in having a *hēgemonikon* and being characterized by the tension and the ensuing qualities flowing from it.²⁴³ As to how the *hēgemonikon* is involved in peculiar qualification, and how it relates to the tensions and structures present in *pneuma*, these issues are discussed in detail in the next chapter.

Finally, identifying the principle of unity with the entity's *hēgemonikon* also solves the issues concerning the relation between *pneumata* as well as the problems concerning death. Since it is the *hēgemonikon* that determines the tension of the whole *pneuma* (i.e. the soul in the generic sense), if the *hēgemonikon* leaves the body, the tension is disrupted, and the body falls apart. All *pneumata* leave the body, but only the tensest *hēgemonikon* survives this departure. Irrational soul, *phusis* and *hexis* simply dissolve because they are not tense enough. This interpretation is compatible with both the addition and the subsumption view, and it reveals that the conflict between the two views is part of a larger problem regarding the unity of the qualitatively and structurally multifarious *pneuma*. *Hexis*, nature and the soul are all one insofar as they are unified physically and qualitatively by the *hēgemonikon*, and they all are distinct insofar as they have their own characteristic motions, structures and qualities. In this respect they are not different from any other modification of the *pneuma*. As to the question

²⁴² Ibid. Cf. Nathan Powers, "The Stoic Argument for the Rationality of the Cosmos," *Oxford Studies in Ancient Philosophy* 43, (2012): 258.

²⁴³ For a similar view see Salles, "Why is the Cosmos Intelligent,"⁵⁴. Salles also claims that in addition to being a principle of cohesion, the *hēgemonikon* is also a cause of differentiation, responsible for the distinct tensions and ensuing qualities within a body (ibid. 56-60), thus resolving the problem of the unity and diversity of *pneumata*.

whether they can be considered as distinct bodies that depends on the level of analysis and the concept of corporealism that one chooses.

2.5 Conclusion

In this chapter I examined the account of unity of natural bodies, and the relationship between unity, qualification and identity. Since the unity of natural bodies is attributed to cohesion by *pneuma*, I looked at the characteristics and constitution of *pneuma* to identify what it is about *pneuma* that accounts for the unity of natural bodies, and concluded that the *pneuma* is one in virtue of having a *hēgemonikon* that imparts a physical, biological and qualitative unity to the body, by maintaining its tension and directing it as one living being. This unity is above all physical and biological. While the *hēgemonikon* imparts a qualitative unity, this qualification does not have a special metaphysical status.

With regards to the unity and distinctness of soul and body, as well as pneumatic parts, I have concluded that the *pneuma* is a qualitatively and structurally multifarious entity that can be analysed into many parts, but is nevertheless unified insofar as it has one *hēgemonikon*. *Pneumata* such as *hexis*, nature and soul can be isolated and distinguished from one another, however they can also be considered as one.

III. Identity through Time and the Stoic Theory of Ontogenesis

In this chapter, I look at the Stoic account of persistence through time, from the perspective of the uniquely Stoic view of the pneumatic development of living beings. As I have discussed in section 2.2, early Stoic thinkers divided natural bodies into four kinds depending on the kind of *pneuma* those bodies had. They also believed that different developmental phases corresponded to different kinds, in function of the development of the *pneuma* characterizing them. In this chapter I offer an account of persistence through time for natural bodies by looking at this uniquely Stoic doctrine. I argue that natural bodies persist as the same entity from conception to death (and beyond death in the case of humans), and that this persistence is guaranteed by the *logos* present in the *pneuma*. I argue that the *logos* is a truly multifaceted entity: it is an intelligent, planning and desiderative divine being, a self-moving motion that is the source of the body's motions, which can be also understood as a ratio, determining the qualification of the body and accounting for its metaphysical unity.

3.1. Problems of Genetics and Ontogenesis

It is clear from the accounts describing changes in pneumatic constitution throughout ontogenesis, (T15-17) that change in the kind of *pneuma* was a phenomenon that took place on all levels.²⁴⁴ What has to be investigated for our purposes is whether Stoic thinkers thought that such changes were substantial, and as such resulted in the destruction of individuals and the creation of new ones. As far as I know, there is no available textual evidence that explicitly tackles this issue. None of the texts make explicit statements as to whether individuals persist through such pneumatic changes or whether they are destroyed by them. Nonetheless, the sources discussing Stoic embryology and ontogenesis give several important clues for the

²⁴⁴ At all levels, with the exception of the lowest level, where the change only occurred upwards and the topmost level, where the change only occurred downwards.

interpretation of the relationship between diachronic identity and changes from one kind of *pneuma* to another.

A first thing to consider is the way our sources describe the Stoic account of the development of animals and humans. The accounts describe changes from one life-form to another one as changes that are predicated of the individual as a persisting underlying subject. This might be just a matter of careless wording, however, combined with the fact that none of our sources make explicit mention of the destruction of individuals in such kinds of changes, this might suggest that the Stoic consensus was that individuals survived changing from one life-form to another.

A second point of interest is the transformation of soul into rational *pneuma*. If the Stoics maintained that a change in the kind of *pneuma* is a substantial one, then in this case they would have had to claim that growing up results in the destruction of an individual (the child) and in the generation of a new individual (the adult). On this account, Socrates the baby would be a different individual from Socrates the young adult, upon the generation of whom he would die and leave his body, for it to be occupied by this latter's rational soul.

One would think that such a striking and counterintuitive view would be mentioned and subsequently ridiculed by the usually hostile Galen, Plutarch, Plotinus or Alexander of Aphrodisias. Or it would have been pointed out by them as the absurd consequence of Stoic (meta)physics. However, there is not one word on the matter. The complete lack of evidence on such a counterintuitive metaphysical claim strongly suggests that the Stoics never entertained such a view, which gives us a good reason to think that they did not associate identity with having a certain kind of *pneuma*.

Nevertheless, arguments from silence seldom constitute decisive proof in interpretations of ancient philosophy. This is even truer in the case of Stoic studies: we have to rely mostly on interpretations and reformulations, which may or may not have missed the point of the Stoic

doctrine. The lack of mention of the metaphysical consequence of coming of age might be but an oversight on the part of rival authors. It may very well be the case that the Stoics professed such an outrageous idea, the fact that our sources are completely silent on this issue is suspicious, but it does not prove in and of itself that Stoic thinkers accepted that individuals persist through the acquisition of rationality.

Given the lack of decisive textual evidence on the matter, the issue should be approached in a more indirect way, by examining whether natural bodies have any constituents that can be thought of as persisting through what is reasonably considered the lifetime of an individual, including pneumatic changes, and then investigate the possible role that persisting thing can play in accounting for the individual animal's diachronic identity. If there are metaphysical features that persist through pneumatic changes, and these features are also such that they can account for the diachronic identity of individuals, then we can kill two birds with one stone: we can both establish that the kind of *pneuma* a natural body has is not relevant for its identity and pinpoint a criterion of persistence through time.

Given that on the Stoic account, identity through time is a function of qualification, we should focus our investigation on qualities, and try to find out whether there are any of them that persist through *pneumatic* changes. The evidence on Stoic genetics suggests that there are such qualities: the specific and individual bodily and psychological characteristics shared by parents and offsprings. While Stoic thinkers – similarly to a number of contemporaries – believed that the characteristics of an individual can be influenced by both nurture (environmental factors present from conception to death) and nature (the combination of properties passed on by parents in the seed),²⁴⁵ they agreed on the idea that children inherit their species and some of their individual characteristics from their parents, and that these traits are passed on to them in the seeds of the parents.²⁴⁶ This is clear from the fact that they define

²⁴⁵ Aetius V, 12, 3 (= SVF II.753).

²⁴⁶ See footnote 203 on the role of female seed in ontogenesis.

the seed as something that is capable of reproducing something similar to what it has been issued from,²⁴⁷ from their idea that the children take after the parent whose seed predominates,²⁴⁸ and from the fact that they think of the seed as a fragment (*apospasma*) of the parent's soul (or a fragment of *pneuma* according to other sources),²⁴⁹ carried in water/wet substance, which contains the same ratio (*logos*) of the soul's parts as the parent's soul,²⁵⁰ or the ratio of parts characteristic of the genus and species of the parent,²⁵¹ or again, just the same *logos* as the parents.²⁵²

On this account both the species of the animal and its resemblance to the parents or to other members of the family are already determined in the seed. The soul that is contained in the seed is similar to the souls of the parents, and the ensuing mixture of the detached parts of the soul of the parents will as a result have the same *logos* that is characteristic of the species and of the parental soul. Since these characteristics will also be found in the individual when it lives as an animal or as a human, it is a reasonable supposition that they will persist in the seed, the embryo and through childhood (at least in the case of humans).

While this theory offers a plausible account of species and family resemblance, in order for it to be coherent, it also has to explain how these qualities can persist through pneumatic changes. To begin with, the statement that the seed is a fragment of the soul needs clarification.

First, it needs to be clarified whether the seed is a soul itself, insofar as it is a fragment of the parents' soul. If that were the case then the animal sperm would be ensouled but would

²⁴⁷ DL VII.158, Pseudo-Galen, *Medical Definitions*, XIX, 370, 14-371,3.

²⁴⁸ Aetius V 11, 3-4 = SVF II.749, Origen, *Commentary on the Gospel of John* XX, 5, 35, 1-37,1. = SVF II. 747. Origen even offers an explanation of cases when the child takes after more distant relatives, by pointing out that the father will have all of his progenitors' rational principles (*logoi*) and that he will transmit these rational principles to the offspring.

²⁴⁹ cf. The passages included under SVF I.128: Eusebius, *Evangelical Preparation*, quoted above, Theodoret of Cyrus, *Cure of the Greek Maladies* V 25., Plutarch, *On the Control of Anger*, ch.15, 462f, Aetius, V 4,1, Pseudo-Galen, *Medical Definitions*, XIX.370.14-371.3, DL VII.158.

²⁵⁰ DL VII.158 = SVF II.741.

²⁵¹ Pseudo-Galen, *Medical Definitions* XIX, 370, 14-371,3 = SVF II.742.

²⁵² Origen, *Commentary on the Gospel of John* XX, 5, 35, 1-37,1 = SVF II. 747 and XX, 2, 3, 2-7. = SVF II.746.

become unensouled upon conception and would keep on vegetating as an embryo, until it was again ensouled at birth, coincidentally with a soul that had the same species and individual characteristics as the souls of the parents had.

This theory is not only awkward, but it is also at odds with the descriptions of the transformation of seed into embryo, and the whole idea that natural bodies develop in function of their *pneuma* gradually evolving in complexity. Our sources²⁵³ describe the transformation of seed into embryo as a change in the motivity and the activities of the *pneuma*. The seed that has been relatively immobile previously, starts getting into motion upon falling into the womb, and thanks to this increased motivity becomes an embryo that is governed by nature. Now, if the *pneuma* of the seed becomes a nature because it becomes more motive and active, then the *pneuma* of the seed state must be less motive than a nature, which means that it cannot be a soul, given that one of the characteristics of the soul kind of *pneumata* is that they are more motive than natural *pneumata*. Furthermore, if the seed was (or had) a soul, it must have had impression and impulse, which, again, would have disappeared upon conception, only for it to reappear at birth. But this again is in contradiction with the evidence, which does not describe the seed as a perceptive, desiderative entity. The *pneuma* of the seed cannot be a soul.

One way to approach this problem is to point out the distinctness between the seed and the soul that is implied by the fact that the seed is just a fragment of the generative part of the soul, one among the soul's eight parts.²⁵⁴ As I have shown in section 1.2.3.2.1.2, if an entity is a part of another, then they are neither quite identical nor quite distinct from each other. As a part of the soul, the seed is not identical with the soul, although it is not different from it either. The seed has a relationship to the whole of the soul that is analogous to the one that individual natural bodies bear to the *kosmos*. They are partial wholes that mirror the ontological structure

²⁵³ Cf. T15-17.

²⁵⁴ Aetius 4.21.1-4 (= *SVF II*.836, part = LS 53H), DL VII.110 and 157 = *SVF II*. 828), also cf. Nemesius, *On the Nature of Man*, 212,6-9 (Panaetius fr. 86) (= LS 53 I = IG 85).

of the whole, but they are qualified differently from the soul. Moreover, the seed and the soul are not spatially coextensive, as the seed is only a fragment of one of the soul's parts, and as such, it does not have all eight parts of the soul – at least not in their fully-fledged form, as I will discuss later on. Finally, and most importantly, the seed is not a soul because it does not contain parts that are responsible for functions specific to the soul such as sense-perception and impulse.

The soul is not the only thing that would disappear in the seminal and embryonic stage after being present in the parent only to show up again in the developed animal. A number of very important qualities that are most certainly inherited from parents are also not observable or predicable of the seed or the embryo. This is an especially serious problem in the case of species and kind-specific properties – including psychological traits which presuppose that the entity has a soul. To give an example, if the qualities transmitted were fully present in the seed and the embryo, then, the seed of a lazy horse would itself be a lazy horse. But this is clearly not the case, the seed and the embryo do not have a soul, so laziness can hardly be predicated of them, and neither can be horseness because neither the semen nor the embryo is a horse, given that one of them is inanimate and the other one is a plant.²⁵⁵

In order to maintain that some properties are determined by an entity's genetic makeup and as such are passed down from parents to children through the seed, the early Stoic theory has to account for the presence of these non-predicable properties. Our texts suggest that according to the early Stoic theory, future qualities – and almost all qualities – are determined by a natural body's *logos*. In the texts on genetics discussed above, it is the *logos* of soul parts

²⁵⁵ The difficulty with respect to the transmission of psychic qualities is also noted in Jean-Baptiste Gourinat, "L'embryon végétatif et la formation de l'âme selon les stoïciens," in *L'embryon: formation et animation. Antiquité grecque et latine, tradition hébraïque, chrétienne et islamique*, ed. Luc Brisson, Marie-Hélène Congourdeau and Jean-Luc Solère (Paris: Librairie Philosophique J. Vrin, 2008), 73-77. Gourinat suggests that this difficulty was already pointed out by Plutarch in his *On Stoic Self-contradictions*, ch. 41, 1053c7-e1. The question is especially hard to answer because the Aristotelian notions of potentiality and actuality cannot be used to solve the puzzle. Cf. Alan Code's interpretation of a similar question in the framework of Aristotelian genetics. "Soul as Efficient Cause in Aristotle's Embryology." *Philosophical Topics* 15 (1987): 51-9.

that is identified as accounting for the qualitatively identical properties of members of the same family and species. The *logos* in the sperm is also the active, motivating entity that forms and shapes the embryo and dictates the order of the evolution of the animal.

In early Stoic natural philosophy *logos* is a term to describe the active principle, also identified as god, Zeus and fire. The active principle organizes and regulates everything, and determines the diachronic development of the universe from conflagration to conflagration, much like an inherent plan thought out and set up by an intelligent entity.²⁵⁶ It regulates individual bodies in a similar way, defining both their structure and qualities at a given moment in time as well as the course of their natural development, and thus their structure and qualities at future moments of their life. In individual bodies these portions of *logos* are called spermatik *logoi*. This is what Hierocles means by "certain arrangements that cannot be transgressed" and by "preestablished order".²⁵⁷

So *logos*, as the active principle, is both the motive force behind ontogenesis and the "preestablished order" that defines the goal and the course of natural evolution. While its role as a motive force is relatively easily explained in the framework of the Stoic theory – *logos* is the ultimate cause, an active, fiery force and the sperm itself is *pneuma*, a pulsating, moving material – its role in transmitting qualities that are yet to be developed is less apparent. "Encoding", "plan" or even "software" or "algorithm" are popular terms used to explain the mechanism of inheritance and natural development in both modern and ancient contexts. This agentive account of natural development fits perfectly in the context of Stoic physics. The active principle is after all an intelligent being, often personalized and identified with Zeus himself. So, the spermatik *logos* is tied to the omnipresence of the all-pervading rational principle, god. God and matter are mixed in a through and through blend, god is a rational

²⁵⁶ Cf. Plutarch, *On Stoic Self-contradictions*, 1050B, 1056C (IG 93), Aulus Gellius 7.2.1–15 (IG 7.2.1-15), DL VII.88

²⁵⁷ Dufour also identifies *tis aparabatos taxis* with the spermatik *logos*. Df. 186, note 117.

agent that is shaping and forming matter in accordance with his rational divine plan, his *logos*.²⁵⁸ On this account, the *logos* is a plan that is realized through the actions of god. This explains how the *logos* can transmit qualities that are not "fully present": as a craftsman acting in the matter, god brings about the qualities that have theretofore only existed as his thoughts.²⁵⁹

Nevertheless, the agential, theological aspect of the Stoic account of qualification and natural development does not exclude that there is also a physical, non-theistic aspect at work. While qualification, action and in general processes of change and causation are often accounted for by divine actions in our texts, a great number of sources also offer mechanistic accounts²⁶⁰ of these processes. Since causation and corporeality are strongly linked in the Stoic theory, entities, facts and events are always described in terms of bodies impacting each other. To give some examples: qualities are defined as a result of motion in *pneuma* or *pneuma* disposed in a certain way,²⁶¹ and perception is defined as a physical impact on *pneuma*.²⁶²

The texts reporting on ontogenesis and genetics also contain evidence of a mechanistic account of the inheritance of properties and their presence in the seed and the foetus. The term

²⁵⁸ Cf. John Cooper's interpretation of the divine *logos* "Chrysippus on Physical Elements," and Jean-Baptiste Gourinat, "The Stoics on Matter and Prime Matter: Corporealism and the Imprint of Plato's Timaeus," in *God and Cosmos in Stoicism*, ed. Ricardo Salles, (Oxford: OUP, 2009), 102-3 and 50 respectively.

²⁵⁹ cf. Cooper "Chrysippus on Physical Elements," 102-3. With positing an immanent, rational and personalized entity that is both the motive force behind generation and the plan (or end) of the generative process, the Stoics manage to avoid some difficulties that Aristotle's account of genetics and natural generation faces.

²⁶⁰ I use the term mechanistic in contrast to agential explanations. Both kinds of explanations are physical explanations, as they are both part of the Stoic physical theory. Moreover, all kinds of physical explanations are corporealist explanations, given that in the Stoic framework only bodies can participate in causal relations.

²⁶¹ This definition can be found in Plutarch, *On Stoic Self-contradictions*, 1053F-1054B, Galen, *On incorporeal qualities* 2 Vol xix p. 467 K (=SVF II.384). An isomorphic definition in which qualities are dispositions of matter can be found in Plotinus, *Enneads* VI.1.29. (=SVF II.376), Alexander of Aphrodisias, *On Aristotle's Topics* IV p.181 Ald. P. 360,9 Wal (=SVF II.379), Plutarch *On Common Conceptions* 1085E (=SVF II.380). This definition is true to the extent that the matter of objects (as opposed to matter as a principle) is also qualified, insofar as it is made of earth and water. However, although the matter of objects has these qualities (earthiness and wateriness, which imply passivity (cf. Nemesius, *On the Nature of Man*, 164,15-8 (=SVF II.418 =LS 47D)), the qualities definitive of objects (i.e. those that make them what they are, unify them, make for their persistence and set them apart from other objects) are dispositions of the *pneuma*. This is why, broadly speaking, the qualities are dispositions of the *pneuma*. Cf. Plutarch, *On Stoic Self-contradictions* 1037B (= SVF II.128), Simplicius, *On Aristotle's Categories*, 217,32-218,1 (= SVF II.389 = LS 28L), Plutarch, *On Stoic Self-contradictions*, 1053F (=SVF II.449).

²⁶² Aetius IV 20,2. (=SVF II.387)

logos carries a multitude of meanings, rendered by different terms in translation. Besides the meanings *account*, *reason* and *formula*, it is also used with the meaning of *ratio*.²⁶³

When *logos* is used in the context of embryonic development and in accounts of inheritance of properties, it is used with multiple meanings. It is divine rationality, the formula present in the thoughts of this divine rational entity, and *as such* it refers also to the ratio of parts in the *pneuma*. The resemblance between Socrates and his son or the shared human-specific characteristics of Dion and Theon are due to the fact that their *pneuma* parts have a similar ratio to each other. As such, the *logos* defines both the specific and the individual constitution of the animal, ensuring that it is of the same species as the parents and shares some of their individual characteristics.

Still, while *logos* used with the meaning of formula and reasoning inherent in the divine mind can explain the presence of properties that are not predicable of the entity in its current state, it is not quite clear how understanding *logos* as a ratio can help making sense of the transmission of such qualities. In order to elucidate this aspect of Stoic physics, I shall follow with a general analysis of the mechanistic corporealist account of qualification. I will argue that on the Stoic account qualities are determined by a disposition brought about by structures and motions in a pneumatic substrate. On this account, qualities that are transmitted, but not perceptible throughout different stages of ontogenesis, are present as tensions and motions of *pneuma*, and may manifest themselves differently or even not in a perceptible way, depending on the kind of pneumatic substrate they are present in. In this framework *logos* as a ratio is to be understood as a ratio of motions and structures.

²⁶³The idea of interpreting *logos* as *ratio* in determining qualification is also mentioned by Paul Scade, “Music and the Soul in Stoicism,” in *Selfhood and the Soul: Essays on Ancient Thought and Literature in Honour of Christopher Gill*, eds. Richard Seaford, John Wilkins, and Matthew Wright, (Oxford: OUP, 2017), 205-210. Marwan Rashed attributes similar theory of qualification to Posidonius in “Posidonius on Matter, Body and Surface,” in *Archiv für Begriffsgeschichte, Sonderheft 13*, eds. Thomas Buchheim, David Meißner, Nora Wachsmann (Hamburg: Felix Meiner Verlag, 2016), 330-4.

3.1.1 Tonos, kinēsis, pōs ekhon and logos

In this section, I give a brief overview of the mechanistic corporealist account of qualification. I look at two uniquely Stoic notions that play a central role in this account: disposition and tensional motion. I discuss the relationship between these two notions and qualification, and by doing so clarify how *logos* understood as ratio can account for the presence of individual and species-specific qualities in early developmental stages of complex natural bodies.

The idea that the qualification and the ensuing identity of a natural body is determined by a ratio fits well in the framework of physicalist explanations of metaphysics in Stoic philosophy. We have seen in chapter II that virtues or other properties of natural bodies are often explained in terms of basic physical properties of *pneuma* such as humidity, density, temperature and tension. Establishing such a correspondence between basic and complex or physical and psychic qualities was commonplace in contemporary thought, however, the early Stoic conceptual apparatus allows for the development of more complex and sophisticated ways to account for the qualitative diversity of living bodies in terms of simple mechanical principles of explanation.

In order to explain how *logos* understood as ratio can determine qualification and account for the inheritance of qualities and the development of an individual, I will examine the Stoic concept of quality and qualification from a mechanistic point of view. The first notion that I will examine is that of disposition (*pōs ekhon*), then I will move on to discuss the role of motion, in particular tensional motion, in qualification. With the help of these two notions, the connection between *logos* and qualification and ontogenesis can be accounted for in a strictly mechanical framework.

3.1.1.1 *Pōs ekhon*, structure, *tonos* and *kinēsis*

Qualities (including peculiar qualities) are defined as *pneuma* disposed or *pneuma* mechanically affected in some other way. This means that qualities are not simple bodies, but they are further analysable into a portion of *pneuma* and a disposition. As discussed in chapter I, I follow Stephen Menn's analysis of the *pōs ekhon* and interpret it as a concept that describes bodies in a certain state – having a certain structural arrangement or moving in a certain way.

In the case of the *pneuma*, the structural arrangement is that of tension. Natural bodies, including the cosmos, are held together by *tonos*, a tension in their *pneuma*. *Tonos* is the result of tensional motion, a simultaneous outwards and inwards motion caused by the expansion of hot fire and the contraction of cold air.²⁶⁴ Tensional motion holds the entity together and unifies it²⁶⁵ by means of the tension that it brings about in the *pneuma* by its contemporaneous inward and outward motion. It can be conceived as a force²⁶⁶ that guarantees the cohesion of a body by offering resistance to external impact, thus maintaining the unity of the body and its distinctness from other bodies. Much like surface energy in contemporary physics, tension is an active principle that is invested in maintaining stability, rest,²⁶⁷ unity, and distinctness from other bodies. Nevertheless, the role of tensional motion is not limited to maintaining the physical unity of natural bodies, but it also plays a role in accounting for a body's qualification. As Nemesius points out, tensional motion has a dual role of imparting unity and differentiation to the body:

²⁶⁴ Galen, *On natural faculties* 106, 13-17 (SVF II.406= LS 47E), Alexander of Aphrodisias, *On Mixture*, 224, 14-17, 23-6 (SVF II.442, part = LS 47I) and Nemesius, *On the Nature of Man*, 70,6-71,4 (=LS 47J).

²⁶⁵ Nemesius, *ibid*, Alexander, *ibid*, 223,25-36 (=SVF II.441, part = LS 47L),

²⁶⁶ Cf. Alexander of Aphrodisias pointing out that tensional motion cannot be categorized as any of the types of motions recognised in the Peripatetic tradition. *On Mixture* 224.24-7.

²⁶⁷ Galen, *On muscular movement* I, 7-8 (= SVF II.450) and IV.402,12- 403, 10 (SVF II.450, part = LS 47K) Cf. Sambursky, *Physics of the Stoics*, 31-2.

T 22 Nemesius, *On the Nature of Man*, 70,6-71,4 = LS 47J

εἰ τοίνυν σῶμά ἐστιν ἢ ψυχὴ οἷονδήποτε, εἰ καὶ λεπτομερέστατον, τί πάλιν ἐστὶ τὸ συνέχον ἐκείνην; ἐδείχθη γὰρ πᾶν σῶμα δεῖσθαι τοῦ συνέχοντος καὶ οὕτως εἰς ἄπειρον, ἕως ἂν καταντήσωμεν εἰς ἀσώματον. εἰ δὲ λέγοιεν, καθάπερ οἱ Στωικοί, τονικὴν τινα εἶναι κίνησιν περὶ τὰ σώματα εἰς τὸ εἶσω ἅμα καὶ εἰς τὸ ἔξω κινουμένην, καὶ τὴν μὲν εἰς τὸ ἔξω μεγεθῶν καὶ ποιότητων ἀποτελεστικὴν εἶναι, τὴν δὲ εἰς τὸ εἶσω ἐνώσεως καὶ οὐσίας, ἐρωτητέον αὐτούς, ἐπειδὴ πᾶσα κίνησις ἀπὸ τινός ἐστι δυνάμεως, τίς ἢ δύναμις αὕτη καὶ ἐν τίνι οὐσίωται;

Now if the soul is a body of any kind at all, even if it is of the rarest consistency, what is it that sustains it? For it has been proved that every body needs something to sustain it, which is an endless regress until we reach something incorporeal. If they should say, as the Stoics do, that there exists in bodies a kind of tensile movement which moves simultaneously inwards and outwards, the outward movement producing quantities and qualities and the inward one unity and substance, we must ask them (since every movement issues from some power), what this power is and in what substance it consists. (Translated by Anthony Long)

Tensional motion's above-described role in qualification is confirmed by other sources, besides Nemesius. Plutarch identifies qualities as "aeriform tensions",²⁶⁸ and qualities are often described by our sources as air or *pneuma*, affected mechanically or kinetically. Moreover, in his commentary on Aristotle's *Physics*, Simplicius reports that the Stoics posited that all kinds of changes (*kinēseis*) were reducible to local motion.²⁶⁹ We can interpret this passage as entailing that qualitative changes can also be traced back to local motions, and thus supporting the idea that qualities are ultimately defined by local motion. Thus, we can conclude that

²⁶⁸ Plutarch, *On Stoic Self-contradictions* 1054a-b.

²⁶⁹ Simplicius, *On Aristotle's Physics* p. 1320,19 Diels. (=SVF II.496). This is also confirmed by Stobaeus, who suggests that the most basic *kinēseis* are the straight and the curved. Stobaeus, *Eclogae* I p. 165,15 (=SVF II.492)

according to the mechanistic corporealist theory, the qualification of natural bodies can be understood as reducible to the tension maintained by the tensional motion in their cohesive *pneuma*.

The connection between tensional motion and qualification is more complicated in the case of qualitatively heterogeneous, complex bodies or bodies that undergo changes through time – that is most natural bodies. One thing to consider in the cases of such bodies is whether the tensional motion qualifying the body is itself complex, composed of motions that would correspond to the multitude of qualities that qualify the body or rather the tensional motion of each body is simple and qualitatively unique. In the first case a given motion would be manifest as a given quality, and similar motions would yield similar observable qualities in different individual bodies. In the second case, there would be no one-to-one correspondence between motions and qualities and thus no structural underpinning for the observable similarities between bodies.²⁷⁰

While there is not much direct evidence on how tensional motion and tension account for the qualification of bodies, evidence from general discussions of qualification and considerations of the relation between the physical properties of *pneuma* and the characteristics imparted to natural bodies point in the direction of the first interpretation. The evidence strongly suggests that there is a correlation between physical states of *pneuma* and certain common qualities. The simplicity of this account is appealing, and it is easy to understand how differences in mechanical properties correspond to a difference in qualification, especially in the case of simple bodies and stuffs that are qualitatively homogeneous.

²⁷⁰ To return to parallels with contemporary science, the question is whether we should think of tensional motion as we think of the DNA: as a complex chain that can be analysed into units that are responsible for simple (or even small complexes of) properties, where the units of the DNA responsible for a simple property are the instances of the same unit in different individuals. If Socrates and Diogenes both have hairy ears, the reason why they share this property is because their Y-chromosome both contains the gene responsible for auricular hypertrichosis. (Note: Hairy ears were considered for a long time as a Y-linked trait in humans. Recent research has challenged this view. Currently the issue is under debate. See Lee, A.C., Kamalam, A., Adams S.M., Jobling M.A., “Molecular evidence for absence of Y-linkage of the Hairy Ears trait.” *European Journal of Human Genetics*. 12 (2004): 1077-9.)

3.1.1.2. Logos and qualification

As for the relationship between ratio and qualification, the link between the two concepts is tensional motion. Tensional motion is a result of the natural motions of air and fire: cold air pulls the *pneuma* inward, while hot fire expands it. The level of tension is thus a function of the ratio of air and fire, and their respective inward and outward motions. The predominance of cold air makes for a laxer *pneuma*, while a fierier *pneuma* is tauter. So, tension can always be described as a ratio, and thus ratio can be used as a principle of explanation in a mechanistic account of qualification.²⁷¹

While the most basic analysis of tension in the soul can be formulated in terms of the ratio of air and fire in the *pneuma* – or, if we would like to maintain our focus on motion, in terms of the ratio of contracting and expanding motions – the correspondence between ratio and qualification can also be established on higher levels of explanation. As I have shown above, we have good reasons to posit a correspondence between certain generic qualities and certain pneumatic tensions. This correspondence is clearly attested in accounts of the differences between different kinds of *pneuma* by our texts.²⁷² Insofar as portions of *pneuma* are qualified the way they are because they are held together by a certain tension, and that tension is a function of the ratio of the simultaneous expansive and contracting motions of the elemental constituents, the *logos* (understood as ratio) of the whole *pneuma* could be understood as a ratio of the tensional motions present in the whole of the *pneuma*, and is itself a tensional motion that can be characterised by the ratio of the total of outwards and inwards motions in the *pneuma*.

²⁷¹ Cf. Scade, “Music and the Soul in Stoicism.” 208-210.

²⁷² See chapter II, section 2.2.

While this mathematical-mechanistic interpretation of *logos* may seem far-fetched and is not attested directly by sources reporting on orthodox Stoic doctrines,²⁷³ it is a perfectly viable interpretation that follows logically from other Stoic tenets. A number of contemporary commentators have identified the same connection between qualification, ontogenesis and the *logos* understood as ratio. Anthony Long and Paul Scade both understand *logos* in the *pneuma* as the ratio of inward and outward motions, and Scade describes the *logos* in the seed referenced in discussions of Stoic genetics as a “blueprint of tensional ratios.”²⁷⁴ Furthermore, Marwan Rashed attributes a similar theory to Posidonius, describing Zeus as an “arithmetical law” ordering and sustaining the universe²⁷⁵ that qualifies and diversifies the chaotic and inert matter.

Moreover, Nathan Powers and Tad Brennan both offer a reconstruction that is centred around the concept of structure and the relationship between the constituents of a natural body. These authors both discuss the use of “constitution”²⁷⁶ in Seneca’s *Letter* 121²⁷⁷, and argue that the qualification and ensuing identity of a natural body is to be conceived as its organization, i.e. the relative placement and arrangement of the soul and the body and their parts.²⁷⁸ Although this interpretation does not attribute a key role to tensional motion, it makes use of notions akin to disposition and ratio. On the one hand, the Seneca excerpt that both authors draw on uses a Latin expression reminiscent of the Greek phrase for disposition, although the exact formulation refers to the fourth category of relative disposition instead of the third category.²⁷⁹

²⁷³ Except maybe in Plutarch, *On Common Conceptions* 1077B as quoted in Paul Scade, “Music and the Soul,” 208-9.

²⁷⁴ Scade, “Music and the Soul,” 208-9. Anthony A Long, *Stoic Studies*, (Cambridge: CUP, 1996), 204-9.

²⁷⁵ Rashed, “Posidonius on Matter, Body and Surface,” 333.

²⁷⁶ The Latin term used by Seneca is *constitutio*, a translation of the Greek *sustasis*.

²⁷⁷ *Letters* 121.10.

²⁷⁸ Tad Brennan, “Stoic Souls in Stoic Corpses,” in *Body and Soul in Ancient Philosophy*, eds. Dorothea Frede and Burkhard Reis (Berlin, New York: Walter de Gruyter, 2009), 401-7, and Powers, “The Stoic Argument for the Rationality of the Cosmos,” 262.

²⁷⁹ *Constitutio* [...] est [...] principale animi quodam modo se habens erga corpus. “Constitution [...] is [...] the leading part of the soul disposed in a certain way in relation to the body.” Inwood’s translation is slightly different: “[...] in a certain disposition relative to the body.” Cf. Brad Inwood, *Seneca, Selected Philosophical Letters* (Oxford: Clarendon, 2007), 86, 335-7.

Moreover, the constitution of a body can be retraced to a structure inherent in the bodily substrate that accounts for the organization of the body parts, and the constitution of a body can also be analysed as a ratio of the parts of the body. So the notion of *sustasis* employed here by Seneca is very closely related to the central notions of *logos* and disposition. Finally, the mathematicising interpretation of qualification, that attributes a key role to ratios, is very much in line with the account of the cosmogonical and cosmological model presented in Plato's *Timaeus*, which has been recognized as a major influence for Stoic natural philosophy, including metaphysical tenets.

3.1.1.3. Logos and the *pōs ekhon*

Nevertheless, the account of qualification via pneumatic ratios presented above is only sufficient to explain the resemblance between a parent and a fully developed offspring. It does not help with elucidating how qualification is passed down, and how the cause of qualification is present in those stages of development when there is no observable similarity between parent and offspring. In order to account for the transmission of qualities that are latent through some phases of development we need to use another quintessentially Stoic concept, that of the *pōs ekhon*.

As we have seen, dispositions are a category of things that are best grasped as bodies, or parts of a unified body exhibiting a certain physical relationship to one another.²⁸⁰ The disposed body is thus both defined by the structural arrangement of the disposition and by its substrate, the body. To use the common example, a fist is a hand disposed in a certain way: on the one hand, it is defined by the specific structure achieved by the clenching of the digits, on the other hand by the fact that the clenched structure is taken on by a hand. If the same structure

²⁸⁰ For an interpretation of the concept of *pōs ekhon*, see Menn, "The Stoic Theory," 242-243.

had been taken on by a foot, it would not be a fist, but some other thing – one that does not have a distinctive name in English. It is a crucial feature of the *pōs ekhon* that the predicate that can be predicated of the disposed body as a result of the presence of a disposition in the body will depend both on the nature of the *pōs ekhon* and the nature of the body. Whether the presence of the *pōs ekhon* in the body will result in a meaningful predication, depends on the extent to which the presence of the *pōs ekhon* is observable and whether there exists a concept corresponding to the presence of *pōs ekhon F* in a subject *a*.²⁸¹

The above explanations should make clear the role of *pōs ekhon* in the transmission of properties that are only present in more advanced stages of development: the *logos* (understood as ratio) that is present in the seed and that is qualitatively identical to the *logos* of the pneumatic parts of the parent is present as a *pōs ekhon* in the seed. As the *pneuma* and the body of the individual animal undergo changes throughout evolution, this *pōs ekhon* is applied to different subjects, resulting in the predicability of different predicates. Once this disposition is present in a psychic or species-specific *pneuma*, the body that that *pneuma* qualifies will be characterized by the species-specific and psychic qualities that were handed down to the entity by its parents.

This explanation gains further support from the fact that tension and tensional motion, the entities determining the qualification of a body, both fall in the category of *pōs ekhon*, being a bodily structure and a motion respectively. What is more, the connection between *pōs ekhon* and qualification is quite explicitly confirmed by the definition of quality as *pneuma pōs ekhon*.²⁸² On this account, psychic and species-specific qualities should be understood as composites of a *pōs ekhon* determined by the *logos*, and a psychic or species-specific substrate. The *pōs ekhonta* are fully present and remain unchanged from conception to death as structures

²⁸¹ Cf. Simplicius, *On Aristotle's Categories* 222-30-3. (=SVF II.378, part = LS 28H).

²⁸² Plutarch, *On Stoic self-contradictions*, 1053F-1054B, Alexander of Aphrodisias, *On Aristotle's Topics* (SVF II.379), Galen, *On incorporeal qualities* 2 Vol xix p. 467 K. (SVF II.384).

or motions, but manifest themselves as different qualities throughout stages of ontogenesis, depending on the nature of the substrate that they are present in.

The most interesting aspect of the account of the inheritance of psychic and species-specific qualities is that these qualities are analysed as complexes of a structure or motion and a qualified substrate. I will argue that this analysis is not peculiar to these qualities, but it applies to all qualities. Since qualities are defined as *pneumata pōs ekhonta*, they are all composites of a pneumatic substrate and a *pōs ekhon*. While it could be posited that the qualitative diversity of the cosmos is accounted for solely by the distinctness of tensional motions in *pneuma*, the account of genetics and ontogenesis suggests otherwise: qualities are combinations of tensional motion and qualified *pneuma*, and the heterogeneity of bodies and their qualities is a result of combinations of tensions and pneumatic substrates.

Nevertheless, when explaining the presence of qualities by providing a quasi-hylomorphic²⁸³ analysis, one should keep in mind that ultimately, each individual being in the Stoic universe can be analysed into god and matter, and matter on that analysis is absolutely devoid of qualities and motion. When we talk about the combination of a *pōs ekhon* and a qualified substrate, we are talking about the combination of two (or more) *pōs ekhonta*, both applying to the same unqualified substrate. Ultimately, the qualitative diversity of the cosmos is a result of an infinite variety of combinations of a finite variety of tensional motions.²⁸⁴

²⁸³ While I agree with de Harven, (“Resistance,” 1-6) that most Stoic bodies should not be conceived of as hylomorphic complexes of an immaterial active and a material passive principle, I do think that the principles as well as the first two categories show a remarkable likeness to Aristotelian form and matter insofar as their functions are concerned. Moreover, while I agree that the earliest form of orthodox Stoic corporealism is fundamentally incompatible with the standard hylomorphic analysis, I am also convinced that the introduction of the third category by Chrysippus meant the incorporation of an explanatory model of a material, corporeal substrate and an immaterial (and possibly corporeal) structure that is very close to peripatetic hylomorphism.

²⁸⁴ A similar analysis of qualification in the context of Aristotelian genetics can be found in Tom Vinci and Jason Scott Robert, “Aristotle and Modern Genetics,” *Journal of the History of Ideas* 66 (2005): 210-5. Based on *DC* 268b26-269a2, the authors argue that the motions of complex substances can be understood in terms of vector summation. The natural motions of the elements composing the matter of a complex substance add up to a new, different motion, just like the addition of vector AB and vector BC, creates a vector AC that is a directed straight segment connecting points A and C. On their account of hylomorphic analysis, the substantial form is a “limit” or “ratio” that keeps the matter together, as the oppositely directed motions of cold and hot elements would

This account of qualification by recourse to a layering of motions or tensions is concordant with the Stoic notion of *krasis di' holou* and the collocation of bodies and is also attested by textual evidence. In Porphyry's *Ad Gaurum*, we find a very similar analysis of the Stoic account of qualification.

T 23 Porphyry *Ad Gaurum* 14.1-3

Ναί, φασίν, ἀλλ' ὥσπερ ὀδόντων ἔχει λόγον τὸ σπέρμα, οὓς μετὰ τὴν ἐξ ὠδίνων πρόοδον προβάλλει, καὶ ὡς γενείων γε καὶ σπέρματος καὶ καταμηνίων, οὕτως δὲ καὶ ὀρμῆς καὶ φαντασίας καὶ αἰσθήσεως λόγων ἐνόν-
(2) των αἱ προβολαὶ μετὰ τὴν κύησιν. ὅτι δ' οἱ ταῦτα λέγοντες ἐκ μὲν τῆς ἐναργείας οὐδὲν διαφέρουσι βιαστικῶς, στοχασμοὺς δὲ καὶ εἰκότα, κάκ τοῦ
≤εἰ> μὴ ἐν(εἰ)η, μηδ' ἂν μετὰ ταῦτα γενέσθαι νομίζειν πρόδηλον· ἀγνοοῦσι δὲ ὑπὸ φιλοτιμίας σπερ(μα)τικὴν ποιοῦντες τὴν ψυχὴν καὶ κρ(ε)ίττονα
(3) ἀποφαίνοντες τὴν φυτικὴν τῆς αὐτοκινήτου ψυχῆς. † ἄρα δὴ ταῦτα τῶν Στωικῶν ἀγνοήματα οἷ κάτωθεν ἄνω ἐστραμμένοι ἀπὸ τῶν χειρόνων ἐτόλ-
μησαν γεννᾶν τὰ κρεῖττω, τὸ μὲν εἶναι καὶ τὴν οὐσίαν πᾶσιν ἐκ τῆς ὕλης δόντες, γέννημα δὲ ποιοῦντες ἕξεως μὲν τὴν φύσιν, φύσεως δὲ τὴν αἰσθητικὴν
τε καὶ ὀρμητικὴν ψυχὴν, τούτων δ' αὖ πάλιν τὴν λογικὴν καὶ τῆς λογιστι-
κῆς τὸν νοῦν, κινήσεων διαφοραῖς καὶ προσθήκαις κάτωθεν ἄνω πάντα γεν-
νῶντες δέον ἄνωθεν κάτω καὶ ἀπὸ τοῦ κρεῖττονος προάγειν τὸ ἥττον, ὅτι
πᾶν τὸ γεννῶν τῇ αὐτοῦ οὐσίᾳ χεῖρον ἑαυτοῦ πέφυκε γεννᾶν, οὐ κρεῖτ-
τον·

otherwise result in the substance falling apart. Forms are also motions. Ontogenesis is thus an interaction between the potential form in the seed, the motions in menstrual blood, and the motions present in the environment.

Yes, they say, but just as the seed has the form principle for teeth which [the offspring] develops after its delivery, and similarly for beards and seed and menses, so too are there form principles of impulse, representation and sensation in [the seed], though their development [takes place] only after birth. (2) It is obvious that those who say these things do not produce anything compelling based on clear evidence but rather conjectures and probabilities based on their belief that unless [these form principles] were present in [the seed], [these features] would not subsequently arise. But their ambition blinds them to the fact that they are making the soul seminal and proclaiming the vegetative [power] better than the self-moving soul. (3) But these are the ignorant views of the Stoics who have turned things upside-down and dared to generate the better from the worse: they grant being and substance to all things from matter, and they make nature the offspring of tenor (*hexis*), and the soul responsible for sensation and impulse the offspring of nature, and again the rational [soul] the offspring of these, and intellect the offspring of the reasoning [soul]. *While they generate everything from the bottom up through different kinds of and accumulations of motions, one ought to proceed from the top down and advance from the better to the lesser because every generator is by its own substance naturally disposed to generate something worse than itself and not something better.* (Translated by James Wilberding, my emphasis)

While Porphyry's argument's primary target here is the Stoic account of ontogenesis, and the evolution of *pneuma* (and thus the composite natural body) by the acquisition of additional motions,²⁸⁵ his criticism also applies to the synchronic analysis of qualification in the framework of metaphysics. Before talking about how the Stoics "generate everything" by recourse to different motions and the addition of these different motions, he also notes that they "grant being and substance to all things from matter", presumably by the addition of different

²⁸⁵ See T15-16.

motions to the unqualified, inert material substrate. Porphyry's wording echoes an argument against the Stoic metaphysical theory of the synchronic analysis of natural bodies found in Plotinus and Alexander of Aphrodisias,²⁸⁶ who both criticise the Stoics for generating everything from matter. As Plotinus' argues,²⁸⁷ the main issue with a bottom-up analysis is that structural changes do not amount to substantial changes. Motion and structure in unqualified matter will not bring about a substance that is different from the lump of matter that structure or motion was applied to.

Regardless of whether we accept this criticism of mechanistic corporealism, this line of argumentation, and especially the account ascribed to Stoic thinkers by Porphyry, provides significant support to the analysis of qualities and motions into complexes of structures and motions. This analysis solves the question of the transmission of qualities that are not predicable of an entity throughout the entirety of their lifetime: such qualities are generated from the combination of the motion defining the quality specific to the parent and the motion characterising the pneumatic substrate.

3.2. The Logos as a Principle of Identity through Time

So, species-characteristic and individual qualities can persist through the development of animals by being determined by the *logos*, which sets both the course of the development of the living body and determines a set of distinctive qualities that qualify the entity at each stage of development. Now, we have to decide whether the persistence of the *logos* is necessary and sufficient for the animal's persistence.

²⁸⁶ Plotinus *Enneads*, IV.7.4.11-21, VI.1.26, 29 and Alexander of Aphrodisias, *On the soul*, 17.15-18.10, also *On Mixture* 221.3-15.

²⁸⁷ Plotinus *Enneads*, IV.7.4.11-21.

I think we have just as much reason to claim that the *logos* is sufficient for persistence as we have for suggesting that the soul is. First, the *logos* is a sufficient condition for persistence. It persists just as long as the soul does, it also persists after death, as the soul does, so no matter where we place the beginning of an entity's life, it is present from the start until the end. Second, it is a necessary condition for persistence. No matter what kind of quality we eventually identify as the peculiar quality of entities, it will at least partially be determined by the *logos*, given that it is the ultimate principle of qualification. If we choose a quality that was present before ensoulment, i.e. an inherited individual or a species-specific quality, then we have even more reason to pick the *logos* over the soul because those qualities are determined primarily by the *logos*. Moreover, it is the *logos* that determines those very qualities that Irwin and Lewis linked to peculiar qualification: species-qualities and psychic qualities.²⁸⁸

In addition, identifying the *logos* with tensional motion explains how qualities can be principles of identity through time, despite being material bodies (i.e. chunks of *pneuma*). As discussed in chapter I, one important observation of the Growing Argument was that bodies cannot persist through time, because their constitutive material is constantly changing over time. The success of Chrysippus' answer – that bodies persist not in function of having a certain material constitution but in function of being qualified in a certain way – largely depends on whether the qualities that are supposed to account for bodies' persistence through time are themselves entities that would be immune to the Growing Argument. If we conceive of qualities as portions of *pneuma*, i.e. bodies made up of fire and air, then it is not clear how our principles of identity through time would themselves resist the challenge of the Growing Argument.²⁸⁹ However, if qualities are what they are not because of their material constitution, but because of having a certain tensional motion inherent in them, the identity of which is

²⁸⁸ For another account that identifies peculiar qualities with spermatic *logoi* and pneumata see Giorgio Armato, "Stoics on Bodies, Identity and "ἰδίως ποτός," *Classica et Mediaevalia Revue Danoise de philologie et d'histoire* 56 (2005):9-12.

²⁸⁹ Cf. Nawar, "The Stoics on Identity." 148, Nyulász, *The Ontological Foundations*, 47-8.

independent of and irreducible to their material constitution, then the persistence of these qualities themselves will not be affected by changes in their material constitution. Thus, identifying *logos* with tensional motion can also explain how qualities, which are themselves material bodies, can fulfil the role of criterion of identity for bodies.

All in all, the *logos* is a better candidate for being both a principle of individuation and a criterion of identity than the soul. First, it accounts for individuation by means of qualitative distinction, as the variation of the different ratios of motions can account for a large variety of qualification. This suits better the Stoic account of identity, which is fundamentally qualitative in its nature. It is clear from the Stoic standpoint taken in the epistemological debate with the Academics that they want to account for numerical uniqueness in terms of qualitative uniqueness. This qualitative distinctness can be much better accounted for by qualities defined by a variety of proportions and movements, than by merely numerically distinct instances of the same species-quality.

Second, the *logos* corresponds in every way to the description of peculiar qualities that I have given in chapter I. It is a unique and persistent metaphysical principle that qualifies the entity in such a way that it can guarantee its distinguishability and recognisability. It allows for change in entities' perceptible qualification through time, but it also accounts for the fact that those changes do not affect the entity's recognisability to a knowing eye, because they are defined by the same, unchanging disposition.²⁹⁰

Third, the *logos* is also a better principle of identity and individuation because it is something that each natural body has. By supposing that identity and individuation are not tied to having a certain kind of *pneuma*, but to having a certain *logos*, we can give a unified account of identity and individuation for all natural bodies.

²⁹⁰ David Sedley in his "The Stoic Criterion," 266, suggested that peculiar qualities should be similar to the DNA manifest in the fingerprints. Insofar as the *logos* is the Stoic version of the DNA, my interpretation comes very close to his suggestion.

3.3. The Logos and the Hēgemonikon

Having established that it is the *logos* that is the ultimate principle of individuation and identity, we are now in a better position for treating the relationship between the different *pneumata* that unify the body – discussed in chapter II. At the end of chapter II, I concluded that the Stoic account of unity is primarily physical and biological. The highest form of unity is reserved for natural bodies, which are one because the tension of their *pneuma* holds their parts together. They are one insofar as they are parts of one organism, that is held together and permeated by one portion of *pneuma*. Once the *pneuma* leaves the body, the body ceases to be one, and starts disintegration. As to what concerns the enumerative aspect of unity, natural bodies are one insofar as they have one *hēgemonikon*, which is the directive centre of the body that regulates the body as an organism and is also the centre where the *pneuma* flows from. Counting natural bodies is counting their leading parts.

By establishing a connection between the *hēgemonikon* and the *logos*, the physical and biological account of unity provided in chapter II can be complemented with a metaphysical and qualitative account of identity, individuation and unity. By identifying the *logos* as a principle inherent in and emanating from the *hēgemonikon*, we can identify a principle of qualification, unity and identity that also plays a role in regulating the actions and passions of an entity, as well as its evolution as a life-form.²⁹¹

First, if the ratio of the soul's²⁹² parts (and thus the species of the animal) is set by something inherent in or related to the *hēgemonikon*, then we can explain what it is that makes the natural body a metaphysical unity: it is being defined in its qualification by a single *logos*.

²⁹¹ This is Salles' view, applied to the case of the *kosmos* in "Why is the Cosmos Intelligent?", 56-7. According to his account the tension of the *kosmos*, including the different tensions and powers of the *pneumata* of all living beings in the *kosmos* are caused, determined and regulated by the *hēgemonikon* of the *kosmos*.

²⁹² I take soul here in the general sense.

This *logos* is at the same time a rational, desiderative entity that contains the entity's development as a plan; a physical entity that determines the motions that characterise the entity's qualification and development; as well as a ratio of pneumatic parts, specifying the natural body's species and individual qualities. This kind of unity by *logos* through the *hēgemonikon* does not entail that the different *pneumata* are parts of the *hēgemonikon*, it simply means that they are unified in terms of the *logos* that flows from the *hēgemonikon*.²⁹³

Second, by establishing a relationship between the *logos* and the *hēgemonikon*, we can explain why nature and *hexis* also leave the body upon death. If the *logos* is connected to the *hēgemonikon*, then the tensional motion of the whole portion of *pneuma* is imparted from the *hēgemonikon*, transmitted through the *pneuma* that flows from the *hēgemonikon* to the other parts of the soul. Thus, if the *hēgemonikon* leaves the body, the tension is disrupted, and the body falls apart. At death all *pneumata*²⁹⁴ that held the body together and accounted for its unified functions leave the body, but only the rational soul (what Sextus means by the *hēgemonikon*) survives the separation from the body because it is the tensest among them. The irrational soul, *phusis* and *hexis* simply dissolve because they are not tense enough.

Besides the above benefits of positing a relationship between the *logos* and the *hēgemonikon*, the relationship between these two entities is clearly demonstrated by the evidence on ontogenesis, anatomy and psychology. All natural bodies have a leading part, and it is from this part that the whole of the *pneuma* flows, and it is also this that sets the path of their development as an individual token of a species.²⁹⁵ The *hēgemonikon* is the part of the animal and the embryo and the active entity in the seed, which has made the animal what it is.

²⁹³ For a similar analysis, see Brennan's "Stoic Souls in Stoic Corpses," 401-7, and Powers, "The Stoic Argument for the Rationality of the Cosmos," 262.

²⁹⁴ That is, all *pneumata* that hold the animal together and account for its physical and psychological function. Portions of *pneuma* that hold material parts of the animal together or account for the posthumous growth of some of its material parts (i.e. nails and hair) remain. (I have to thank István Bodnár for bringing this to my attention).

²⁹⁵ cf. Galen's *On the Formation of the Foetus* 4.698,2-9 = SVF II.761, part = LS 53D.

This is clearly stated by the evidence, which attributes a central role to the *hēgemonikon* in the formation of the individual.²⁹⁶

3.3.1 Limitations and Shortcomings

While our texts make the involvement and importance of both the *logos* and the *hēgemonikon* in the development, the qualification and the unity of natural bodies obvious, the exact relationship of these two entities remains obscure. This is mostly due to the obscurity of the nature of the *logos* itself, and the difficulty of establishing its place in the framework of Stoic natural philosophy, interpreted as a purely mechanistic physical theory. The *hēgemonikon* is clearly a body – as a part of the soul, it is itself *pneuma* with a certain tension. Being a corporeal entity, its nature and its possible interactions and relationships with other bodies are clear and well-described by the evidence. On the other hand, the metaphysical status of *logos*, and especially the metaphysical status of *logos* understood as ratio are harder to interpret in the framework of Stoic ontology. While *logos*, when used synonymously with the active principle, god, is clearly a corporeal entity, the status of *logos* as a ratio or a “preestablished order” is less transparent.

When discussing the role attributed to the *logos* in qualification and ontogenesis, I have stated that the *logos* is at the same time the motive force behind development and the order or blueprint in accordance with which the natural body is modelled. However, in a strictly mechanistic framework, it is not quite clear how the *logos*, understood as a ratio is not only the plan for qualification and development, but also the motive force that ignites and maintains development. As far as I can see, identifying the *logos* as a ratio with the cause of development poses two problems. Firstly, as the motor of development, the *logos* is in a causal role, bringing

²⁹⁶ Cf. chapter II, section 2.4.

about a chain of events (developmental stages of the entity) and accounting for the development and existence of the qualities that characterize the entity. But, as a cause, it should be a body, according to the Stoic account of causation. However, it is hard to see how a ratio could be a body. Secondly, regardless of whether they are corporeal or not, ratios are typically not causes, or at least they are not sufficient in and of themselves to bring about something.

Concerning the first issue, one possible solution is to suppose that the *logos* carries out its work through the *hēgemonikon* that serves as a corporeal vessel to it. While in cosmogonical texts the source of development and qualification is clearly identified as *logos*, the texts describing the generation of living beings are not clear in naming this entity. There is clearly an entity in the seed, the embryo and the animal that forms and moves the animal body in accordance with a preestablished order. If we do not insist that the plan and the cause of its realization are the exact same thing, we can separate these two functions that belong to one entity in the case of god. Instead we can conclude that the *logos* is a ratio of tensions in the portion of *pneuma* that is the *hēgemonikon*.²⁹⁷ This way, the *logos* would qualify the *hēgemonikon* and since the *pneuma* of the whole body flows from the *hēgemonikon*, determine the qualification of the whole body. Thus, the *logos* would be concentrated in and directed from the heart but pervade all of the body. Moreover, the *logos* would also qualify each of the different *pneumata* because they all developed in accordance with the spermatic *logoi* specified in the seed.²⁹⁸

Still this suggestion is not quite perfect. Positing that the *logos* acts through the *hēgemonikon* as through a corporeal vessel does not solve the problem of accounting for the

²⁹⁷ Thus, I disagree with Nathan Powers ("The Stoic Argument for the Rationality of the Cosmos," 257) who, quoting Seneca's aforementioned *Letter* 121, equates the constitution (i.e., *sustasis*) of the natural body with the *hēgemonikon*. The *hēgemonikon* is a portion of *pneuma*, not a structure. It is a part of the body that is separable from the body, and able to persist on its own. It is not reducible to the body's constitution. Instead the *hēgemonikon* is involved in determining the *sustasis* of the body insofar as the *pneuma* that flows from it has a tensional motion that qualifies the *pneuma* in a way that brings about a certain structure in the *pneuma* and consequently in the body.

²⁹⁸ Cf. Salles' "Why is the Cosmos Intelligent?" 54, 56-60.

causal role the *logos*, it just defers it. If we are to attribute any sort of causal role to the *logos*, which we are, if we are making it the ultimate principle of qualification and unity, then we cannot avoid accounting for its corporeality.

As to the second issue, the idea of explaining qualification and ontogenesis with reference to a ratio is also problematic because ratios, by their very notion, are not typically fundamental entities, but rather entities that are determined by the quantities that they are the ratios of. Clearly, this poses a problem for making the *logos* understood as a ratio a criterion of identity, and more generally, for identifying it as an ultimate principle of qualification, unity and ontogenesis.

The *logos* of an individual entity may be unique to it, provided that we suppose that it is possible for each entity to have a singular combination of tensional motions, yielding a distinct ratio of motions. However, as a ratio, it is not what accounts for the entity's uniqueness, it is just a manifestation of it. If a ratio is unique to an entity, it is because the entity is made up of a unique combination of constituents.²⁹⁹ If an entity acquires more of constituent *a* or loses some chunks of constituent *b*, then the ratio characterising it will change. In the case of the *pneuma*, acquiring and losing portions of fire or air could change the ratio of these components, and the ratio of inwards and outwards movements. This clearly goes against the idea that each natural body has a unique principle independent of the body's material constitution that accounts for its persistence and uniqueness. As was demonstrated in chapter I, the principle of persistence cannot be something that is a function of the entity's material constitution, thus the *logos* cannot be a criterion of diachronic identity if it is reducible to the material constitution of the entity.

²⁹⁹ Ricardo Salles accounts for pneumatic tension and the ensuing qualification in terms of the material constitution of *pneuma*. It is important to point out that for Salles the body of living beings is also made of *pneuma*. "Phaedo 85E-86D and Stoic Pneumatic Theory," 227- 232, 237-9.

A possible way to approach this second problem is to point out that most difficulties around explaining unity and qualification in terms of a ratio can be alleviated by emphasizing that the *logos* is a motive force, itself a motion, accounting for the tension characterising the portion of *pneuma* that in turn unifies and qualifies the natural body. The nature of this tensional motion can be described by the ratio of the inwards and the outwards motions of air and fire constituting a portion of *pneuma*. Thus, ratio does have an explanatory role insofar as it describes the nature of the tensional motion which accounts for the unity and qualification of a portion of *pneuma* and ultimately the natural body. However, it is not itself the cause of unity and qualification.

Motion plays a central role in early Stoic thought: tensional motion and tension are clearly tied to qualification by our texts, and motion is omnipresent in texts on ontogenesis as illustrated by **T15-T17**. Moreover, as opposed to ratio, tensional motion is a dynamic entity, and as such it is intuitively much better suited to be a causally active principle. Furthermore, it could be argued that motion is a suitable candidate for an ultimate principle of explanation insofar as it can be identified as a causally active entity that is not causally dependent on and is not reducible to any further entities. These two issues will be investigated in chapter IV, where I consider the possible corporeality of tensional motion and its irreducibility to other entities.

Still, it could be argued that the above reformulation of the theory does not help the *logos* account, as it invites the same criticisms as the construal of *logos* as ratio. If the tension of a portion of *pneuma* can be described as a ratio of inwards and outwards motions, then it could still be argued that tension is ultimately determined by the elemental composition of *pneuma*, meaning that it is neither a fundamental principle of explanation, nor is it irreducible to matter. This of course would mean that tensional motion cannot be a principle of unity, qualification and identity. Moreover, it would also entail that no coherent theory of qualification,

individuation and identity can be construed, as ultimately all seemingly immaterial principles of explanation are reducible to material constitution.

Nevertheless, we do not have to accept the above criticism of the *logos* account. While there are good reasons for construing the *logos* as something determined by the *pneuma*'s elemental constitution, there are equally strong considerations in favour of a reverse interpretation. One could argue that it is not the elemental composition of *pneuma* that determines its tension, but rather it is its tension that determines its elemental composition. Given that the elements are not simples but are instead analysable into the passive and the active principle, the nature of the elements could be construed as a result of their characteristic motions. Thus, it can be inferred that the motions characterizing these elements are just parts of the tensional motion characterizing the entity, determining its material composition and defining what portions of elements it can take on as it nourishes itself and grows. On this account, *logos* is a principle that determines material constitution both as a ratio and as a motion.

The equal plausibility of two diametrically opposed approaches echoes the issues discussed at the end of chapter II (sections 2.4 and 2.5), and casts doubt on the correctness of the *logos* analysis. While it is possible to construe an account in which the *logos* and tensional motion are ultimate principles of unity and qualification, it is equally possible to interpret the evidence as suggesting that both these entities are reducible to material constitution. Of course, this latter possibility would contradict what has been established in chapter I, and entail that neither the *logos* nor tensional motion are suitable principles of qualification and identity.

In addition to theoretical difficulties, the *logos* account also lacks explicit textual support. While there is robust textual evidence to support the idea that tensional motion, tension, ratio and constitution (*sustasis*) have a key role in qualification and species development, there is no detailed discussion of a purely mechanistic account. There are no

extant texts describing the status of these entities, their relationship to each other or to other physical entities. Moreover, while the above entities are all identified by our texts as principles of qualification (or at least as having an influence on an entity's qualities), in texts focusing on the ontology of individual bodies, or identity and individuation, qualities are treated as the ultimate principles of individuation and identity that are not to be analysed further. While there are many texts that point in the direction of a metaphysical theory that is based on principles such as mathematicised structure and motion interacting with matter, there is no evidence that the theory ever went beyond vague allusions to mathematical and mechanical concepts.

3.4. Conclusion

In this chapter I have argued that natural bodies are unified, individuated and identified by their *logos*, which is also their principle of development. *Logos* is an entity that is at the same time the motive force behind ontogenesis and the plan according to which development is carried out. Besides being a principle of development, the *logos* is also what accounts for the qualification of an individual on a synchronic level: it determines an entity's qualities at any given time. *Logos* refers on the one hand to the active principle god, and on the other hand to a mathematical-mechanic principle that can be understood as a ratio and as a motion. As a ratio the *logos* determines the entity's species and individual qualification by defining the ratio of pneumatic parts and structures, and as a motion it guides the entity through species and individual development. On this latter interpretation, *logos* can be equated with tension and tensional motion.

Concerning Irwin's and Lewis' account I have managed to establish the following things. The soul taken as a certain kind of *pneuma* is not a principle of identity, individuation and unity, neither is it a species-specific quality. As to the mystery of peculiar qualification, I cannot assuredly state whether peculiar qualities are species-specific or not, or whether they

are psychic or bodily characteristics. The *logos* of individuals predetermines several qualities, any of them could be a peculiar quality.

Finally, concerning the theory of qualification in general, I have offered an interpretation according to which qualities are *pneuma* moving or structured in a certain way, and that the qualitative variety of entities in the *kosmos* is a result of an infinite combination of a finite set of tensional motions and ratios. This analysis of qualification also has the benefit of accounting for the inheritance of qualities from parents and other ancestors.

IV. Immaterial Bodies

As discussed in chapter I, our texts attribute the unity, the diachronic identity and the individuation of natural bodies to their peculiar qualities. In sections 4.1-4.2, I argue that the ultimate principle of unity, individuation and identity should be an immaterial body, as follows from the theory put forward in chapters I-III. In section 4.3, I examine the possibility of such an entity in the framework of early Stoic physics and conclude that the supposition of immaterial bodies is in concordance with the evidence. Having established a possible and logically coherent interpretation of early Stoic metaphysics I move on to an assessment of the evidence for the existence of such a theory.

4.1 An Immaterial Principle

As has been pointed out in previous chapters, one important characteristic of the principle of individuation and identity is that it has to be an entity that is radically different from and irreducible to matter. On the one hand, the evidence reporting on individuation and identity through time makes it clear that peculiar qualities cannot be material entities. As discussed in section 1.2.3.1 of chapter I, the Stoics believed that a merely material entity cannot persist, from which it follows that such an entity could not answer for an object's persistence. Thus, the principle of diachronic identity has to be immaterial itself or it has to be defined by something immaterial.

Furthermore, given the way they conceived of matter and the *kosmos*, the Stoics also had to ensure unity and individuation by means of a strictly immaterial principle. The *kosmos* is a body full of matter, with no void separating chunks of matter from each other.³⁰⁰ Moreover,

³⁰⁰ I would like to thank Gábor Betegh for pointing this out to me.

the matter that makes up the *kosmos* is an infinitely divisible continuum,³⁰¹ not having any ultimate constitutive parts.³⁰² In order to account for the multiple individual bodies that populate the *kosmos*, the early Stoics had to identify a principle that articulates matter and accounts for the qualitative diversity of individual bodies. Such a principle had to be immaterial because of the aforementioned gunky nature of matter. A chunk of gunky matter cannot be individuated based on its constitution, it can only be differentiated from other parts of matter based on something external to it, which does not have the same gunky nature. So, the entities which, imposed on a chunk of gunky matter, delimit it and hold it together while at the same time making it numerically different from other material objects cannot be themselves material or reducible to matter. Material entities by themselves are insufficient to account for unity because something that is itself infinitely divisible cannot unify another infinitely divisible object.³⁰³ Moreover, they cannot account for individuation, because they themselves cannot be individuated either, if they do not form a clearly delimited unity.³⁰⁴

These considerations provide further proof for the statement that qualities, or any *pneumata* for that matter, cannot serve as principles of unity, individuation and identity over time. Qualities are themselves material and they are only non-reducible in their identity to the

³⁰¹ Stobaeus, *Eclogae*, 1.142,2-6 (=SVF II.482, part =LS 50A), DL VII.150-1 (=SVF II.482, part = LS 28B), Sextus Empiricus, *M*, 2.121-126, 139-142 (=LS 50F).

³⁰² Bodies are infinitely divisible not in the sense that they are composed of an infinite number of infinitesimal parts, but that they do not have ultimate parts because the division of parts goes on *ad infinitum*. (cf. DL VII. 150: “Chrysippus says that the division is not *ad infinitum*, but itself infinite; for there is nothing infinitely small to which the division can extend. But nevertheless the division goes on without ceasing.” It has to be noted, that *ouk eis apeiron* is a supplement by Von Arnim. Cf. Robert B. Todd, “Chrysippus on Infinite Divisibility,” *Apeiron* 7, (1973): 21, and Daniel Nolan “Stoic Gunk,” *Phronesis* 51 (2006): 166-7.) For a more detailed discussion of the gunky and continuous nature of Stoic matter see Anna Marmodoro *Everything in Everything: Anaxagoras’s Metaphysics* (Oxford: OUP, 2017) 156-185 and “Stoic Blends,” *Proceedings of the Boston Area Colloquium in Ancient Philosophy* 32 (2017):1-24.

³⁰³ cf. Galen, *On incorporeal qualities*, 10. Vol. XIX p.483 K. (=SVF II. 381) who reports that the Stoics, despite affirming that all qualities were bodies (and that bodies were infinitely divisible) maintained that qualities were not infinitely divisible. This testimony is suggestive of the fact that the Stoics conceived of qualities as unified entities, inherently different from mere material aggregates.

³⁰⁴ Thus, I disagree with de Harven, (“Resistance,” 6.) who claims that infinitely divisible continuous masses have intrinsic unity and individuality and support the more traditional view (e.g. Jennifer Whiting, “Form and Individuation in Aristotle,” 362) that such masses need a principle of unity.

material aggregates they qualify to the extent that they are made of *pneuma*, a principle that is distinct from the object's matter. Nevertheless, although the *pneuma* as the qualifying constituent of material objects is different from and not reducible to natural bodies' material component, it is itself a material entity. The *pneuma* and the matter constitutive of material objects are material objects themselves because they are both composed of the four elements – air and fire and earth and water respectively³⁰⁵ – and these elements are all composed of the two principles (i.e. matter and god), which means that they both have matter in them.³⁰⁶

Thus the *pneuma* itself is an infinitely divisible entity, and its diachronic identity is not stable either insofar as it is under constant flux.³⁰⁷ Although it is described by many of our texts as the immediate qualifying principle of concrete material objects, it is not identical to the ultimate qualifying principle god and it is not devoid of matter.³⁰⁸ Its status as an active, qualifying principle is not a function of it being an entity that is radically different in its kind from the constitutive matter of objects, but rather the function of it being qualified in a different way than the constitutive matter of objects, due to the structures and motions that are inherent in it.³⁰⁹

³⁰⁵ Alexander of Aphrodisias, *On Mixture*, 224.14 (=SVF II.442), Plutarch *On Common Conceptions*, 1085C (=SVF II.444).

³⁰⁶ DL VII.136, cf. Cooper, "Chrysippus on Physical Elements," 99-102, and Gourinat, "The Stoics on Matter and Prime Matter," 64-66.

³⁰⁷ Cf. Plutarch, *On Common Conceptions*, 1084F-1085B.

³⁰⁸ It has been a matter of contention, whether the *pneuma* is identical with god in Chrysippus' philosophy. Although we have some passages stating that god is a kind of *pneuma*, (e.g. Alexander of Aphrodisias, *On Mixture*, 224.32., and SVF II.1027, 1033, 1035, 1037, 1051, 1054) there are no passages that explicitly identify God and the *pneuma*. Cf. Josiah Gould, *The Philosophy of Chrysippus*, 102. Hence, here I assume that god and *pneuma* are different, *pace* Michael Lapidge, who argues that in Chrysippus' philosophy the *pneuma* took over the role of god, in his "*ἀρχαί* and *στοιχεῖα*," 276.

³⁰⁹ For a similar consideration regarding the materiality of *pneuma* see, Nyulász, "The Ontological Foundations," 44-50 and Nawar, "The Stoics on Identity," 148. For an analysis that identifies qualities as made of matter that has "special constitution" i.e. *pneuma*, see Armato, "Stoics on Bodies, Identity and 'ἰδίως ποιός,'" 132.

4. 2 Candidates for Immaterial Principles: Tension, Motion and Structure

So, whatever is the principle of identity and individuation of bodies, it cannot be *pneuma* and it cannot be anything material. Luckily, we have already established for reasons independent from these considerations that the real principles of qualification, unity and identity are not *pneumata* themselves, but motions and structures of *pneuma*. While this distinction is helpful, it does not provide a full explanation of the status of these entities and their relationship to the (pneumatic) bodies that they structure or are motions of. In order to understand how they can function as ultimate principles of unity and qualification, we have to understand the nature of these entities and their place in the early Stoic theory.

A first point to clarify is whether tension, motion and structure satisfy the criterion of irreducibility to matter. While these entities may not be *pneumata* and as such may not be material themselves and are identified by several of our texts as principles accounting for unity and qualification, it is hard to see them as independent, causally active entities. The reason for this is that none of these entities are traditionally conceived of as existing independently from the body they are structures and motions of. As discussed in chapter III section 3.3.1, a ratio is not thought of as something that exists independently from the entities it is the ratio of, and similarly, motion and structure do not exist independently of the body. Instead the very existence and essence of these entities is determined by the body or the bodies they are the ratios, tensions, motions and structures of.

From an ontological point of view, tensional motion, tension and pneumatic structures fall under the third genus, that of disposition. As discussed, disposition is just a temporary structure of a body, its existence and its properties are dependent on the disposed body. On Stephen Menn's account presented in chapter I, one of the main differences between the categories of qualified and disposed in a certain way is that the disposed body does not have

anything in addition to (*para*) the body undisposed.³¹⁰ At the end of the day the disposed body is identical and thus reducible to the body that is structured or moved in accordance with the disposition.

What I want to argue here, is that – *pace* Menn – disposed bodies do have something in addition to the body that is the subject of the disposition. The body disposed is more than the body without the disposition. While the structure or the motion of a body may not be a portion of *pneuma* present in it, it is a principle independent of and irreducible to the body. A body disposed can be analysed into a substrate and a disposition, and at least conceptually, the disposition can be separated from the body, considered by itself, and can be in principle applied to another subject.

However, conceptual separability is not sufficient to establish independence and certainly not sufficient to establish existence in a context where existence is tied to causal efficacy, and causal efficacy is linked to corporeality. It is quite clear from the evidence that motions and structures do have a causal role. They are identified as responsible for the unity and qualification of entities: their existence is a necessary condition for the existence of natural bodies and for the predicability of the qualities that qualify them. Since according to the Stoic theory predications can only be made true by facts that consist of a causal relationship between bodies,³¹¹ if *pōs ekhonta* are defined by a principle that is external to their substrate, then that external principle has to be a corporeal one. Nevertheless, as stated above, in addition, this external principle also has to be immaterial, which seems to be in contradiction with corporeality.

This apparent contradiction is another manifestation of the theoretical conflict described in chapters II and III. It highlights the coexistence of two accounts of the ontological structure of the world that reflect two distinct understandings of corporealism. On the one hand the texts

³¹⁰ This is also reiterated by Salles, “Why is the Cosmos Intelligent,” 60-61.

³¹¹ cf. Stobaeus, *Eclogae*, I.138,14W. (Arius Didymus. Fr. 18 p.457, Diels = SVF I.89)

that describe tension, tensional motion and ratio as principles of qualification and unity suggest a quasi-hylomorphic construal of the structure of reality, where entities can be analysed into a substrate and something that shapes and moves that substrate. On the other hand, texts that focus on the tenet of the corporeality of all existent and causally efficacious entities, point towards a much more literal corporealist interpretation of the world where entities are to be understood as made up of extended chunks of matter as building blocks.³¹²

The strong conflict between the two accounts is manifest in the difficulties surrounding the status of dispositions as principles of explanation. Supposing that the structural arrangement of a portion of matter or a material object could be another body that is somehow crammed in it is extremely counterintuitive. Moreover, it could also be argued that something that is in a certain way not in virtue of being disposed towards itself or its parts, but in virtue of having a causal relationship to a body that is different from itself should belong to the first, the second or the fourth genus, not the third one.³¹³ Furthermore, even if it was possible for there to be a corporeal principle that accounts for the dispositions of matter, how could such a principle possibly be immaterial?

These are serious objections that have to be answered if we want to maintain the coherence of the Stoic account. If there is no unifying, individuating and identifying principle that is irreducible to matter, then as Plotinus suggests, everything will be derivative of matter.³¹⁴ The unity, the identity, and the individuation of qualities and peculiarly qualified entities will not be accounted for, and the whole edifice of Stoic ontology would have to collapse, since on this account there would not be anything besides matter.³¹⁵

³¹² Cf. “Resistance,” 3-11. As opposed to de Harven, I believe that the two approaches were both present in early Stoic thought. What she identifies as a misconstrual of Stoic corporealism is a theoretical approach actually endorsed by early Stoics and is robustly present in the evidence.

³¹³ Cf. Stephen Menn’s account as presented in section 1.2.4

³¹⁴ Plotinus, *Enneads*, VI.I.29.

³¹⁵ cf. Plotinus *Enneads*, IV.7.4.11-21.

In order for the theory to be coherent, there should be an explanation as to how these two interpretations can coexist. The possibility that I am going to explore is that while Stoic corporealism was based on a traditional concept of body, explaining phenomena of the world in terms of touching between extended, solid bodies, it also allowed for the existence of less traditional bodies, more akin to matterless forms. Such entities would have causal efficacy but would be radically different from other bodies to the extent that they are not made of matter.

4.2.1 Causation versus Materiality: The Second Puzzle of Peculiar Qualification

It is a basic tenet of Stoic metaphysics that only bodies exist because only bodies have the capacity to act and/or be acted upon. This corporealism does not consist in claiming that nothing exists besides entities that are traditionally considered as three-dimensional, material objects. Instead, the Stoics attribute genuine existence to a host of entities that are traditionally considered to be immaterial (e.g. god, the soul, virtues, qualities), but at the same time they stipulate that these entities are corporeal.³¹⁶ This inflationist corporealism seems to be problematic on several counts, if by "body" the Stoics mean material objects. This is why some commentators have suggested that the Stoics had a revisionist concept of corporeality, according to which not only material objects could be considered to be bodies.³¹⁷

One reason why Stoic corporealism was seen as a contentious issue by various commentators, is because their inflationist corporealism entails the colocation of several bodies. This is seen as an impossibility by many contemporaries,³¹⁸ as denying the

³¹⁶ cf. Jacques Brunschwig's distinction between "reductionist" and "inflationist somatology", "The Stoic Theory of the Supreme Genus and Platonic Ontology," in *Papers in Hellenistic Philosophy*, (Cambridge: CUP, 1994), 123.

³¹⁷ E.g. Cooper, "Chrysippus on Physical Elements," 97-99, Gourinat, "The Stoics on Matter and Prime Matter," 58, Margaret Reesor, "The Stoic Concept of Quality," 42-3, Andrea Falcon, *Aristotle and the Science of Nature – Unity without Uniformity*, (Cambridge: CUP, 2005), 52, and Vogt, "Sons of the Earth," 142-3.

³¹⁸ E.g. Alexander of Aphrodisias, *Supplement to On the soul*, p.116, 13 (= SVF II.797, part), Galen, *Incorporeal qualities* 4 Vol XIX p. 473 K. (= SVF II.386) both argue that if the qualities of a body are also bodies then the body and its qualities should occupy more place together than the place occupied by the body.

spatiotemporal colocation of bodies (of the same kind)³¹⁹ has been a central premise of philosophy and science. However, I do not think that the colocation of bodies is indeed a problem in the framework of Stoic natural philosophy. Through and through blending, made possible by the infinite divisibility of bodies, allows for making sense of the colocation of bodies that are not peculiarly qualified.³²⁰ Thus, I do not consider the colocation of bodies an unwelcome consequence of Stoic corporealism, but rather a crucial characteristic of their physical system, and I do not think it warrants to suppose that the early Stoics conceived of bodies in a radically distinct way than what is currently considered the common-sense notion of body.³²¹

The real issue with the materialist interpretation of Stoic corporealism is instead the one discussed above: there are central principles of explanation in cosmology and metaphysics that are attributed a causal role but have to be immaterial.³²² Besides tensional motion, the active principle, god is also such a principle. Corporealism entails that all states of affairs are explained with reference to bodies. With the exception of the four canonical incorporeals (time, place, void and *lekta*), there are no entities that can feature in explanations that are not bodies.³²³

³¹⁹ Metaphysical discussions from the 20th and 21st century often focus on the issue of colocation of bodies that belong to different kinds or sorts, such as the constitutive matter of a body versus the body itself. The puzzle of Statue and Lump discussed by many contemporaries is an example of tackling this problem. See also Gábor Betegh, “Colocation,” in *ΣΩΜΑ Körperkonzepte und körperliche Existenz in der antiken Philosophie und Literatur*, eds. Thomas Buchheim, David Meißner, Nora Wachsmann, (Hamburg: Felix Meiner Verlag, 2016.) 394.

³²⁰ While none of our sources explain why Chrysippus forbids the colocation of peculiarly qualified bodies, such bodies are unified by tense *pneumata*, and thus are resistant to interpenetration to a higher extent than other bodies. As to other bodies, such bodies can easily penetrate and be penetrated, and they can mingle with each other completely. Since all of their constituents are infinitely divisible, they can be mixed in such a way that all constituents are completely present in all parts, and that there is not one continuous portion of the mixture that would not contain all of the constituents. (Cf. Nolan, “Stoic Gunk,” 171-2.)

³²¹ The Stoic conception of body is the same as ours in the sense that both conceptions take everyday, three-dimensional, solid, material bodies as paradigmatic examples of corporeality. However, it has to be noted that the Stoic continuum-theory of matter makes their conception of body significantly different from ours, with respect to the properties and powers bodies can have.

³²² Bethia Currie proposed similar ideas in her dissertation, *God and Matter in Early Stoic Physics* (1971) New School for Social Research, Ann Arbor, Michigan, 34, 45-6,

³²³ While incorporeals are not causally efficacious and are not affected causally either, they are entities that are invoked in descriptions and explanations, along with bodies. For an in-depth discussion of the role of incorporeals and their relationship to bodies see Marcelo D. Boeri, “The Stoics on Bodies and Incorporeals.” *The Review of Metaphysics* 54 (2001): 723-752.

Whatever is the case, it has been caused by something, and on the Stoic account only bodies can be causally efficacious or causally affected. If bodies are material objects, then all kinds of causal explanations should involve material objects.

However, there are several reasons why the ultimate cause of everything, god, cannot be material.³²⁴ First of all, it is not stated anywhere in the evidence that god is derivative of or reducible to matter.³²⁵ Moreover, the dualist cosmological model strongly suggests that the Stoics did not want to be material monists: they wanted to posit another principle besides matter.³²⁶ While matter has some causal power insofar as it offers resistance to god, it is by definition inert, undefined and unqualified. It cannot account for the multifarious nature of the world on its own. In order for the world to be more than a blob of matter, another principle needs to be posited accounting for diversity, motion and life. This principle is god. God and matter are inseparable: neither pure unqualified matter nor immaterial qualities can exist by themselves.³²⁷ However, they are also radically different and mutually irreducible: qualities can never add up to form a material body without matter, and material constitution can never account for qualification. God is quality, definition, and motion itself, it is the principle which completes passive matter, so that together they can bring about the complex bodies populating the world.³²⁸

³²⁴ Anna Marmodoro propounds similar arguments for the immateriality of *pneuma* (*Everything is in Everything*, 169). As clarified above, I disagree with this statement, given that the *pneuma* is described by the evidence as composed of material elements, which in turn are composed by a blend of god and matter.

³²⁵ Matter and god have existed together from the beginning, (Epiphanius, *Against Heresies*, I.5. DDG p.588, (=SVF I.87)) whereas the other bodies, starting with the four elements, have been derived from the blending of matter and god. DL VII. 134-7, 142, Sextus Empiricus *M* 9.75-6 (=SVF II.311 = LS 44C).

³²⁶ E.g. Philo of Alexandria, *On the Creation of the Cosmos, According to Moses*, 8 (=SVF II.302), Seneca, *Letters* 65.2 9 (=SVF II.303) Origen, *On Principles* 2.1.78 (=SVF II.304)

³²⁷ Pace de Harven ("Resistance," 7), describing the principles as fundamentally active and passive does not mean that the principles are treated as mere analytical tools or "aspects" of bodies. In all cases, the two principles are the two most basic ingredients of all bodies, themselves bodies, the through and through blending of which constitutes the whole *kosmos* and the individual bodies within it. The fact that the principles are both bodies does not entail that they are not radically different from each other, embodying different facets of corporeality.

³²⁸ Philo of Alexandria, *On the Creation of the Cosmos, According to Moses*, 8 (=SVF II.302), Origen, *On Principles* 2.1.78 (=SVF II.304), Sextus *M* 9.75-6 (=SVF II.311 = LS 44C)

Tensional motion is a principle that fulfils a similar role to god, although at a different level of explanation. As discussed in section 1.2.4. of chapter I, in the early Stoic theory, natural bodies were described and explained in many different ways. Some of these explanations build on each other, while others complement each other. Tensional motion is a principle of qualification, unity and ontogenesis on the pneumatic level, in a purely mechanistic framework. Its corporeality is not as unambiguous as that of god, however, there is ample indirect evidence in support of it.

First, there is some direct textual evidence. Diogenes Laertius states that tension and sympathy are bodies according to the Stoics,³²⁹ and Galen makes the same claim about motion.³³⁰ Secondly, neither tension, nor motion – both of which play a central role in the early Stoic system – are listed among the four canonical incorporeals. Finally, and most importantly, tensional motion is clearly a causally efficacious entity. As seen in chapter III, it defines the tension (*tonos*) of a portion of *pneuma*, making it *pneuma* disposed in a certain way (*pōs ekhon*), and thus brings about the qualities that characterize the body permeated by *pneuma*.³³¹

As to tensional motion's immateriality, first of all, it is extremely counterintuitive to suggest that motion is an entity made up of matter. Nevertheless, early Stoic thinkers are notorious for proposing ideas that may seem unacceptable to us and were also shocking to their contemporaries, so we cannot rely on common sense alone, if we aim to provide an accurate reconstruction. However, there is no evidence that states that motion is material, and there is not even a material element that would be commonly associated to it. Furthermore, just like god, tensional motion has to be immaterial for the reasons discussed above (as well as in section 4.1). If it were material it could not play a role in identity and individuation.

³²⁹ DL VII.139.

³³⁰ Galen, *On incorporeal qualities*, 4. Vol. XIX p.473 K. (=SVF II.385).

³³¹ One definition of qualities is "*pneuma* disposed in a certain way" Plutarch, *On Stoic self-contradictions*, 1053F-1054B, Alexander of Aphrodisias, *On Aristotle's Topics* (SVF II.379), Galen, *On incorporeal qualities* Vol. xix p. 467 K. (=SVF II.384).

4.3 Stoic Conceptions of Body

Thus, it seems that the Stoic notion of body has to be such that allows for the existence of entities that are corporeal but not material, otherwise Stoic cosmology and ontology will be incoherent. In order to see whether the Stoics indeed had a conception of corporeality allowing for immaterial bodies, I shall begin with a survey of the extant direct evidence on the conception of corporeality. There are three extant Stoic accounts of body. First, there is (C₁) “Something is a body if it can act and/or be acted upon.”³³² Second, we have the varieties of (C₂) “A body is something that has three dimensions.”³³³ This formula can be found on its own in Arius Didymus, whereas in other versions, it is added that a body should also have solidity³³⁴ or resistance (*antitupia*).³³⁵ And there is also (C₃) “A body is something that takes up place.”³³⁶ These three accounts, although informative, do not settle the matter on how “body” should be understood in Stoic context. First of all, none of these accounts is a *definition* of body. None of them is formulated in the way a definition should be formulated according to Stoic standards.³³⁷ Furthermore, it is open to question whether these formulae are all genuinely Stoic, and whether any of them (or even all of them taken together) spell out the necessary and sufficient conditions of corporeality.

³³² This conception of body can be found in a negative version in Cicero, *Academica* I.39 (SVF I.90 = LS 45A), Sextus Empiricus, *M* 8.263 (SVF II.363 = LS 45B) and Plutarch, *On Common Conceptions* 1073E.

³³³ Arius Didymus *Epit. Phys. fr.* 19 Diels (= SVF II.357), without mentioning resistance or solidity.

³³⁴ DL VII.137 and Philo of Alexandria, *On the Creation of the Cosmos, According to Moses*, § 36 (= SVF II.358).

³³⁵ Galen, *On Incorporeal Qualities*, (= SVF II.381). Also, both three-dimensionality and resistance are mentioned in Plotinus’s *Enneads* VI. 1.26. This conception of body has been attributed to Epicurus by Sextus Empiricus in *M* 1 and *M* 11.226. Cf. Gábor Betegh, “Body,” in *Sextus Empiricus and Ancient Physics*, eds. Keimpe Algra and Katerina Ierodiakonou, (Cambridge: CUP, 2015) 140.

³³⁶ Sextus Empiricus *M* 10.7.(= SVF II.501) and VIII.263 (SVF II.263 = LS 45B), Plutarch, *On Common Conceptions* 1073E The converse of this formula was used in the Stoic descriptions of the concept of place: e.g. Stobaeus 1.161,8-26 (=SVF II.503 part= LS 49A), Sextus, *M*,10.3-4 (=SVF II.505 part = LS 49B).

³³⁷ Betegh, “Body,” 136, Brittain, Charles “Common sense: concepts, definition and meaning in and out of the Stoa,” in *Philosophy of Language in the Hellenistic Age*, edited by Dorothea Frede and Brad Inwood, 186-191. Cambridge: CUP, 2008.

Sorabji, *Matter Space and Motion*, 186-196.

C₂ and C₃ both describe bodies as extended in three dimensions; place is also described by the Stoics as something that is extended in three dimensions, thus C₃ gives a similar account of corporeality as C₂, to the extent that they both describe bodies as three-dimensional extended entities. However, as the concept of place also shows, three-dimensional extension in itself is certainly not a sufficient criterion of corporeality in the Stoic context, as it is not a feature unique to bodies. Besides place, void, another canonical incorporeal, is also described as extended in three dimensions by the Stoics.³³⁸ This is why resistance needs to be added to C₂, since it differentiates bodies from non-resistant entities like void and place.³³⁹ In C₃, resistance is already included in the formula as something that takes up place must have resistance. Some commentators have argued that the addition of resistance implies materiality, since resistance implies perceptibility, and perceptibility has been linked to materiality in the thought of predecessors and contemporaries.³⁴⁰ Others have suggested that adding *antitupia* is equivalent to incorporating C₁ into the formula since resistance refers to causal efficacy both here and in the Epicurean context.³⁴¹ On this interpretation, resistance is understood as the capability to react to being affected by another body and affecting that body in turn.³⁴²

Some commentators have questioned whether the addition of "resistance" (*antitupia*) in C₂ is a genuinely Stoic amendment. The formula of C₂ is also attributed to the Epicureans,³⁴³

³³⁸ Galen, *On incorporeal qualities*, 19.464, 10-14 (=SVF II.502 = LS 49E), Stobaeus, *Eclogae*, I 142,2 W (=SVF II.482).

³³⁹ According to John Cooper, the addition of resistance is necessary to distinguish physical bodies from geometrical objects. I agree that the addition of resistance adds an element of distinction, however, I believe that the focus is not on geometricals. Cooper, "Chrysippus on Physical Elements," 97-8 (cf. de Harven "Resistance," 4 and Betegh, "Body," 141 and "Colocation," 399.).

³⁴⁰ Martin Skipper, "Stoic Unformed Substance and Old Academic Ontology," 2009, (PhD dissertation, University College London,) 80-82, 104. The relation between materiality and perceptibility is explicit in both Plato and Aristotle, e.g. the description of bodies as tangible and visible in the *Timaeus* (e.g. 28b) and Aristotle's distinction between perceptible and intelligible matter in *Metaphysics* Z 1036a9-12 and 1036b32-1037a5.

³⁴¹ Gábor Betegh suggested this to me.

³⁴² Betegh, "Colocation," 400-401. John Cooper gives a similar definition of resistance: "Because both god and matter *occupy* the same space, however, and are not, like geometrical figures, simply spread through it, each has something it must confront and engage with in mutually occupying the same space. That—nothing more—is how we must interpret the notion of 'resistance' here." "Chrysippus on Physical Elements," 98.

³⁴³ Cf. Sextus *M* 1.21.

and the term *antitupia* is relatively novel and does not seem to be widely used until 1st century BCE.³⁴⁴ Marwan Rashed pointed out that C₂ was rejected by some Stoics, although it may have been used by others, and he has also suggested that the formula was introduced by Posidonius drawing on Epicurean sources.³⁴⁵ Furthermore, this formulation of the conception of body is only attested by one source. Thus, I will be cautious with relying too much on C₂, however, I will note that while the exact formulation using *antitupia* may have been a later emendation and borrowed from the Epicureans, the notion of resistance may have been included in the conception of the body, either implicitly or under some other formulation that has not survived.³⁴⁶

As to C₁, it is a genuinely Stoic formula, and it also provides a demarcation criterion of corporeality. Various passages state or imply that according to the Stoics only bodies have the capacity to act and be acted upon, thus the capacity to act and be acted upon can certainly be taken as a sufficient criterion of corporeality. It is also a necessary criterion of corporeality: if something cannot act and/or be acted upon, it is not considered a body by the Stoics. For example, the incorporeality of void and place is derived from the fact that they are causally inert.³⁴⁷ Based on these considerations, some modern commentators³⁴⁸ have suggested that the Stoic conception of body should be understood as a revisionary one, defined by nothing else but the capacity to act and/or be acted upon.

³⁴⁴ As Gábor Betegh points out, *antitupia* is first attested in Aristophanes of Byzantium in the *Epitome* of Aristotle's *Historia Animalium*, and then there are no datable attestations until the term is again used by Philodemus. ("Colocation," 399.)

³⁴⁵ Rashed, "Posidonius on Matter, Body and Surface," 325-6.

³⁴⁶ My reason for including resistance in the Stoic concept of body is not merely speculative. As I discuss below, resistance to touch should be considered a crucial characteristic of bodies. Moreover, the key passage of Plato's *Sophist* (246a-b) that has been identified as a major influence for Stoic corporealism describes the criterion of existence of the "Sons of the Earth" in a very similar way, although not using the term *antitupia*.

³⁴⁷ e.g. Cleomedes, *On the circular motion of celestial bodies*, 8, 10-14 (SVF II.541 = LS 49C) cf. Sedley, "Hellenistic Physics and Metaphysics," *Cambridge History of Hellenistic Philosophy*, 383-4.

³⁴⁸ Margaret Reesor, "The Stoic Concept of Quality," 42-3. Andrea Falcon, *Aristotle and the Science of Nature*, 52, Katja Vogt "Sons of the Earth," 142-3. Gourinat, "The Stoics on Matter and Prime Matter," 58.

Although I agree with the idea that the Stoic concept of body is defined by C₁, I am not sure about the extent to which the Stoic notion of body is revisionary. I believe that although their conception of corporeality is focused on causal efficacy, they still considered material objects to be paradigmatic examples of bodies. Otherwise, it is not clear why they called causally efficacious entities "bodies" and not something else. If all they wanted to say was that only causally efficacious beings can exist, and they did not want to imply that such entities have to be sensible, solid, three-dimensional bodies, then they could have used a different, more neutral term to refer to whatever entities they considered to be capable of action and/or suffering. However, they must have had a reason to insist that all existents have to be *bodies*, and not some other kind of thing. It is much more plausible that the Stoics limited existence to bodies not because they called entities capable of action and passion "bodies", but rather because they accepted the capability of acting and being acted upon as a criterion of existence,³⁴⁹ and concluded that *based on this criterion*, only bodies can be existents because there is something about bodies that makes them the only kind of things that have that property.³⁵⁰ On these grounds I conclude that C₁ cannot be taken as a defining criterion of corporeality, unless the meaning of "to act and/or be acted upon" is further specified, possibly by including C₂ and C₃ as criteria of corporeality in the formulation.

4.3.1 The Graft of Corporeality Arguments

In order to get a better understanding of the Stoic notion of corporeality and its relationship to C₁₋₃, I suggest looking at examples of non-traditional bodies, and see which properties of such entities were identified as necessary or sufficient conditions for their corporeality by the Stoics. In what follows I will discuss arguments that were used to establish

³⁴⁹ As Jacques Brunschwig famously argues, the Stoics developed their criterion of existence based on a "critical reflection" on Plato's *Sophist*, where this criterion of existence features first. "The Supreme Genus," 116.

³⁵⁰ For a similar analysis, although put in a slightly different way, see LS I, 273.

the corporeality of entities that were not traditionally considered to be bodies. These arguments were called "graft of corporeality" arguments by Jacques Brunschwig.³⁵¹ They were employed by the Stoics to prove the corporeality of sound, soul, virtues and god.

These arguments can be classified in two groups: those that are along the lines of (A₁) "Only a body can be in contact with a body; *a* is in contact with *b*; *b* is a body; so *a* is a body."³⁵² And arguments such as (A₂) "That which has a corporeal substrate is itself corporeal; *a* has *b* as a substrate; *b* is a body; so *a* is a body."³⁵³ In both cases *b*, the body that *a* is in contact with or which is the substrate, is a material object. In the case of (A₁) the soul is in contact with an animal body, in the case of (A₂) the substrate of the soul is *pneuma*, that of sound is air, and that of qualities is *pneuma* (or matter).

David Hahm also lists god as an example of an entity whose corporeality can be proven by the fact that it has a corporeal substrate. Nevertheless, two of the three passages he quotes just state that god is a body because he is identical to fire,³⁵⁴ one of them inferring from this fact that god is a body.³⁵⁵ The third passage by Clement states that god is a body, and that his substance is *pneuma*. However, Clement does not infer one statement from the other.³⁵⁶

Arguments of type A₁ show that the ability to be in contact with a material body is a sufficient condition for corporeality, whereas arguments of type A₂ show that having a material substrate is also a sufficient condition for corporeality. I will discuss the implications of the two arguments separately. I will start with a discussion of arguments of type A₁, which I believe

³⁵¹ "The Supreme Genus," 133.

³⁵² SVF II.790, 791; cf. 792. Cf. Hahm in his *The Origins of Stoic Cosmology*, 3.

³⁵³ (SVF I.137; II.773, III.305 and cf. II.793) in the case of the soul, (SVF III.305), in the case of the virtues, (SVF II.139, 141) in the case of voice, (II.1031, 1032, 1035) in the case of god and (cf. SVF II.376, 379, 380) in the case of qualities, all quoted by Hahm in *The Origins of Stoic Cosmology*, 4.

³⁵⁴ Eusebius, *Evangelical Preparation* (= SVF II.1032). "According to the Stoics, who say that the *hēgemonikon* of the *kosmos* is a fiery and hot substance, and that god is a body and that the demiurge himself is not different from the power/potency(*dunamis*) of fire [...]"

³⁵⁵ Servius, *Commentary on the Aeneid*, (=SVF II.1031) "Aut certe secundum eos locutus est, qui dicunt deum corporalem esse et eum ita definiunt *pur noeron*, id est ignem sensualem. Quod si verum est, corpus est."

³⁵⁶ Clement of Alexandria, *Stromata*, V.14,89,2. (= SVF II.1035) "Φασὶ γὰρ σῶμα εἶναι τὸν θεὸν οἱ Στωϊκοὶ καὶ πνεῦμα κατ' οὐσίαν, ὥσπερ ἀμέλει καὶ τὴν ψυχὴν."

can help us in establishing the correct interpretation of C₁ and then move on to the discussion of arguments of type A₂, which can help us get an insight into the nature of bodies such as god and motion.

4.3.2 Corporeality and touch

Arguments of type A₁ show that the ability to touch (or be in contact) is a sufficient condition for corporeality. If something can touch a body or can be touched by a body, then it can safely be established that it is a body. The formulation that ties bodyhood to the capability of being the subject or the object of an action is reminiscent of C₁. This structural parallelism is not a mere coincidence: arguments of type A₁ operate with the criterion of corporeality formulated in C₁. As Jacques Brunschwig pointed out, the capacity of action and/or passion in C₁ should be understood as touching,³⁵⁷ which is a form of *local motion*, implying contact between two resistant, (and in most cases extended and material) bodies.³⁵⁸ If an entity can affect a body in such a way, then it is safe to suppose that it itself is a body.

There are several reasons to think that the paradigmatic case of causation for the Stoics is touching. First of all, the passage in Plato's *Sophist* that describes the approach of the Sons of the Earth to existence itself uses touching as a criterion of existence:

³⁵⁷ Anthony Long and David Sedley also consider that action and passion can only take place through contact. In the Stoic framework. LS 273.

³⁵⁸ Brunschwig draws this conclusion from, *SVF* II.497, and 492. "The Supreme Genus," 132-3. I would like to add in support of this analysis that according to Simplicius, the Stoics retraced all change (*kinēsis*) to locomotion (*topikē kinēsis*), Simplicius, *On Aristotle's Physics*, 1320,19 Diels. (=SVF II.496).

T24 Plato, *The Sophist*, 246a-b

οἱ μὲν εἰς γῆν ἐξ οὐρανοῦ καὶ τοῦ ἀοράτου πάντα ἔλκουσι, ταῖς χερσὶν ἀτεχνῶς πέτρας καὶ δρυὸς περιλαμβάνοντες. τῶν γὰρ τοιούτων ἐφαπτόμενοι πάντων δισχυρίζονται τοῦτο εἶναι μόνον ὃ παρέχει προσβολὴν καὶ ἐπαφὴν τινα, ταῦτόν σῶμα καὶ οὐσίαν ὀρίζόμενοι, τῶν δὲ ἄλλων εἴ τίς τι φήσῃ μὴ σῶμα ἔχον εἶναι, καταφρονοῦντες τὸ παράπαν καὶ οὐδὲν ἐθέλοντες ἄλλο ἀκούειν.

Some of them try to drag down everything from the heavens and the unseen, simply grasping ‘rock and oak’ in their hands. Claspng everything like that to them they insist that what is is constituted exclusively by what offers resistance to touch in some way, treating body and being as the same thing; if anyone claims that anything else is and it doesn’t have a body, they totally despise him and won’t listen to another word. (Translated by Christopher Rowe)³⁵⁹

The Stoic theory of perception explains our acquiring sensory impressions through touching, even in the case of sense-modalities where direct contact between the perceiver and the perceived object is not evident. Both in the case of seeing and hearing the Stoics explained the act of perception in terms of physical impact.³⁶⁰ In the case of vision, the optic *pneuma* flows out from the pupil, transforms the surrounding air, which becomes tenser, and thus a cone is formed between the visual object and the pupil.³⁶¹ This cone functions like a “walking stick”.³⁶² it transmits information acquired by touching through impact to the optic *pneuma*

³⁵⁹ Plato, *Theaetetus and Sophist* (ed. Christopher Rowe) Cambridge: CUP (2015).

³⁶⁰ For a thorough and succinct overview of the Stoic account of sense perception see Håvard Løkke, “The Stoics on Sense Perception,” in *Theories of Perception in Medieval and Early Modern Philosophy*, eds. Simo Knuuttila and Pekka Kärkkäinen, (Dordrecht: Springer, 2008,) 35–46.

³⁶¹ DL VII.157 (SVF II.867= LS 53N), Aetius IV.15.3. and Calcidius, *Commentary on Plato’s Timaeus*, 237 (=SVF II.863)

³⁶² DL VII.157, Galen *PHP* VII.7.20

which is transmitted to the commanding faculty. In the case of hearing, the air between the sonant object and the faculty of hearing (i.e. the *pneuma* extended from the commanding faculty to the ears)³⁶³ is struck in the shape of a sphere, and again, the impulse is transmitted to the commanding faculty through the auditory *pneuma* by means of impact.³⁶⁴

What is more, it is generally true about Stoic epistemology and philosophy of soul (including action theory and theory of perception) that it employs accounts and explanations that operate with terms related to motion and touching. Impressions are imprinted on the soul due to the impact of sensory *pneuma*, impulse and passions are motions of the soul, and *oikeiōsis* is a result of the soul touching the body and the body touching the soul.

Finally, a further argument for interpreting the capacity to act on or be acted upon as touching can be devised based on the Stoic account of the causal effects of *lekta*. *Lekton* is translated as "sayable" by Anthony Long and David Sedley³⁶⁵ and could be understood roughly as the meaning of propositions and verbal predicates. What is interesting about them for our purpose is that they were considered incorporeals by the Stoics, even though their effect on human minds is a commonly observed phenomenon.

The Stoics distinguished between corporeal and incorporeal aspects of linguistic utterances. The utterance as a sound is an extended, resistant, material object that impresses itself on the mind, like a signet ring on wax.³⁶⁶ However, the sound itself is not identical to the propositional content it carries. That latter is an additional entity irreducible to the acoustic body. Whereas the utterance can be perceived by everyone whose acoustic organs are intact, the meaning can only be grasped by those who understand the language.³⁶⁷

³⁶³ Aetius 4.21.1-4 (=SVF II.836, part = LS 53H).

³⁶⁴ DL VII.158.

³⁶⁵ LS I 195-202.

³⁶⁶ Aetius 4.20.2 (=SVF II.387).

³⁶⁷ DL VII.57 (=LS 33A = SVF III Diogenes 20, part) Sextus Empiricus, *M*, 8.11-2 (=SVF II.166 part = LS 33B) and 8.70 (=SVF II.187, part =LS 33C).

However, the Stoics did not fail to observe that it is the *lekta* that affect our minds. Whenever we are brought to tears by a speech or convinced by an argument, we are affected by the propositional content of what was said, not the corporeal sounds constituting the utterance. Otherwise understanding the language in which the utterance was delivered would not be a prerequisite for emotional effect.

Since *lekta* are causally efficacious, they should be considered bodies if the criterion of corporeality was indeed C₁. However, *lekta* are incorporeals, precisely because they do not affect the mind by touching it, as the utterance does. Indeed, the Stoics go through a lot of pain to explain how these incorporeals affect the mind. They acknowledge that there is a change in the commanding faculty which can be retraced to the effect of *lekta*, but they claim that this change was not brought about by (*hupo*) *lekta*, but in relation to (*epi*) *lekta*.³⁶⁸

T 25 Sextus Empiricus, Against the professors, 8.409 (=SVF II. 85, part = LS 27E)

ὥσπερ γάρ, φασίν, ὁ παιδοτρίβης καὶ ὀπλομάχος ἔσθ' ὅτε μὲν λαβόμενος τῶν χειρῶν τοῦ παιδὸς ῥυθμίζει καὶ διδάσκει τινὰς κινεῖσθαι κινήσεις, ἔσθ' ὅτε δὲ ἄπωθεν ἐστὼς καὶ πῶς κινούμενος ἐν ῥυθμῷ παρέχει ἑαυτὸν ἐκεῖνῳ πρὸς μίμησιν, οὕτω καὶ τῶν φανταστῶν ἕνια μὲν οἰονεὶ ψαύοντα καὶ θιγγάνοντα τοῦ ἡγεμονικοῦ ποιεῖται τὴν ἐν τούτῳ τύπωσιν, ὅποῖόν ἐστι τὸ λευκὸν καὶ μέλαν καὶ κοινῶς τὸ σῶμα, ἕνια δὲ τοιαύτην ἔχει φύσιν, τοῦ ἡγεμονικοῦ ἐπ' αὐτοῖς φαντασιουμένου καὶ οὐχ ὑπ' αὐτῶν, ὅποιά ἐστι τὰ ἀσώματα λεκτά.

For they (the Stoics) say, just as the trainer or drill-sergeant sometimes takes hold of the boy's hands to drill him and teach him to make certain motions, but sometimes stands at a distance and moves to a certain drill, to provide himself as a model for the boy – so too

³⁶⁸ Sextus Empiricus, *M*, 8.409-10 (=SVF II.85, part = LS 27E)

some impressors touch, as it were, and make contact with the commanding faculty to make their printing in it, as do white and black and body in general, whereas others have a nature like that of the incorporeal sayables (*lekta*) and the commanding faculty is impressed *in relation* to them, not *by* them. (Translated by David Sedley)

I think that the case of *lekta* makes it clear that the capacity of acting/being acted upon as an unqualified criterion is not sufficient to demarcate corporeality. Not everything that can affect or suffer is a body, but only those entities that can do so by touching a material body or being touched by a material body. *Lekta* themselves do not have a physical impact on the *hēgemonikon* the way portions of air do, so they cannot be bodies.

On all these accounts, I conclude that C₁ should be understood as describing corporeality as the capacity to act and/or be acted upon by means of touching. I also conclude that since C₁ was employed by the Stoics as a necessary and sufficient condition of corporeality, this modified version of C₁ can also be considered as a necessary and sufficient condition of corporeality.

4.3.3 Substrate and Form – Stoic Hylomorphism

Such an account of corporeality seems to be in concordance with other evidence concerning the Stoic notion of causation and also explains why the Stoics would associate causal efficacy (and hence existence) with corporeality – the ability to act through touching is a property that only bodies can have. However, this reformulation of C₁ does not clear up all the questions I raised concerning the Stoic notion of body: it does not help in deciding whether bodies should be taken to be material objects or not.

Before proceeding to examining the possibility of immaterial bodies, let me stop and clarify what I take material to mean in the early Stoic framework. First and foremost: anything

that contains matter is material. So, anything that is known to be constituted by the passive principle is material. Since we know that the elements are made up of the through and through blending of the two principles, anything that is made up of the elements is material. Additionally, an important characteristic of matter is that it is infinitely divisible and has no intrinsic unity and identity.

Most of the non-traditional bodies (qualities, soul, *etc.*) featuring in arguments of type A₂ are about entities that are defined as *x disposed in a certain way* (*pōs ekhon*), qualities and the soul are described as *pneuma* disposed in a certain way,³⁶⁹ virtues as the *hēgemonikon* disposed in a certain way,³⁷⁰ sound as air disposed in a certain way.³⁷¹ Such entities are not independently existing material bodies, their matter is the matter of the body that they are the dispositions of.³⁷² These objects are themselves material because their material substrate is constitutive of them, that is, they are defined both by their constitutive substrate³⁷³ and structure. Thus, these objects, although different from their bodily substrate to the extent that they have a structure besides the structure characterizing their material substrate,³⁷⁴ are still identical to the body that they are the dispositions of, insofar as they do not have a peculiar quality of their own. Moreover, they are dependent on the body that serves as their substrate both for their existence and their specific nature. For example, the fact that the soul is defined as *pneuma* disposed in a certain way, does not only entail that the soul is defined by the kind of structure specific to souls, but also that soul is a kind of *pneuma*.

However, arguments of type A₂ leave open the possibility that there are also bodies that have matter, in the sense that they have a material substrate, but they are not material, because

³⁶⁹ Plotinus, *Enneads* IV.7.4.11-4.

³⁷⁰ Seneca, *Letters*, 113.

³⁷¹ Scholia Arati V. 1 (= *SVF* II. 139), Gellius, *Attic Nights* V. 15 (= *SVF* II.141). God is an exception to this as he is not defined as anything disposed in a certain way.

³⁷² Cf. Menn, "The Stoic Theory," 239.

³⁷³ What I call constitutive substrate here is not substrate in the absolute sense, that is unqualified matter, but the qualified material body that serves as a subject or substrate for a disposition.

³⁷⁴ *ibid.*

they are not compounds of a material substrate and a structure. God is an example of such an entity. While he does have a material substrate, matter (although the substrate is also identified sometimes as fire,³⁷⁵ sometimes as the *pneuma*,³⁷⁶ and sometimes as the *kosmos* itself),³⁷⁷ he is not constituted by that substrate and his nature is only determined by that substrate to the extent that he could not exist without it. God is radically different from matter, his properties and nature are not determined by his material substrate, and he is not reducible to matter. Objects like god need to have matter or a material object as a substrate, but that matter does not constitute them.³⁷⁸

Stating that god's substrate is fire or *pneuma* may seem to be in contradiction with my previous claim that god is an immaterial entity, that is radically different from and irreducible to matter. This apparent contradiction can easily be resolved. First of all, as attested by the evidence presented in chapters I-III, early Stoics (and those reporting on their philosophy) tended to be somewhat cavalier about the metaphysical status of entities, depending on the focus of their discussion. One will often find that the same thing is described in different, often contradictory terms, and such discrepancies cannot be fully blamed on the unreliability of textual evidence. In addition, we have also seen that descriptions and accounts are often multi-layered and multifaceted. It is an indubitable fact that god was identified with both fire and *pneuma*. This is a statement confirmed by a multitude of sources. However, stating that god is fire or *pneuma* or that his substrate is fire or *pneuma* is just one of the many descriptions of god. He is also identified with intellect, *logos*, the *hēgemonikon* of the world and is often personified and identified with Zeus as well as other gods of Greek mythology.

³⁷⁵ Servius, *Commentary on the Aeneid*, VI, 727. (= SVF II. 1031 = Df. 1039), Eusebius, *Evangelical Preparation*, III, 9, 9, 2-4 (= SVF II.1032 = Df. 1040).

³⁷⁶ Tertullian, *Apology*, 47, 6-7 (= SVF II.1034 = Df. 1041), Clement of Alexandria *Stromata*, V, 14, 89, 2 1-3, 2 = SVF II. 1035 = Df. 1042), Theophilus of Antiochia, *To Autolycus*, II, 4, 7, (= Df. 1041)

³⁷⁷ DL VII.148 (= SVF II.1022)

³⁷⁸ It has to be noted that my analysis of the Stoic concept of immaterial body shows some similarities to Aristotle's account of form. Cf. the case of the soul in *De Anima* 414a20-2. "The soul cannot be without a body, while it cannot be a body; it is not body but something relative to a body."

In addition to god, tensional motion is also such an immaterial entity, since it also conforms to the above description. Neither tensional motion nor god can exist without a material substrate: god cannot exist in separation from matter³⁷⁹ and tensional motion cannot exist in separation from *pneuma*. However, neither of them is defined by their material substrate or identical to it in any way. Tensional motion needs a material substrate, *pneuma*, for its existence, but it is different from *pneuma* and is not defined by the nature of *pneuma*. Quite the opposite, different kinds of *pneuma*, and the qualities inherent in a portion of *pneuma* are defined by the tensional motion inherent in them. As to god, although he is inseparable from matter, he is also completely different from it, since he is all activity whereas matter is all passivity. He is not defined by its material substrate, as it is he that structures matter.³⁸⁰

Whether we agree with the statement that tensional motion and god are not defined by their material substrate depends on whether we attribute a top-down or bottom-up metaphysical theory to the Stoics. In a top-down framework, tensional motion would be the principle determining the qualification of the *pneuma*, including the ratio of air and fire in it. In a bottom-up framework, the nature of the tensional motion would be determined by the ratio of the active elements, and as such it would be very much dependent on the material constitution of the *pneuma*. Similarly, the relationship between god and the *kosmos* can also be construed as a bottom-up one, instead of the traditional top-down interpretation. As opposed to being the ultimate cause of the structure of the world and the motions within, god, as the peculiar quality of the *kosmos*, could be grasped as an entity whose existence and nature is a result of the way individual entities constitute the world.

³⁷⁹ Calcidius *Commentary on Plato's Timaeus* 293(= LS 44E) and 294 (= IG 65), SVF II. 306, SVF II.318, 1054, Proclus, *Commentary on Plato's Timaeus* 81e (=SVF II.307), 126 b 297 (=SVF II.1042), 299 c (=SVF II.307); *Commentary on Plato's Parmenides*, IV (col. 921.13 Cousin, not in SVF), *Commentary on Plato's Timaeus*, 81e (=SVF II.307), 126 b (not in SVF), 297 (=SVF II.1042), 299 c (=SVF II.307); *Commentary on Plato's Parmenides* IV (col. 921.13 Cousin, not in SVF) SVF II.308 quoted by Lapidge, “ἀρχαί and στοιχεία,” 245.

³⁸⁰ Sextus Empiricus, *M* 9.75 (=SVF II.311= LS 44C), *M* 10.312 (=SVF II.309), DL VII.136, Simplicius, *On Aristotle's Categories*, 302 29-35 (=SVF II.342) Proclus, *Commentary on Plato's Parmenides*, V p.74 (=SVF II.343).

If we are to go with the top-down analysis, which is the traditional way of understanding the relation between the active and the passive principle as well as the resulting blending of the two i.e. the *kosmos*, we need to conceive of god as an immaterial body. There are several reasons why we should consider god and tensional motion to be both immaterial and corporeal. On the one hand, they are immaterial because they do not have any matter (in) them,³⁸¹ and are completely irreducible to matter. On the other hand, they are bodies according to the evidence, given that they are causally efficacious, existent beings, they do not feature in the list of the four canonical incorporeals, and the reasoning of argument A₂ also attests to their corporeality.

Nevertheless, while the evidence suggests corporeality, showing that god and tensional motion are bodies, as described by the reformulated version of C₁, is a rather daunting task. It is really hard to conceive of an immaterial entity as something capable of “touching” or “being touched”. While there are ways in which a tactile interaction between these entities and their substrate could be pictured, the evidence supporting the idea that god and tensional motion act through touching is scarce and can be considered purely allegorical: in some passages, god is personalized and pictured as a craftsman, he is depicted as moving and shaping the matter, turning it into various objects.³⁸²

As to tensional motion, it could be argued that its relationship to *pneuma* is analogous to the relationship between god and matter, and there is a similar act of moving and shaping. Tensional motion structures the body and *pneuma* throughout embryonic development, bringing about the structure of the body and the *pneuma* as well as entities such as qualities and virtues. Furthermore, it could be argued that tensional motion makes the *pneuma* taut or lax by pushing out or pulling together the chunks of air and fire that constitute *pneuma* and arranges *pneuma* in different structures, making *pneuma* disposed in a certain way. Finally, the fact that god is thoroughly mixed with matter and that tensional motion is inherent in *pneuma*

³⁸¹ cf. Cooper, “Chrysippus on Physical Elements,” 100.

³⁸² DL VII.134 (=LS 44 B), Sextus Empiricus, *M* 9.75 (=SVF II.311= LS 44C), SVF II.342,343.

is in itself sufficient proof that there is some level of physical interaction between substrate and motion.

4.4 The Theory of Immaterial Bodies: Objections and Limitations

The above theory fits well with a large percentage of the surviving evidence and helps to make sense of contradictions and difficulties at the very heart of the early Stoic metaphysical theory. However, it is not without faults, and most importantly, it cannot be considered as a truthful reconstruction of the early Stoic metaphysical theory. While I maintain that immaterial bodies are entities that could have and should have existed in the framework of early Stoic metaphysics and natural philosophy, I am also confident that this notion was never actually introduced by Zeno, Cleanthes, Chrysippus or their followers. Identifying immaterial bodies as principles of qualification, unity and identity would have been the logical conclusion of the theory, especially after the introduction of notions such as *pneuma*, tensional motion and dispositions, however, this identification never took place.

The inclusion of *pneuma* in Stoic physics muddled the clear distinction between the active immaterial principle and the passive material principle. The immateriality of god was already somewhat problematic, as he was identified with the element fire, and was infinitely divisible himself, insofar as he was thoroughly blended with matter. However, in the framework distinguishing between god, a creative and intelligent fire, distinct from the element fire, and matter, there was a clear distinction between the active principle and entities made up of the “ordinary” four elements. In this framework, the active principle was not explicitly identified as material insofar as he did not have matter in him, as he was not made up of elements that were themselves derived from the blending of god and matter.

In the framework that also contained *pneuma*, god and matter remained to be the ultimate principles of explanation, but the qualification, unity, motions and life of natural bodies was

accounted for with reference to the *pneuma*, an active, but material principle. While this account allows for a more realistic and scientifically accurate³⁸³ account of the nature of living bodies, and helps to bring metaphysics closer to physics, the lack of an immaterial principle causes problems on the metaphysical level. These metaphysical problems are especially concerning in light of the theory of peculiar qualification and the theory of unity.

What our texts show is that these issues were at least partially recognized. First of all, the evidence reports on metaphysical entities inherent in *pneuma* (*logos* and *spermatic logoi*) that have all the characteristics of the immaterial active principles described in section 4.3.3, even though they are not explicitly identified as immaterial principles. Moreover, our texts also support the idea that the *pneuma* is not an ultimate principle of explanation, insofar as it is not a simple, and it is itself qualified, unified and moved by a further principle, tensional motion.

While it is thus tempting to identify tensional motion and *logos* as immaterial principles of explanation on the level of *pneuma*, again the connection is not made by our texts. While tensional motion clearly fulfils a role analogous to god on the microcosmic level, in a biological framework, it is never explicitly linked to god and does not appear in discussions that have an explicit metaphysical focus either. It is not mentioned in texts discussing the four genera – it is neither linked to peculiar qualification, individuation or identity by our texts, nor is it mentioned with relation to the third category, even though there is a clear conceptual link between tensional motion and dispositions in *pneuma* which both account for qualification. Tensional motion is treated exclusively as a biological and physical entity, and while some texts describe it as a principle of qualification, the only metaphysical contexts it features in are discussions on unity.

The failure of making a connection between clearly analogous principles of explanation, and the simultaneous use of a variety of explanatory tools (cf. section 1.2.4) confirms what has

³⁸³ Accounting for the life, motion and thought of natural bodies in terms of *pneuma* as an explanatory principle was in concordance with medical and anatomical theories of the time.

been stated in the opening remarks of chapter I (section 1.1.2) with regard to the notion of Stoic metaphysics. While it makes sense to talk about a Stoic metaphysical theory, as there are some overarching metaphysical considerations present in the whole of the Stoic corpus, it would be a mistake to treat metaphysical concepts and explanations as part of a coherent, unified system. While there is a good amount of evidence that points in a certain direction, and there are definitely shared tendencies between different notions and explanations (i.e. tension, tensional motion and dispositions; tensional motion and god and tensional motion and peculiar qualification), there is no evidence of an effort to build a unified, structured and streamlined system that is philosophically coherent. It was simply not a project that the early Stoics prioritized or pursued.

Similar considerations apply to the reconstruction of the inheritance of qualities presented in chapter III. All the premises of the theory are true, and there is definitely potential in the Stoic theory to provide a coherent answer to such a difficult question. However, besides the Porphyry passage quoted in chapter III,³⁸⁴ there is not much direct evidence to support the theory. Although it is clearly stated that qualities are *pneuma* disposed in a certain way, and the disposed bodies can be analysed into a motion and a substrate, and it is also attested that the pneumatic substrate changes through ontogenesis, while some structures and ratios remain the same in the *pneuma*, there are no reports on any inferences drawn from these premises. Thus, the textual evidence is insufficient to assuredly state that there was a fully developed coherent theory that accounted for the inheritance of species and individual properties in terms of motions, and for the realization of those properties in terms of a combination of motion and pneumatic substrate. All in all, there is not enough evidence that the reconstruction is not just coherent and possible, but also an accurate representation of the early Stoic doctrines.

³⁸⁴ *Ad Gaurum* 14.1-3.

These two issues are minor inconsistencies present only at a certain level of explanation. As stated previously, ultimately everything can be accounted for in terms of the blend of god and matter. Nevertheless, these issues highlight very serious theoretical conflicts at the heart of the Stoic metaphysical theory that have already manifested themselves in previous chapters. The difficulties around identity, unity, ontogenesis and corporeality can all be retraced to the simultaneous use of theories that do not just contradict each other but are in diametrical opposition.

These conflicting explanations were already touched upon in previous chapters, however, I believe that they should be discussed in more depth in this final part of the dissertation, as I conclude my examination of the account of natural bodies. The early Stoic metaphysical account is characterised by a hesitation between a top-down and a bottom-up account of the ontology of the *kosmos* and other natural bodies, as well as between a literal and a hylomorphic understanding of corporealism.³⁸⁵

By a top-down account I mean an account in which explanations of the unity, identity, qualification, development and behaviour of entities is explained by one principle that prescribes and determines the nature of the components of the individual entity and the possible development, organization and interaction of these components. By a bottom-up account, I mean an account in which explanations of qualification, unity, development and activities are derived from the constituents and parts of an entity and the relationship between these constituents and parts.

As to the interpretation of corporealism, by hylomorphic corporealism I understand a construal of corporealism according to which individual bodies are analysable into a passive, matterlike principle and a structuring, qualifying principle that is also responsible for unity, identity, development and possible activities. The active principle is construed as a body in

³⁸⁵ My understanding of literal corporealism overlaps significantly with de Harven's reconstruction of Stoic corporealism in "Resistance", 7-12.

hylomorphic corporealism, as it is causally efficacious and interacts mechanically with its corporeal substrate, which is a material body.

By literal corporealism I understand an analysis according to which bodies are three-dimensional, solid masses, made up of infinitely divisible, gunky matter. On this analysis, bodies are qualified in virtue of the different stuffs that they are made of; ultimately the analysis is in term of the four elements – which are also described by some evidence as having developed from each other³⁸⁶ and acting on each other.³⁸⁷ It is not so much qualities and motions that define a body, but the qualities and the motions are a result of the combination and interaction of elemental bodies that make up a complex body.

While some metaphysical and physical analyses suggest a top-down approach, other issues are clearly solved in a bottom-up way. The theory of unity and qualification, the four genera, as well as diachronic identity and individuation, strongly suggest that entities are unified and individuated in a top-down way. This account pairs well with a hylomorphic understanding of corporealism that accounts for all sorts of qualification, unity and activity in terms of the presence of an indivisible active principle in matter. As opposed to this, the account of epistemic individuation and the analysis of bodies and their properties in terms of elemental components, the account of inheritance in terms of the layering of motions, as well as the understanding of identity and qualification in terms of ratio and elemental constitution seem to suggest a bottom-up analysis. This approach meshes well with the literal understanding of corporealism although in some cases the bottom-up analysis can be also combined with the hylomorphic approach (the account of inheritance presented in chapter III is a good example of that).

I believe that the coexistence of these conflicting approaches is the main reason for the interpretative difficulties that commentators face when attempting to give a coherent

³⁸⁶ Stobaeus, *Eclogae*, I.129,2 -130,13 (= SVF II.413 = LS 47A)

³⁸⁷ Galen, *On Bloodletting*, Df. 432

reconstruction of the early Stoic metaphysical theory. The theory is not only difficult to reconstruct because the evidence is patchy and often untrustworthy, but because the metaphysical accounts are not coherent and are not integrated in a unified theoretical framework. As stated in chapter I, the early Stoics had some overarching theoretical considerations, such as the commitment to corporealism, their theory of causation, and the theory of cyclical cosmogony. However, these are just isolated metaphysical statements, that serve as signposts or dogmata that guide and limit the philosopher when pondering a particular question of metaphysics or natural philosophy. These metaphysical considerations do not form a logically and epistemologically coherent system, which is why solutions to metaphysical problems can be governed by contradictory metaphysical considerations.

Nevertheless, this grave metaphysical inconsistency does not mean that we should dismiss the Stoics as “metaphysical brutes.” It is not the case that they failed to notice fundamental contradictions in their metaphysical theory. They were just not working on “a” theory, and their answers to metaphysical problems were not necessarily based on an underlying metaphysical theory, as much as other philosophical considerations. This disinterest in metaphysics is not unique to the early Stoics. They were not the first or the last people that aimed to give a comprehensive account of the world, without grounding and framing that account in a well-thought-out, unified and sleek metaphysical theory.

4.5 Conclusion

In this chapter I examined the Stoic notion of body, focusing on the possibility of immaterial bodies in the early Stoic framework. I argued that for the sake of the coherence of the Stoic metaphysical theory, it is necessary that immaterial bodies exist, otherwise both the

account of unity and identity and the tenet of the two principles would be inconsistent. I established that while the Stoic notion of body itself is not completely revisionary and is primarily inspired by the concept of “ordinary,” three-dimensional, material solid bodies, it allows for the existence of bodies that do not contain matter in themselves. The gist of the Stoic notion of body is that an entity is corporeal if it is able to touch another body. Such a conception of body allows for the existence of immaterial corporeals, as long as such entities can have tactile interaction with “regular” bodies.

In section 4.3.3 I argued that both god and tensional motion satisfy the above criterion of corporeality: by being immanent to their respective substrates and by shaping and moving their material substrates they are touching a body. As to their immateriality, I argued that insofar as they do not contain matter, they are distinct from their substrates and qualify the substrate that is absolutely (in the case of matter) or relatively (in the case of *pneuma*) unqualified. Thus, I have concluded that the Stoic conception of body allows for the existence of immaterial bodies and there are good arguments for supposing that god and tensional motion are such bodies. This supposition resolves the conflict around the nature of the principle of unity, qualification, identity and individuation and as such allows for a coherent theory of qualification, unity, identity and individuation.

In section 4.4, I took a critical look at the conclusions of this chapter, and examined whether they were not only sound, but also historically accurate. I concluded that while the reconstruction presented in section 4.3.3 may be a logical and coherent reconstruction of the Stoic notion of body, in light of the issues I had discussed in previous chapters, there is little reason to believe that the solution I have presented was actually espoused by the Stoics. Instead, the incoherencies between the account of corporeality and causation and the theory of qualification highlight the existence of theoretical contradictions that are omnipresent in Stoic metaphysical teachings.

I concluded that the theory is fundamentally inconsistent due to these underlying contradictions, and that a coherent metaphysical theory should thus not be pursued by commentators, just like it was not pursued by the early Stoic philosophers themselves. The evidence clearly shows that the early Stoics had the theoretical tools and the philosophical finesse to develop a coherent and unified metaphysical theory. However, instead of committing to one theoretical approach and developing an account of natural philosophy within a unified metaphysical framework, they were happy with a piecemeal theory that may have provided satisfactory answers to particular philosophical problems, but was rife with theoretical contradictions on a global level.

Conclusion

In this dissertation I gave a reconstruction of the early Stoic account of the ontology of natural bodies. I worked with the hypothesis that early Stoic metaphysics is not reducible to physics and is governed by a strong commitment to certain metaphysical doctrines. My aim was to examine whether there is a unified metaphysical theory that could be attributed to the early Stoics and to reconstruct this theory along the lines of classical philosophical problems related to the ontology of natural bodies.

I started my investigation by presenting the problem of identity and individuation in chapter I. This issue is at the centre of many considerations relevant for understanding the metaphysics of individual natural bodies, such as qualification, unity, material constitution, and the different levels of analysis of the ontology of natural bodies. The evidence states that persistence and individuation are accounted for by peculiar qualification, however it is never clarified what peculiar qualification consist in. I concluded that identifying peculiar qualities is an extremely difficult task, as these entities need to be both persistent and qualitatively unique.

In chapter II, I looked at the metaphysical account of unity, focusing on the relationship between qualification and unity, considering that entities accounting for unity have often been identified as related to identity. The Stoic account of the unity of natural bodies is a primarily physical account, explaining unity in terms of bodies being held together by the tension inherent in *pneuma*. I hypothesized that in addition to physical unity due to tension, there would also be a metaphysical aspect of unity, and I was hoping to establish a connection between identity and unity. Having looked at the relationship between portions of *pneuma*, qualities and the body's material substrate I concluded that there is nothing more to unity than being

part of one living organism, bound by one tension. Natural bodies³⁸⁸ are unified insofar as they have one *hēgemonikon*, which unifies their portion of *pneuma* through regulating and maintaining pneumatic tension and making them one living organism. Besides having this specific part of *pneuma* I could not identify any other entity responsible for unity.

Chapter III focused on persistence through time. I considered whether there are any constituents or characteristics of a natural body that survive throughout its life. I examined this question in the context of the Stoic theory of ontogenesis, which famously states that natural bodies belong to different natural kinds at different developmental stages. I hypothesized that a characteristic that persists throughout the individual's life is most probably akin to properties inherited from parents because such properties also last a lifetime and often are relatively unique to the individual.

Based on a study of texts reporting on Stoic ontogenesis, I inferred that the resemblance between parents and children are often accounted for by a similarity of pneumatic *logoi*. The qualities of individual bodies are defined by the ratio of expanding and contracting motions in their *pneuma*. A certain motion or structure can manifest itself differently depending on the characteristics of the pneumatic substrate they are combined with. Since the characteristics of the pneumatic substrates themselves are defined by a ratio of motions, qualities are ultimately analysable into a layering of pneumatic structures and motions. This account also helps to make sense of the inheritance of species- and individual-specific properties that are only manifested in fully developed adult individuals. Such properties are present in previous life-stages as motions or structures, which become fully fledged once combined with the proper pneumatic substrate.

Combining the results of chapters I-III, I concluded that a coherent reconstruction of the early Stoic metaphysical theory is possible by identifying pneumatic motions and structures as

³⁸⁸ Inanimate natural bodies may not have a leading part, however, it is safe to suppose that they are unified by one simple pneumatic tension, given their pneumatic homogeneity. See fn. 239.

the most fundamental principles of analysis. I also recognized that in order for that analysis to be viable, pneumatic motions and structures need to have causal efficacy, which in the Stoic framework means that they have to be corporeal entities. On the other hand, I also noted that the most fundamental principle of explanation has to be an immaterial entity in the Stoic framework. Thus, pneumatic motions and structures need to be immaterial and corporeal, if they are to be the ultimate principles of analysis.

Chapter IV focused on the possibility of immaterial bodies. It examined the Stoic notion of corporeality and the relationship between corporeality and causation. The chapter concluded that immaterial bodies are a possibility, but only insofar as such entities are able to engage in a tactile interaction with material bodies.

However, the chapter also stated that while such entities are possible within the Stoic framework, and they should have been posited for the sake of a coherent metaphysical theory, there is no evidence in support of their presence in Stoicism. Not only is there no mention of such entities, but there is nothing to suggest that the issue was even recognized by the school. Similarly, although there is a good number of texts that point into a direction of a theory that identifies form-like entities as the ultimate principles of explanation, the ideas and arguments found in these texts never add up to a unified theory. There is no connection made between the various form-like entities that are identified as principles of unity, qualification and identity, such as disposition, tensional motion, ratio, *logos*, and there are virtually no reports that explicitly identify any of these entities as the most basic principles of explanation.

This lack of coherence and terminological unity, and the interpretative difficulties encountered in all four chapters are the result of serious internal tensions within the metaphysical theory and a complete disinterest in resolving this tension. First, there is a deep contrast between accounts that work with a quasi-hylomorphic interpretation of corporealism and those that rely on a more literal, materialist understanding of the notion of body. Secondly

there is the issue of the coexistence of top-down and bottom up accounts in solutions to closely related metaphysical problems. The simultaneous usage of these mutually exclusive theoretical approaches is the main reason why early Stoic metaphysics resists philosophical interpretation. It is impossible to provide a theoretically coherent reconstruction based on the surviving textual evidence.

Having examined the early Stoic answer to interpretative problems in the realm of the ontology of natural bodies, I concluded that there is no such thing as a detailed, elaborated and unified early Stoic ontological theory. The overarching metaphysical considerations that I postulated do exist, and many of them are unique and unusual to contemporaries. Nevertheless, these considerations are just dogmata to abide by; they delimit and govern the development of philosophical accounts of particular problems, but they do not form a theoretical whole and they did not encourage early Stoic thinkers to develop a logically coherent theory. While I disagree with interpretations that claim that early Stoic metaphysics is non-existent or reducible to physics, I concur that compared to other sub-disciplines of philosophy, metaphysics was not a priority to Stoic philosophers – at least in the sense that they had no real interest in developing a unified and coherent metaphysical theory. While they had strong views on some metaphysical questions and sought out and developed metaphysical accounts when purely physical explanations failed or when under pressure from philosophical rivals, metaphysics always came after physics. Instead of putting metaphysics first, developing a theory and then in light of the preestablished theoretical considerations providing an explanation to the more specific questions raised by physics, ethics or logic, the early Stoics moved backwards from the concrete towards the generic, at least in the case of metaphysics.

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List of abbreviations

Df.	Richard Dufour (ed.) <i>Chrysippe – Oeuvre philosophique</i>
DL	Diogenes Laertius. <i>Lives of Eminent Philosophers</i> .
IG	Brad Inwood and Lloyd Gerson, eds. <i>The Stoics Reader</i> .
LS	Anthony A. Long and David N. Sedley eds. <i>The Hellenistic Philosophers</i> .
M	Sextus Empiricus, <i>Against the Professors</i>
PHP	Galen, <i>On the Doctrines of Hippocrates and Plato</i>
SVF	Hans von Arnim ed. <i>Stoicorum Veterum Fragmenta</i>

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