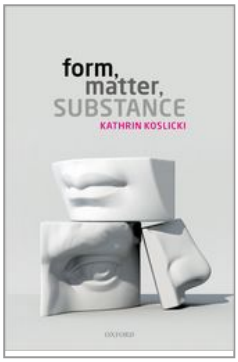

Form, Matter, Substance
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Form

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Abstract and Keywords

This chapter turns to the question of how hylomorphists should conceive of the form of concrete particular objects. It argues that hylomorphists should endorse the individual forms hypothesis and reject the universal forms hypothesis on grounds primarily having to do with the cross-world identification of concrete particular objects. Other issues, e.g., the causal roles ascribed to form or the relation between form and essence, perhaps surprisingly, turn out to be neutral between the individual forms hypothesis and the universal forms hypothesis. When the conclusions of this chapter are combined with those of Chapter 4, we arrive at a preferred conception of forms as “robust” particulars, i.e., as non-repeatable, non-sharable entities which, by their very nature, do not simultaneously belong to the matter–form compound (essentially) and to the matter composing it (accidentally).

Keywords: form, individual forms hypothesis, universal forms hypothesis, cross-world identity, causation, essence

3.1 Introductory Remarks

The doctrine of hylomorphism, as well as its application to the specific case of concrete particular objects, leaves open whether forms are (i) to be construed as *universal* or *general* entities or (ii) as *particular* or *individual* entities. In what follows, I refer to (i) as the “universal forms hypothesis” and to (ii) as the “individual forms hypothesis.” For present purposes, I understand the distinction between universal or general entities, on the one hand, and particular or individual entities, on the other hand, as follows: entities of the former type are in principle repeatable, i.e., they can be shared among multiple distinct entities

by being wholly present in each of them at a single time; entities of the latter type, in contrast, by their very nature are not repeatable or sharable among multiple distinct entities by being wholly present in each of them at a single time.

In what follows, we will encounter a range of options proposed in the literature which illustrate (i) and (ii), respectively. Yet a third option, (iii), rejects the dichotomy suggested by (i) and (ii) altogether and argues that forms do not neatly fit into either category, since they have features distinctive of both categories (the “hybrid position”). I will argue in this chapter that certain of the desiderata and decision points outlined in Chapter 1, which are of particular relevance to the ontological status of forms, are neutral between (i), (ii), and (iii): these are, in particular, the second and third set of desiderata and decision points outlined in Section 1.6 (see “Causation, Explanation, and Change” and “Essence and Accident”). By contrast, the fourth set of desiderata and decision points (see “Identity and Indiscernibility”), as I will go on to indicate, favors (ii), the individual forms hypothesis, over (i), the universal forms hypothesis. In addition, in Chapter 4, we will encounter further considerations (viz., in particular, the eighth set of desiderata and decision points, viz., the “Grounding Problem”) by means of which we can advance further in our goal of arriving at a clarified understanding of what sorts of entities forms are. Once all of these results are properly assembled, we arrive at a version of (ii) according to which forms are to be construed as *robust particulars*, i.e., as non-repeatable, non-sharable entities which, by their very nature, do not simultaneously belong to the matter–form compound (essentially) and to the matter composing it (accidentally).

(p.63) 3.2 The Ontological Category of Form

3.2.1 Areas of Agreement and Disagreement

In what follows, I give a brief, and by no means exhaustive, survey of positions with the intention of outlining at least roughly the range of options that are open to hylomorphists when it comes to the assignment of forms to a particular ontological category. Given space limitations, unfortunately I cannot devote the attention each undoubtedly deserves to the representative views I cite along the way, although some approaches will be discussed in more detail later on. Those readers who might find it frustrating to be presented with a plethora of different options, without being able to give each alternative close consideration, are advised to move on to Section 3.3.

Despite the many interesting differences between the various positions I cite here, we can point to several significant areas of agreement that will emerge from even the cursory glance I provide in what follows. Whatever their particular commitments, hylomorphists tend to agree that the form, rather than

the matter, is primarily responsible for explaining the following features of a matter–form compound:

(i) *Kind-membership*: the membership of a matter–form compound in the most specific kind or species to which it belongs;
(ii) *Structure*: the structure (arrangement, organization, configuration) exhibited by a matter–form compound or its material parts;
(iii) *Unity*: the relatively high degree of unity that is exhibited by matter–form compounds, as compared to that displayed by other composite entities (e.g., heaps); and
(iv) *Characteristic Activities*: the range of behaviors in which things of the type in question are characteristically found to engage.

Although hylomorphists do not always agree on exactly *how* the form of a matter–form compound does the work that is assigned to it according to (i)–(iv), they do tend to hold *that* it is the form of a matter–form compound, rather than its matter or the matter–form compound itself, which takes on these explanatory responsibilities.

At the same time, we will also come across several noteworthy areas of disagreement among the various theorists canvased here, not only with respect to the ontological category to which forms are assigned, but also (and relatedly) with respect to the explanatory tasks which are supposed to be settled by appeal to the form of a matter–form compound. To illustrate, some hylomorphists (e.g., Jeffrey Brower and Eleonore Stump), in addition to their philosophical commitments, have tailored their conceptions of form to meet certain theological requirements as well, e.g., those which in their view, arise in connection with Aquinas' take on the doctrines of transubstantation or personal immortality. In addition, perhaps the greatest distance between those who take forms to be universal or general entities of some kind and those who subscribe to **(p.64)** some version of the individual forms hypothesis lies in how they expect to settle questions concerning the (synchronic, diachronic, or cross-world) numerical identity or distinctness of matter–form compounds. We return to this important topic in more detail in Section 3.4.

3.2.2 The Universal Forms Hypothesis

Properties or Relations. Some theorists take forms to be *properties* (attributes, features, characteristics, modes, or ways of being) or *relations* (or collections thereof), where properties and relations, according to this option, are conceived of as general or universal entities that are shared among members of a single kind. According to the interpretation of Aristotle developed in Peramatzis (2011), for example, forms are *properties* of a certain kind, conceived of as universal "modes or ways of being" which are essential to the types of objects possessing them (Peramatzis (2011), p. 4). For example, Socrates' essence or form is *to be a human being*, while Bucephalus' essence or form is *to be a horse*. Forms

themselves, in Peramatzis' view, have essences, which are also modes or ways of being; but, in this case, the essence of the thing and the thing whose essence it is (viz., the form) are identical (p. 5).

According to Michael Loux's reading of Aristotle, a form is a universal of a certain kind which is present in a matter–form compound as a constituent and predicable of its matter, where predication here is conceived of as a non-linguistic relation among non-linguistic items (cf., e.g., Loux (2005), pp. 94–5). For every lowest level natural kind (or *infima species*), S, there is a "primitive or unanalyzable universal that is necessarily such that it is a proper constituent in all and only the members of S and it is the primary substance of each of the things whose proper constituent it is" (pp. 118–19). In the case of living beings, for example, the form is the arrangement or organization which has to be exhibited by the matter in order for a particular matter–form compound to be a member of the species to which it belongs (e.g., *geranium, dog, human being*, etc.).

Johnston (2006) describes forms as principles of unity which hold together the parts of a matter–form compound. A principle of unity, in Johnston's view, is a *relation* of a certain kind, namely "a relation holding of some other items, such that (origins aside) what it is for the given item to be is for the relation to hold among those items" (Johnston (2006), p. 653). For example, if the matter–form compound in question is a model airplane, then the form of the model airplane is roughly the relation which holds among the parts of the model airplane (viz., the wings, the tail, the fuselage, etc.), when these "*hang together in the modeled shape of an airplane in such a way as to resist separation in the face of the range of forces to which we usually subject such models*" (p. 653). The form of a hydrogen chloride molecule is the relation, *bipolar bonding*: for there to be a given hydrogen chloride molecule is for there to be a hydrogen ion and a chlorine ion together in a bipolar bond (p. 653). The same idea, in Johnston's view, applies to abstract items as well (e.g., conjunctive properties, sets, sentences or propositions): the form or principle of unity of a subject–predicate sentence token, for example, is the relation, *predication*, which holds between the reference of the subject term and the **(p.65)** denotation of the predicate term and which makes it the case that the sentence token is capable of being true or false (p. 657). The relations in question are conceived of by Johnston as *universals*, so that different exemplars belonging to the same type, e.g., numerically distinct token subject–predicate sentences, share the same form (p. 659). Even mereological sums, for Johnston, can be considered matter–form compounds, only their form or principle of unity is the least demanding one imaginable, since it requires nothing more than that the parts in question exist (pp. 688–9).

Powers. Alternatively, forms are conceived of by some to be *powers, capacities, dispositions*, or *propensities* (or collections thereof), where these are taken to be universal or general entities shared by objects of the same type. Anna Marmodoro, for example, follows the general outlines of a reading of Aristotle first championed in Scaltsas (1994): "The substantial form according to Aristotle is an *operation* on the elements of a substance, stripping them of their distinctness, rather than being an item in the ontology" (Marmodoro (2013), p. 17). Forms, on this reading, are universals, since they are common to all concrete particular objects of a particular kind. They are ways in which previously existing concrete particular objects (e.g., bread and water) can combine when they enter into a new matter–form compound (e.g., flesh): "Bread and water are re-formed, re-shaped qualitatively and functionally, to make up flesh" (p. 11). On Marmodoro's reading, Aristotle holds that "the ultimate level of reality is the fundamental powers (hot, cold, wet, and dry)" (p. 11).

Activities. Others take the form of a matter–form compound to be a certain type of *activity* in which it characteristically engages. Kosman (2013), for example, stressing Aristotle's proposed solution to the problem concerning the unity of matter and form (see *Met*. H.6, 1043a23–6), conceives of the matter–form distinction in terms of Aristotle's distinction between *dunamis* (capacity or potentiality) and *energeia* (activity or actuality) as follows:

> Matter and form are not linked together by the possibilities of becoming. They are present together in the being that is nothing other than the active essence—that is, the essential activity—of the one being that both are. It is in this sense that matter is the locus of ability or capacity—*dunamis*—and form, as the principle of that ability's exercise, is the principle of its active being—its *energeia*. Form, we might say, is the principle of matter in operation; in instances of substantial being, it is the operation of the being that is substance.
>
> (Kosman (2013), p. 81)

The body or matter of a living organism, for example, is understood, on this view, as a "locus of ability"; its soul or form as "the principle of that ability's active exercise" (Kosman (2013), p. 81). For a horse, the activity in question is just *being a horse* or carrying out the *ergon* or work that is characteristic of horses. Elaborating the details of what this activity consists in is the task of biology (p. 85; p. 101).

Acts of Creation. According to this approach, what it is to be a screwdriver, for example, is to be an object that is produced from some suitable matter (e.g., some metal and plastic) in an act of creation that is guided (and partly individuated) by the maker's intention to create an object which can serve a certain function (viz., to tighten or **(p.66)** loosen screws). The form of a

screwdriver, on this view, is identified with a certain kind of historical essence, viz., the object's having been brought into existence by means of a creative intentional act of a particular type. This approach is a universalist version of the particularist account developed by Evnine (2016a) (see Section 3.2.3 and Chapter 8). To extend this approach to the natural realm, a substitute (e.g., the evolutionary history of a biological species) has to be found which can take over the role played by intentional acts of creation in the case of artifacts.

Sui Generis *Universal Entities*. Finally, proponents of the universal forms hypothesis also have the option of assigning forms to some hitherto unrecognized ontological category of *sui generis* universal or general entities which do not neatly fit into any of the options outlined here. According to the proposal under consideration, forms are to be construed as entities which are in principle repeatable or sharable, i.e., entities which can be wholly present in multiple distinct entities at a single time; and yet they are also taken to lack the characteristic features associated with the ontological categories already cited (viz., properties, relations, powers, activities, or act types), or others which are already familiar to us from non-hylomorphic contexts.

3.2.3 The Individual Forms Hypothesis

Objects. Some proponents of the individual forms hypothesis take forms to be themselves *objects* of some kind. Michael Frede, for example, reads Aristotle as postulating in the *Metaphysics* that forms are *primary substances* (cf., e.g., Frede (1985)), diverging from the earlier *Categories* ontology in which this role is assigned to concrete particular objects. The soul of a living organism, according to Frede, is that of a particular or individual entity which "has to stay the same as long as a particular animate object exists," while the organism's matter and properties may change from one time to another (p. 76). Individual forms, in Frede's view, are "the real individuals in the category of substance which are to explain the individuality of ordinary individual objects" (Frede (1987a), p. 64). The form's role in settling facts about the numerical identity of concrete particular objects, so Frede maintains, "may give some plausibility to the assumption that it is really *the form which is the thing we are talking about* when we at different times say different things about an object" (Frede (1985), p. 76, my emphasis). Although our specifications of individual forms will be exactly the same across all members of a single species and will not reveal any "intrinsic essential distinguishing mark" differentiating one concrete particular object from another, the forms themselves are nevertheless particular (p. 78).[1] A view such as Frede's need not collapse into full-blown Platonic or **(p.67)** Cartesian dualism, however, since forms, despite their status as primary substances, are also taken to be inseparable from the matter in which they are found. In connection with their comments on *Met*. Z.7, Frede and Patzig (1988) remark:

> Richtiger ist der Text [1032b1–2] aber wohl so zu verstehen, daß der Mensch eine Seele ist, die außerdem noch dadurch charakterisiert ist, daß sie sich an einer bestimmten Art von Körper findet. Denn ohne diese Art von Körper könnte sie nicht existieren; und ohne diese Art von Körper wäre die Seele kein Mensch.
>
> (Frede and Patzig (1988), p. 113)[2]

Properties or Relations. According to this approach, forms are taken to be *properties* or *relations* (or collections thereof), conceived of as particulars, e.g., tropes, moments, modes, or ways. According to the interpretation of Aquinas' hylomorphism offered in Brower (2014), for example, matter, form, and the compound could in principle be identified with any type of being capable of playing the relevant functional roles. In fact, however, Brower reads Aquinas as identifying these entities, at least in some cases, with *concrete particulars* (or *substances*), *immanent properties*, and *complexes* (or *concrete states of affairs*). For Brower (p. 22), Aquinas conceives of forms/properties as individuals, and does not see the need to posit universal forms/properties to explain kind membership, as is illustrated in the following passage from Aquinas' treatise, *Scriptum Super Libros Sententiarum*:

> Even if *this* individual [say, Socrates] is a human being and *that* individual [say, Plato] is a human being, it is not necessary that both have numerically the same humanity—any more than it is necessary for two white things to have numerically the same whiteness. On the contrary, it is [only] necessary that the one resemble the other in having an [individual] humanity just as the other does.
>
> (*In Sent*. 2.17.1.1, Brower's translation)

But Thomistic properties, according to Brower's reading, are not exactly like tropes, since Aquinas only accepts the following version of non-transferability: in all possible worlds in which a certain property exists and God does not miraculously intervene, the property, once it exists and is possessed by a certain substance, continues to exist and is possessed by the same substance. With supernatural intervention, however, an accident can exist apart from the substance which individuated it and once possessed it (e.g., as in the case of the Eucharist). In his account of transubstantiation, Aquinas allows that accidents can have other accidents as substrata (Brower (2014), pp. 247–8).[3]

(p.68) *States*. According to the reading of Aquinas offered in Stump (1995), the form or soul of a person is a *state* of a certain kind, namely, a configurational state. This approach, in Stump's view, allows Aquinas to occupy a middle ground between Cartesian dualism and eliminative materialism, since the soul is thought of as essentially immaterial and yet nonetheless as realized in material components (Stump (1995), pp. 505–6). In particular, this reading, so Stump

argues (pp. 506ff), allows one to make sense of the theological doctrine of the afterlife, as interpreted by Aquinas. The challenge is to reconcile two apparently conflicting aspects of Christian teaching: that, on the one hand, a human being is a material object ("dust thou art, and unto dust shalt thou return." Genesis 3:19), while, on the other hand, a human person is also said to survive death ("Then shall the dust return to the earth as it was, and the spirit shall return unto God who gave it." Ecclesiastes 12:7). In Stump's view, the best way to accommodate both of these biblical injunctions within the framework of Aquinas' hylomorphism is as follows:

> … [T]he soul is an essentially configurational state which is immaterial and subsistent, able to exist on its own apart from the body. On the other hand, the soul is the form that makes the living human body what it is. While it is possible with divine help for the soul to exist and exercise cognitive function on its own, apart from the body, that state is unnatural to it. In the natural condition, human cognitive functions are to be attributed to the whole composite and not to the soul alone, although the composite exercises cognitive functions by means of the soul.
>
> (Stump (1995), p. 519)

It is easy to see how Stump's interpretation can account for the idea, captured by the first biblical doctrine, that human beings are material objects which disintegrate upon death. To allow for the possibility that the disembodied soul might persist after death, however, Stump adopts a conception of Thomistic substantial forms according to which human souls are contingently configur*ers* which are also themselves configur*ed*: they are configur*ers* of their matter during certain phases of their existence, namely, prior to the separation of the soul from the body; after death and prior to resurrection, they are themselves configur*ed* without configur*ing* anything, like the souls of angels (Stump (1995), pp. 514–15). One of the ways in which this conception of the human soul is distinct from Cartesian dualism, Stump maintains, is that the human soul is not itself conceived of as a complete substance, even though it is capable of continued existence, with the help of God's intervention, in an incomplete separated state (p. 517).

Functions. According to the neo-Aristotelian mereology developed in Fine (1999), which elaborates on and refines the theory of "*qua* objects" given in Fine (1982), a composite material object can be thought of as a "variable embodiment," /F/, whose formal aspect is a principle, F, and whose matter or material parts are whatever objects satisfy the principle in question at any time at which the complex material object in question exists (pp. 68–9). For example, the water which fills a certain river, in Fine's view, is a variable embodiment, /F/, whose principle, F, selects the different quantities **(p.69)** of water which constitute the river at each time at which it exists. The principle, F, of a variable

embodiment, /F/, is described by Fine as “any suitable *function*” from times to objects (p. 69), though no clear constraints are imposed on what might make a function from times to objects “suitable” for the formation of a variable embodiment. In fact, Fine suggests that principles of embodiment are “intensional or conceptual in nature,” and that the resulting ontological commitments need not be regarded as “ultimate” (p. 73).[4]

Powers. Some theorists take the forms of concrete particular objects to be *powers, capacities, dispositions*, or *propensities* (or collections thereof), conceived of as particulars. Corcilius and Gregoric (2010), for example, regard the capacity for theorizing, in the case of Aristotle’s unmoved mover, as identical to the divine soul (p. 91); and the nutritive capacity, in the case of plants, as identical to the soul of a plant (p. 92). In the case of non-human and human animals, in their view, the soul is a complex entity whose parts are the various capacities that are essential to or constitutive of what it is to be the type of living organism in question.

William Jaworski has also argued for a version of the individual forms hypothesis, according to which forms (or “structures,” as he calls them) are powers of a certain kind, construed as particulars, viz., the power of a structured whole to organize or configure its material parts in a certain way characteristic of the kind to which the whole in question belongs:

> I argue that structures are powers to organize or configure things—powers that structured wholes are essentially engaged in manifesting. You and I are essentially engaged in configuring the materials that compose us; we impose a human-wise organization on them, and we persist exactly as long as we do so. These particular configurings—yours and mine—are particularized properties or tropes. They are numerically different properties that nevertheless resemble each other rather closely—more closely than, say, either resembles Fido’s configuring the materials that compose him or the oak tree’s configuring the materials that compose it.
>
> (Jaworski (2016b), p. 4)

In the case of concrete particular objects, Jaworski takes the relevant powers to be “individual-making structures”; in the case of activities (e.g., thinking or perceiving), they are “activity-making structures.” The latter idea, viz., that activities themselves have a hylomorphic structure, turns out to be crucial for Jaworski’s proposed contributions in the philosophy of mind:

> The key to understanding the hylomorphic approach to mind–body problems is the notion of an *activity-making structure*. The structures […] that make individuals what they are [are] the kinds of things traditional hylomorphists called “substantial forms.” But individual-making structures are not the only structures that exist on the hylomorphic view. The

> activities in which structured individuals engage have structures as well; they are activity-making structures. The idea that there are activity-making structures is based on the observation that the activities of **(p.70)** structured individuals involve coordinated manifestations of the powers of their parts. When we walk, talk, sing, dance, reach, grasp, run, jump, throw, breathe, and engage in the various other activities we do, we are imposing an order on the ways our parts manifest their powers. On the hylomorphic view, these structured manifestations of powers include thinking, feeling, and perceiving.
>
> (Jaworski (2016b), p. 5)

Activities. The position taken by Kosman (2013), reviewed earlier, has a correlate which is compatible with the individual forms hypothesis. According to this approach, the individual forms of concrete particular objects are *activities* of a certain kind (or collections of such activities), where the activities in question are conceived of as particulars. Thus, if there is such as thing as a characteristic activity in which Bucephalus engages, not only *qua* horse but *qua* the *particular* horse that Bucephalus is, then Bucephalus' individual form, on this approach, is identified with this activity of *being the horse Bucephalus*, or with carrying out the *ergon* or work that is characteristic of the particular horse, Bucephalus.[5]

Facts. According to Sattig (2015), forms are *facts* of a certain kind. An ordinary object, in Sattig's view, is a "double-layered compound," consisting of a material object (viz., its matter) and a complex fact (viz., its individual form). The fact in question "contains properties that realize an ordinary kind, such as *person* or *table*" (Sattig (2015), p. viii). In Sattig's view, a sortal or kind, such as *person* or *table*, has a certain qualitative content by means of which material objects, which he takes to be just the mereological sums of classical mereology, can be traced through time (Sattig (2015), p. 16). Since the identity conditions of mereological sums can, and often do, diverge from those associated with the sortal concepts satisfied by ordinary objects at particular times during their careers, these objects (i.e., compounds of mereological sums and facts), for Sattig, lead a "double life" of sorts, depending on whether they are considered from the perspective of their material or their formal aspect.

Acts of Creation. Evnine (2016a) defends a version of hylomorphism according to which this doctrine applies most centrally to the case of artifacts. In Evnine's view, an artifact is essentially the product of a making, i.e., an intentional act of creation which (in typical cases) involves a maker working on some matter with the intention of creating a certain type of object (e.g., a screwdriver). Often, artifacts are also associated with functions (e.g., screwdrivers are for tightening or loosening screws) which they acquire from the intentions governing the creative acts which bring these artifacts into existence. In this sense, Evnine's account strives to preserve the Aristotelian doctrine that, in central cases, the

formal cause (or essence), the efficient cause (or origin), and the final cause (the purpose or end) of a concrete particular object coincide. In contrast to other versions of hylomorphism, however, Evnine objects to the idea that "hylomorphically complex objects" (as he calls them) are really *compounds* of their matter and some other entity, viz., their form. Instead, Evnine holds that, when a hylomorphically complex object is brought into existence through an intentional act of creation, **(p.71)** the process in question requires only that the matter which comes to compose the newly created artifact be worked on in a certain way, but not that the matter be combined with a further entity, a form. As a result, the matter acquires a certain history, namely, the history of having been worked on by the maker in a particular act of creation, and this historical origin in turn comes to be associated essentially with the artifact that is created as a result of the imposition of the maker's labor and intentions on the matter in question. Although Evnine takes artifacts to be the central case for his doctrine of hylomorphism, he allows that certain natural objects, viz., in particular living organisms, can also be regarded as hylomorphically complex objects. In this case, the evolutionary history of these objects takes the place of intentional acts of creation in the case of artifacts. However, for large swaths of cases (viz., everything that is neither an artifact nor a natural living organism), Evnine recommends a version of eliminativism, supplemented by a fictionalist interpretation of our discourse about mountains, rivers, stars, and the like.[6]

Sui Generis *Particular Entities*. Finally, proponents of the individual forms hypothesis also have the option of assigning forms to some hitherto unrecognized ontological category of *sui generis* particular or individual entities which do not fit neatly into any of the options outlined here. According to the proposal under consideration, forms are to be construed as entities which, by their very nature, are non-repeatable or non-sharable, i.e., entities which cannot be wholly present in multiple distinct matter–form compounds at a single time. At the same time, the *sui generis* approach also has it that forms lack the characteristic features associated with any of the ontological categories already cited (viz., objects, properties, relations, states, functions, powers, activities, facts, or acts of creation) as well as those of other categories which are already familiar to us from non-hylomorphic contexts. This approach, like its universalist counterpart, brings with it the significant cost of requiring the recognition of an entirely new ontological category which is not already motivated on other, non-hylomorphic, grounds. Those who object to hylomorphism because they find Aristotelian forms mysterious will likely feel strengthened in their opposition to this type of account, if it turns out that forms cannot be accommodated by our array of traditionally recognized ontological categories.

3.2.4 The Hybrid Position

According to the hybrid position, the particular/universal dichotomy is considered to be neither exclusive nor exhaustive. Forms are taken to be neither fully particular nor fully universal; rather, they are regarded as having some of

the features of particulars and some of the features of universals. The hybrid position is nevertheless compatible with the assignment of forms to one of the ontological categories listed earlier; the **(p.72)** claim would then be that the category in question itself must be recognized as a hybrid of universal and particular.

According to Code (1984), we should read Aristotle as assigning to forms some of the features of a particular and some of the features of a universal. For one thing, forms, in their role as primary substances in the *Metaphysics*, have to be regarded as strictly speaking particular, since they are predicable only of matter and not of a plurality of primary substances. On the other hand, forms cannot be considered to be separable particulars, in the way in which matter–form compounds are, since they cannot exist independently of the matter–form compounds with which they are associated. At the same time, forms are also knowable and definable, and in that respect they resemble universals. In addition, forms are general entities, since members of a single species are found to exhibit the same range of capacities.

Mary Louise Gill, in her reading of Aristotle's *Metaphysics*, takes forms to be fully determinate, repeatable, and definable: they are individual in the sense of being fully determinate, but universal in the sense of being repeatable and definable (Gill (1989), p. 34, n. 47). As for separability, Gill distinguishes between two types: separability in account or definition and what she calls "simple separability," separability in existence. While forms are separable in the first sense, the forms of material objects lack the second kind of separability, since they must be present in matter–form compounds in order to exist. Other forms, however, e.g., that associated with Aristotle's unmoved mover, can exhibit both kinds of separability. In contrast, matter–form compounds, in Gill's view, are characterized by the second kind of separability, but not the first: they are separable in existence, but not separable in account or definition. Both forms and matter–form compounds, in Gill's view, qualify as primary substances, but in different ways.

Among contemporary defenders of hylomorphism, Michael Rea also adopts the hybrid position (see Rea (2011)). In Rea's view, hylomorphism, as it is traditionally understood, carries with it a commitment to several assumptions which he finds controversial and wishes to avoid, among them the following: (i) a distinction between universals and particulars;[7] (ii) some form of realism about either universals or tropes (since forms are typically taken to be kind properties, construed either as universals or as tropes); and (iii) some notion of "constituency" according to which matter and form can be said to be "in" a concrete particular object. Rea's goal is to develop a version of hylomorphism which avoids these commitments, but nevertheless manages to express everything hylomorphists intend to be able to say. He does so by taking on board as **(p.73)** primitives the concepts of *power, location, ground*, and *numerical*

sameness (Rea (2011), p. 345).[8] Although powers, in Rea's view, are to be understood neither as universals nor as particulars, they behave in some ways like universals (according to those who believe in them), since a single power can be simultaneously present in distinct regions of space–time and we can say of an object that it "has" a power. In other ways, however, powers behave like particulars (according to those who believe in them): e.g., they are able to enter into causal relations and are located in regions of space–time (p. 346). The role of forms, in Rea's power-based hylomorphic theory, is played by *natures*, which in turn are powers of a certain kind: the natures of substances, according to Rea, are fundamental powers which act as principles of unity, unifying the other natures that are present in the region of space–time that is occupied by the object in question.[9] The role of matter, in Rea's theory, is played by whatever *individuates* the substantial nature in question: either regions of space–time, in the case of simple objects that lack parts; or collections of parts, in the case of complex objects that have parts. Thus, a simple object, according to Rea, is a hylomorphic compound of a substantial nature (its form) and the space–time region it occupies (its matter), while a complex object is a hylomorphic compound of a substantial nature (its form) and a collection of parts (its matter), viz., those objects whose natures are unified by the complex object's nature.

3.3 The Individual vs. Universal Forms Debate

In this section, I briefly highlight some of the considerations which have figured prominently in the debate among ancient scholars over whether Aristotelian forms should be construed as universals, as individuals, or as hybrid entities of some kind. Since historians of philosophy have devoted much careful attention to the question of how best to conceive of Aristotelian forms, even those of us who are mostly in the business of proposing a hylomorphic analysis of concrete particular objects for contemporary consumption would be foolish not to take note of the sorts of factors that have moved these scholars in one direction or another in their reading of the relevant texts. We will find that many of these motivations are transferable to the contemporary debate concerning the metaphysics of concrete particular objects, even once we leave primarily interpretive questions behind.

(p.74) The following issues are often invoked by participants in the debate over the nature of Aristotelian forms to bolster their interpretation of the relevant texts. I will not, in the present context, try to take a stand on what I take to be the best overall interpretation of Aristotle. In what follows, I indicate only when a particular consideration seems, or has been taken, to count as prima facie evidence in favor of one interpretation over another. It should be understood, however, that, in every single case, there is always much more that can be (and has been) said by the opposing camp to attempt to make the point in question consistent with their reading of Aristotle.[10]

(a) *Forms as the proper objects of knowledge/definition*. Aristotle takes forms to be the proper objects of knowledge and definition. He also holds, however, that knowledge (at least in the sense of *epistēmē*, i.e., the demonstrative or scientific knowledge that is at issue in the *Posterior Analytics*), is of universals and that only universals are definable. The status of forms as the proper objects of knowledge and definition thus seems to provide at least prima facie support for the universal forms hypothesis and against the individual forms hypothesis.

(b) *The existence of forms as presupposed in the generation of particular compounds. Met*. Z. 7–9 argues that the existence of both form and matter must be presupposed in an explanation of how particular matter–form compounds come into being. This commitment on Aristotle's part is sometimes read as providing evidence in favor of the universal forms hypothesis and against the individual forms hypothesis. For if forms are construed as particulars and they are nevertheless taken to be capable of existing without the matter–form compounds with which they come to be associated, the resulting conception of forms might strike us as more Platonic than Aristotelian.

(c) *The ultimate subject criterion*. One of the criteria for primary substancehood Aristotle invokes in various texts (e.g., *Categories, Met*. Z.3) is the ultimate subject criterion, according to which the primary substances are those entities which are themselves not said of anything, while other things are said of them. At the same time, Aristotle also on occasion seems to speak of form as predicable of matter (e.g., arguably at *Met*. Z.3, 1029a21–4). The first of these positions is, at least at first sight, easier to make sense of for proponents of the individual forms hypothesis than for their opponents, since Aristotle also holds that particulars cannot be predicated of anything, while other things are predicated of them. For example, to say of something that it is Socrates, in Aristotle's view, is to identify the entity in question with Socrates, rather than to predicate anything of it. The second doctrine (viz., that form can be predicated of matter), however, is difficult to square with the individual forms hypothesis: for if forms are the sorts of things that can be predicated of something (viz., matter), it seems that they would have to be universals, rather than particulars, since only universals, in Aristotle's view, are predicable of many things, viz., the particulars which exemplify them.

(p.75) (d) *Individuation*. According to one traditional way of interpreting Aristotle, matter, rather than form, is taken to be the principle of individuation for matter–form compounds. At *Met*. Z.8, 1034a5–8, for example, Aristotle famously says that Socrates and Callias are the same in form but different on account of their matter. This reading of Aristotle is more naturally combined with the universal forms hypothesis, while proponents of the individual forms hypothesis tend to shift the work associated with individuating matter–form compounds away from their matter and onto their form.

(e) *The alleged identification of form and essence*. According to some texts (e.g., *Met*. Z.4–6), the substance of a thing is taken to be the same as, or at least not different from, its essence. Assuming that here Aristotle has in mind the form of a matter–form compound when he speaks of the substance of a thing, these passages may lead us to believe, or at least provide preliminary evidence to the effect that Aristotle wants to identify the essence of a thing with its form. Other texts (e.g., *Met*. Z.11), however, have been interpreted as providing support for the conclusion that the essence of a thing in some way also includes its matter, at least in a generic fashion. These considerations by themselves do not seem to point in favor of either the universal forms hypothesis or the individual forms hypothesis. Whatever conception of form is adopted, it can be matched by an appropriate notion of essence: (non-derivative) individual essences are an option only for proponents of the individual forms hypothesis, while proponents of the universal forms hypothesis will opt for (non-derivative) kind-essences instead. Either way, however, Aristotelian essences can be understood to be either purely formal or as at least partly material, regardless of whether they are taken to apply primarily at the level of kinds or at the level of individuals.

(f) *Apparent arguments against the substance status of universals*. In some texts (e.g., *Met*. Z.13–16), Aristotle endorses the following claims: (i) universals are not substances; and (ii) substances are not composed of substances which are present in them actually. But Aristotle's arguments in *Met*. Z, overall, are also generally read as leading to the conclusion that forms deserve substance status most of all, i.e., more so than their most likely competitors, viz., matter and the matter–form compound. Aristotle's apparent case against the substance status of universals in *Met*. Z.13–16 has given proponents of the universal forms hypothesis a run for their money, whereas proponents of the individual forms hypothesis have generally pointed to this piece of the overall puzzle as a major consideration in favor of their interpretation.

(g) *Forms as causes and the causal priority of forms*. Aristotle not only takes forms to be causes, he also assigns them priority over the matter and the matter–form compound in their role as causes and principles (see especially *Met*. Z.17). At least in the case of living things, forms are said to function as the formal, efficient, and final causes of matter–form compounds, while the matter composing them only plays a subsidiary role as the material cause of the matter–form compound. In addition, we are told in certain texts (e.g., in *Met*. Λ.5) that there is never any need to invoke general or universal causes and principles to explain particular changes undergone by objects. Rather, according to this line of reasoning, it is only ever necessary to refer to particular causes **(p.76)** and principles in a general way, since particular objects which belong to a single kind will exhibit the same types of particular causes and principles. These considerations seem to play into the hands of individual forms theorists who find it difficult to see how a universal which is common to all members of a given

species could act as a cause of a particular matter–form compound's engaging in some particular activity at a particular time and place.

Summary. The foregoing remarks have taken us through some of the main issues which are discussed by Aristotle scholars on either side of the universal vs. individual forms debate. We can also now see, I think, why this dispute has proven to be so intractable, since the prima facie evidence which can be brought to bear by one side in the debate can be matched by apparently equally weighty considerations on the opposing side. Several of the points mentioned here (viz., in particular, (d), (e), and (g)) will be of interest to us again, when we return to the desiderata and decision points identified in Chapter 1 which are particularly relevant to how hylomorphists should conceive of the form that is present in a matter–form compound. I will unfortunately have to leave aside the remaining points (viz., (a), (b), (c), and (f)) for the time being, though their central importance for the task of developing a credible reading of Aristotle's conception of form is undeniable.

3.4 In Defense of Individual Forms

In this section, I defend my version of the thesis that forms are best construed as particular or individual entities of some sort by arguing that only individual forms can help us settle tricky questions about the cross-world identity and distinctness of matter–form compounds.[11] In Sections 3.4.1 and 3.4.2, I consider the causal roles ascribed to form and the relation between form and essence and argue that these considerations by themselves do not tip the scales in favor of either the individual forms or the universal forms hypothesis. In Chapter 4, I go on to supplement my version of the individual forms hypothesis by arguing that forms should be construed as "robust" particulars, i.e., as non-repeatable, non-sharable entities which, by their very nature, do not simultaneously belong to the matter–form compound (essentially) and to the matter composing it (accidentally).[12]

(p.77) ### 3.4.1 Causation, Explanation, and Change

In Chapter 1, we noted in connection with the second set of desiderata and decision points (see Section 1.6: "Causation, Explanation, and Change") that the doctrine of hylomorphism is very much designed to respond to questions concerning causation, explanation, and change involving concrete particular objects, such as the following: how do concrete particular objects come into and go out of existence? How do they persist through change? Why are concrete particular objects capable of persisting through some changes but not others? What causes concrete particular objects to be as they are, once they have come into existence? In this section, I want to ask whether we can conclude anything about the ontological category to which the form of a hylomorphic compound belongs from the causal roles which are assigned to it. In particular, we saw earlier (see item (g), Section 3.3) that, in the debate over the nature of Aristotelian forms, causal considerations are used by proponents of the

individual forms hypothesis to argue that their position is superior to that of their opponents, viz., theorists who take Aristotelian forms to be universal or general entities of some kind. Although I will side with a particular version of the individual forms hypothesis for other reasons (viz., reasons having to do with cross-world identity), I am not convinced that the role of forms as causes can be used as a tie-breaker in the debate between individual and universal forms theorists. For the sake of concreteness, I will illustrate this point by means of the causal roles ascribed to form by Aristotle; contemporary hylomorphists who wish to depart from the Aristotelian account are invited to adjust the details accordingly.[13]

The relationship between the soul and the body of a living organism, as it is described in *De Anima* and elsewhere, provides us with a detailed and instructive example of how Aristotle distributes the causal responsibilities within the compound between the matter and the form. For a living organism to *be* what it is, so Aristotle tells us (see *DA* II.4, 415b13), is for it to *live* a certain kind of life, namely, one that is characteristic of the kind of organism at issue.[14] Whatever is the cause of an organism's *living* as it characteristically **(p.78)** does therefore is also the cause of its *being* what it is. The majority of this causal work, Aristotle argues, is shouldered by the form of a living organism, viz., its soul, which acts as the *formal, final*, and *efficient cause* of the living organism (see *DA* II.4, 415b8–28). The matter of the living organism, in contrast, viz., its body, contributes only by way of its role as the material cause of the living organism.

We can appreciate the soul's role as the *formal cause* of the living organism by inspecting Aristotle's method of *defining* what it is to belong to the broad categories into which he divides living organisms (viz., plants, non-human animals, and human beings). In each case, we notice that the corresponding definitions, which state the essence of, or what it is to be, a living organism of the kind in question, make reference to the type of soul the living organism has. More specifically, when Aristotle defines what it is to be a plant, a non-human animal, or a human being, he does so by referring to a certain range of activities, and the capacities corresponding to them, which he regards as being characteristically associated with the living organism in question in virtue of the type of soul the living organism has. In the case of plants, Aristotle appeals to nutrition (broadly conceived to include the capacities of reproduction, growth, and decrease); in the case of non-human animals, to perception;[15] and, in the case of human beings, to thought.[16] To be sure, in each case (with the possible exception of thought), Aristotle holds that the activity in question requires a material basis as well.[17] However, insofar as the body enters into these activities, it is relegated to an instrumental role which serves the purpose of carrying out the tasks involved in the organism's characteristic way of life. The only requirements that are imposed on the matter of which a living organism is composed is that it must be of a *suitable* type to perform whatever activities are

initiated by, and defined by reference to the form, i.e., the soul of the living organism (see *DA* II.1, 412a28ff; II.4, 415b15–21). To illustrate, to be a human being, according to this conception, is to be a living organism composed of a *suitable* body in which a human soul is present. What it is for the matter in question to count as "suitable" for the purpose at hand is determined by reference to the relevant form, viz., the human soul. What it is for a soul to be a human soul (as opposed to a soul belonging **(p.79)** to a non-human animal or plant) is defined in terms of the characteristic activity in which human beings can engage in virtue of having the kind of soul that they do (viz., thought and all that is presupposed by the organism's ability to engage in this characteristic activity).[18]

Next, to understand the soul's role as the *efficient cause* of the living organism, it helps to consider first an example from the realm of artifacts. A builder, who in Aristotle's view acts as the efficient cause in the construction of a house, initiates a series of changes which (if successful) lead to the end result that a house form comes to be present in some suitable materials (e.g., bricks and stones). In this way, something that is actually a house (viz., the newly created house) is produced by the efficient cause (viz., the builder) from something that is potentially a house (viz., the matter that is suitable to compose a house). Throughout this process, however, the builder is guided by a house form which is already present in her mind to begin with and which is *like* the house form that comes to be present in the bricks and stones as a result of the changes implemented by the builder. Thus, in a successful case of efficient causation involving the production of an artifact, before a new matter–form compound can be produced, the efficient cause which produces it must already be in possession of a form that is *of the same kind as* the form which comes to be present in the matter as a result of the changes initiated and implemented by the efficient cause.

Aristotle conceives of the soul as the efficient cause of the living organism in an analogous manner. To illustrate, consider a case in which a living organism grows by adding more flesh to its body as a result of ingesting and digesting food. The role played by the soul in this case, in Aristotle's view, is comparable to that played by the builder in the construction of a house. As the efficient cause, the soul initiates and implements a series of changes both in the living organism and in the food that is ingested and digested; these changes, if successful, lead to the outcome that something that is actually flesh (viz., the flesh that is added to the living organism's body) comes to be from something that is potentially flesh (viz., the food that is ingested and digested) by the agency of the soul. In the process, the soul makes it the case that a flesh form which is *like* the flesh form that is already present in the living organism to begin with comes to be present in the properly transformed matter (viz., the concocted food). Here as well, a successful case of efficient causation presupposes a form which is already present in the living organism and which acts as a "blueprint,"

so to speak, for the soul's implementation of whatever changes are involved in a living organism's exercise of its capacity for nutrition.[19]

(p.80) Lastly, in order to articulate Aristotle's reasons for classifying the soul as the *final cause* of the living organism, it is useful to bear in mind the role of the human soul in Aristotle's specification of the good life for humans, as it is set out in his ethical treatises. Aristotle argues in the context of his well-known "function argument" (*NE* I.7) that the *telos* or good for human beings resides in living a certain kind of life, viz., one in which the characteristic activity or function [*ergon*] for human beings is carried out *well*. In response to the question of what the function or characteristic activity for human beings might be, Aristotle reasons that it cannot consist in the exercise of a capacity that is exhibited by other living organisms as well: nutrition is common to all living organisms and perception is found in non-human animals as well. Rather, he proposes that the good life for humans must involve the exercise of a capacity that is unique to humans, viz., the capacity for thinking.[20] Aristotle's specification of the good life for humans thus proceeds directly by way of the human soul and its associated characteristic capacities and activities. In this way, the human soul sets the *telos* for human beings and acts as their *final cause*. The human body, in contrast, in its instrumental role, carries out whatever tasks are involved in living a characteristically human life.

In the preceding paragraphs, I have described the soul's causal responsibilities as the formal, efficient, and final cause of the living organism in completely general terms. On the basis of what has been said up to this point, the universal forms theorist might thus be inclined to reason that apparently no reference to an individual or particular explanatory principle is needed in order to capture the causal work that is assigned to the form of a hylomorphic compound according to the Aristotelian picture. Proponents of the individual forms hypothesis, however, will object that they have trouble seeing how a form, if construed as a universal, could act as a cause of a particular matter–form compound's engaging in some particular activity at a particular time and place. Shields (2010c), for example, gives voice to this concern in connection with the soul's role as the efficient cause of a living organism:

> If the soul is, for instance, the efficient cause of motion (*De Anima* i 1, 403a24–b9; ii 4, 415b8, *Partibus Animalium* i 1, 641a17–b10), then it seems responsible for the motion of an individual body in a specific place and time. Much the same can be said for perception and thinking, where the perceptual and intellectual activities of Socrates seem to be the activities of an **(p.81)** individual, situated in a peculiar place and time, and explained not by the presence of a uniform universal, but by dint of there being individual psychological faculties deployed on particular occasions. In these ways, it seems natural to understand Socrates' soul to be numerically and qualitatively distinct from Callias' soul. So it also seems

> natural to think of their souls as particulars, rather than as a single universal twice betokened.
>
> (Shields (2010c))

Shields is of course correct to point out that, if we are wondering what the efficient cause is for some particular living organism's engaging in some particular life activity at a particular place and time, an adequate answer to the corresponding "why" questions would not simply appeal to whatever is common to all members of the kind at issue. Suppose, for example, that we are interested in the efficient cause or causes which help to bring about the particular event consisting in Socrates' perceiving the cup filled with hemlock when it is handed to him by his executioner. An adequate response to the question of what sets into motion the series of changes required for this specific act of perception would have to take into account the particular features present in this situation, and could not simply rely on the fact that Socrates, like all members of the species to which he belongs, is able to exercise the capacity of perception. At the same time, regardless of how the universal forms theorist decides to spell out the details of his account, we would expect him to appeal at the very least to the following two features: firstly, that it is the particular *instances* of the universals exemplified in the situation at hand which are causally active; and, secondly, that these particular instances interact causally in the way that they do because they instantiate some *general* causal pattern, connection, or law which is exemplified in the situation at hand. To illustrate, if we are wondering, for example why, on a particular occasion, a quantity of salt dissolves in water, it would be natural to make reference to the general fact that salt is soluble in water, together with the particular features instantiated in the situation at hand, e.g., that some particular quantity of salt was immersed in some particular quantity of water and that nothing prevented the general pattern at issue from being exemplified in the situation at hand. Similarly, it is open to a universal forms theorist to point to the universal features and causal connections exemplified by the particular interaction between Socrates' well-functioning perceptual apparatus, the salient objects within his visual field, and the favorable conditions which obtain in the situation at hand. Thus, unless we bring to bear principled objections to an approach to causation of the style appealed to just now, it does strike me that the universal forms theorist can avail himself of the apparatus necessary to account for the idea that universals are causally active in a particular situation by way of their instances, together with the general causal patterns, connections, or laws which are exemplified in the particular situation at hand. And although much more would need to be said in a fuller treatment of the issues at hand, I have nevertheless tried to indicate briefly why I do not regard the causal roles and priority assigned to the form of a hylomorphic compound in the Aristotelian account as a decisive consideration in favor of the individual forms hypothesis.

(p.82) 3.4.2 Essence and Accident

What is part of the essence of a concrete particular object and what is merely accidental to it? And how is this contrast to be drawn? Hylomorphists tend to place high priority on their ability to capture the contrast between essence and accident, but they do not all approach this distinction in the same way. As noted earlier in connection with the third set of desiderata and decision points (see Section 1.6: “Essence and Accident”), one of the central questions hylomorphists encounter in this area is whether to adopt a modal or a non-modal conception of essence. In what follows, I will be recommending that it is in the interest of hylomorphists to opt for a non-modal conception of essence, especially for the purposes of providing a response to the Grounding Problem, among other things. In addition, however, hylomorphists face a second set of questions which also surfaced earlier in connection with Aristotle’s alleged identification of form and essence (see item (e), Section 3.3): Is the essence of a matter–form compound identical to its form? Or does the matter composing a concrete particular object also figure into its essence in some way, if only generically? Given the overall aims of this chapter, I am particularly interested here in the question of whether a clarified understanding of the relationship between form and essence can help us advance further in the debate over the ontological category to which forms should be assigned. As in the case of the causal-explanatory considerations explored in Section 3.4.1, it is my view that the pressures exerted on hylomorphists in their attempt to develop a particular stance concerning the relationship between form and essence can be resolved in a variety of ways, with the result that this set of desiderata and decision points is neutral with respect to the dispute between the universal forms and the individual forms hypothesis.

Four possible combinations of views concerning the relationship between form and essence are available to hylomorphists, which I will abbreviate as follows: (i) Universal Form = Essence; (ii) Universal Form ≠ Essence; (iii) Individual Form = Essence; and (iv) Individual Form ≠ Essence. The first two positions proceed on the assumption that forms are universal or general entities, while the second two positions hold some version of the individual forms hypothesis. In both cases, it is possible either to identify the form of a hylomorphic compound with its essence (as in (i) and (iii)) or to reject the alleged identification of form with essence (as in (ii) and (iv)), e.g., on the grounds that the matter also in some way figures into the essence of a hylomorphic compound, if only generically.[21] Since all four combinations of views are at least in principle coherent, the **(p.83)** adoption of a specific commitment concerning the relationship between form and essence does not by itself help us to adjudicate the dispute between the universal and the individual forms hypothesis.

Universal Form = Essence. The first position is characterized by the following combination of views: forms are universal or general entities of some sort; the essence of a hylomorphic compound is exhausted by its form; and the matter

composing a hylomorphic compound does not directly figure into its essence.[22] This position leaves open, but does not require, that constraints concerning the material makeup of the type of entity in question nevertheless in some way follow from its essence, even though the definition (viz., the statement of the essence) does not itself include an explicit reference to matter.

To illustrate, a proponent of this first position might hold, for example, that the essence of, or what it is to be, a human being, is correctly stated by the definition: "To be a human being is to be a living organism with a human soul," where we may assume that what it is for a soul to be a *human* soul (as opposed to, say, a *plant* soul or a *non-human animal* soul) can itself be defined in a non-circular way without mentioning human beings, viz., in terms of the characteristic activities and capacities in which living organisms with a human soul are able to engage. Proponents of the first position would interpret the definition just cited as describing a kind-level universal form/essence that is common to, and instantiated by, all members of the human species. Although this definition makes no overt mention of the types of bodies of which human beings are (or must be) composed, it is still open to the proponent of the first position to hold, for example, that any living organism which is capable of the type of rational thought that is characteristic of human beings (as opposed to, say, angels or God) must also have access to sense perception and that the latter requires a body equipped with sense organs.

Universal Form ≠ Essence. The second position (like the first position) takes forms to be universal or general entities of some sort; but (unlike the first position) it holds that the essences of hylomorphic compounds are *not* exhausted by their universal forms, e.g., on the grounds that the matter composing these hylomorphic compounds also in some way figures into their essences, if only in a generic way. A version of the second position can be found, for example, in Peramatzis (2011), who argues that a sample definition for a natural hylomorphic compound follows the general pattern: "$F_C =_{def} F_1, F_2, \ldots, F_m$ enmattered in $M_1, M_2, \ldots M_n$", where F_C is a natural form of a hylomorphic compound, and $F_1, F_2, \ldots, F_m$ and $M_1, M_2, \ldots, M_n$ are the formal and material parts of the essence stated by the definition (Peramatzis (2011), p. 96). To illustrate, the definition **(p.84)** which states what it is to be human, according to this conception, might take the form, "Human-kind $=_{def}$ rational soul enmattered in a certain kind of organic body" (p. 35), where the type of matter ("a certain kind of organic body") which composes hylomorphic compounds of the kind in question (viz., the kind, human being) is explicitly mentioned in a statement of their kind level essence.[23,24]

Individual Form = Essence. According to the third position, forms are particular or individual entities of some sort; the individual form of a hylomorphic compound is identical to its essence; and the matter does not directly figure into its essence. Like its universalist counterpart, this position allows, but does not

require, that constraints concerning the material makeup of the type of hylomorphic compound in question in some way follow from a statement of its essence, even though the definition itself does not explicitly refer to the matter or material parts composing it.[25] Given that definitions are presumably formulated using general terms, but forms/essences according to this approach are individual or particular entities, the third position must acknowledge that there is a certain level of mismatch between the (general) content of a definition and the (particular) explanatory principle that is in fact present within each hylomorphic compound.[26] As we noted already in connection with the individual forms-as-objects approach adopted by Michael Frede and Günther Patzig (see Section 3.2.3), the specification of the form/essence that is given by a definition can be expected to be **(p.85)** uniform across all members of a species, even though the forms/essences themselves assumed by the third position are unique to each particular hylomorphic compound. Thus, insofar as a definition can capture what is essential to each hylomorphic compound, it will do so only at the level of kinds, but not at the level of the individual members of these kinds, despite the fact that this approach considers kind-level forms/essences to be derivative and individual forms/essences to be primary.

Individual Form ≠ Essence. The fourth combination of views holds (like the third position) that forms are particular or individual entities of some sort; but (unlike the third position) this approach takes the essence of a hylomorphic compound *not* to be exhausted by its form, on the grounds that the matter composing a hylomorphic compound also figures into its essence at least in a generic way.[27] As in the case of the third position, this approach will likely need to recognize that the (general) content of a definition stating the essence of a hylomorphic compound does not fully capture the uniqueness of the (particular) explanatory principle that is in fact present in each particular specimen of a given kind. Thus, the pattern attributed to kind-level definitions by the fourth position need not diverge from that endorsed by the second position, though the underlying metaphysical commitments will be distinct.

The four positions mentioned so far all assume, in one way or another, that essences are themselves entities of some sort, which either are or are not fully exhausted by the (universal or individual) form of a hylomorphic compound. E. J. Lowe has argued that "although all entities *have* essences, essences themselves should never be thought of as *further entities*" (Lowe (2008), p. 23), on the basis of the following regress argument:

> For one thing, if the essence of an entity *were* just some further entity, then *it in turn* would have to have an essence of its own and we would be faced with an infinite regress that, at worst, would be vicious and, at best, would appear to make all knowledge of essence impossible for finite minds like ours.

(Lowe (2008), p. 39)

Lowe (channeling Locke and Aristotle) describes the essence of an entity, X, as "*what X is*," "*what it is to be X*," or "the very *identity* of *X*" (Lowe (2008), p. 35), though with respect to the latter phrase we must bear in mind that "identity" here is not to be understood as denoting the *relation* of identity which everything necessarily bears to itself and nothing else.[28] An essence, according to Lowe, may be either *general* or *individual*: the general **(p.86)** essence of an entity, X, is what it is to be a K, where K is the ontological category to which X belongs; the individual essence of an entity, X, is what it is to be the individual of kind K that X is (Lowe (2008), p. 35). When Lowe speaks of essences, he has in mind a "serious" notion of essence, which can serve as the ground for metaphysical possibility and necessity, rather than an "ersatz" notion of essence, which presupposes and is defined in terms of an antecedently understood notion of metaphysical possibility and necessity (p. 34).

Given Lowe's approach, then, what is the relation between a concrete particular object, its matter, its form, and its essence?[29] Forms, for Lowe, can either be construed as universals or as particulars. When forms are construed as universals, they are the substantial kinds (e.g., humanity, equinity, etc.) instantiated by concrete particular objects (viz., individual human beings, horses, etc.). When forms are construed as particulars, they are the particular instances of these substantial kinds; on this latter construal, a concrete particular object (e.g., an individual human being, horse, etc.), in Lowe's view, simply *is*, i.e., is numerically identical to—a particularized form (i.e., the particular instance of the substantial kind to which the object belongs, e.g., humanity, equinity, etc.). Insofar as Lowe can make sense of what hylomorphists might mean by "matter," he understands the matter of a concrete particular object to be its proximate matter or material parts; the material parts of a concrete particular object, in Lowe's view, are either themselves concrete particular objects (e.g., the material parts of a hydrogen atom are its proton and electron) or portions of stuff (e.g., the material parts of a rubber ball are portions of rubber), which themselves may turn out to be (mereologically) composed of concrete particular objects (e.g., microscopic particles).

Given Lowe's approach, we cannot take the matter composing a concrete particular object, X, to be part of X's essence, regardless of whether "essence" here is understood **(p.87)** as "general essence" or "individual essence"; for, in Lowe's view, X's identity at a time (synchronically) or over time (diachronically) is not determined by the material parts composing X. Rather, as the following passage brings out, it is the form of a concrete particular object, in Lowe's view, which provides both a "principle of individuation" (i.e., a criterion of synchronic identity) and a criterion of diachronic identity for the object in question:

> Might it then be that matter […] provides a criterion of *identity* for [individual concrete things]? […] But this idea can certainly be challenged, on the simple grounds that individual concrete things like tigers can and do *change* their component matter. Indeed, in principle, two tigers could, over a period of time, entirely exchange their component matter with one another. So the most that can be said is that two different tigers cannot share the same matter *at the same time*. But why not? Simply because that would require the two tigers to exist in exactly the same place at the same time, which we deem to be impossible. However, then it transpires that what really makes for the diversity of our two tigers is their difference in space-time location, from which their difference in component matter at any time merely follows as a consequence. Moreover, that tigers are differentiated by their space-time locations is clearly itself a consequence of their *form*, since it has to do with what *kind* of thing they are. […] This is brought out by the fact that certain (different) kinds of entity apparently can exist in the same place at the same time, such as a rubber ball and the piece of rubber composing it, for this highlights the fact that the mutual exclusion of different tigers from the same place at the same time is simply a consequence of their being things of the *same substantial kind*. I conclude, then, that matter provides neither a principle of individuation nor a criterion of identity for individual concrete things: their form alone provides both.
>
> (Lowe (2008), pp. 201–2)

As Lowe argues in this passage, the material parts composing a concrete particular object, X, do not provide a diachronic criterion of identity for X, since concrete particular objects can persist through changes with respect to its material parts over time. But X's material parts also do not provide a "principle of individuation" or synchronic criterion of identity for X, in Lowe's view, since he allows that numerically distinct objects which belong to distinct substantial kinds (e.g., a rubber ball and the portion of rubber constituting it) can be composed of the same material parts, viz., when they occupy a single region of space at the same time. Instead, so Lowe argues, it is the form, rather than the matter, which provides both a criterion of synchronic identity and a criterion of diachronic identity for concrete particular objects.

Given the intimate connection between essence and identity, Lowe's remarks therefore lead us to believe that the essence of a concrete particular object, in his mind, is exhausted by its form. But forms, on Lowe's view, are entities: forms, when construed as universals, are substantial kinds; when construed as particulars, they are the individual instances of substantial kinds. We might thus wonder whether the proposed identification of the essence of a concrete particular object with its form would violate Lowe's injunction cited earlier, according to which the essence of an entity should not be taken to be a *further*

entity, on pain of regress. This worry, however, can be discharged. For Lowe's regress argument is meant to warn us not so much against taking essences to be **(p.88)** *entities* as such, but rather against taking essences to be *further* entities, i.e., entities that are numerically distinct from the entities whose essences they are. But a concrete particular object, in Lowe's view, just *is* (i.e., numerically identical to) its particularized form. Thus, we can safely interpret Lowe as holding the view that the individual essence of a concrete particular object is exhausted by its particularized form, since the entities in question are one and the same.[30]

Summary. My aim in this section was a relatively modest one, viz., to illustrate that the identification of essence with form as well as the rejection of this thesis can be represented in an apparently coherent way by both the universal and the individual forms theorist. Therefore, the need to develop a clarified understanding of the relationship between form and essence by itself does not seem to help us narrow down the field of options that are open to hylomorphists when it comes to the ontological category to which forms should be assigned. As it turns out, both universal and individual forms theorists have a way of representing both of the relevant possibilities, viz., the possibility that the essence of a hylomorphic compound is identical to its form, as well as the possibility that the essence of a hylomorphic compound is not exhausted by its form, e.g., on the grounds that the matter composing it also in some way figures into its essence. If forms are particular or individual entities, then the individual essences of hylomorphic compounds are either exhausted by their individual forms or other factors, e.g., the matter composing them, also figure in some way into their individual essences, if only generically. Alternatively, if forms are universal or general entities, then the essences under discussion are generic essences shared by all members of a certain kind. Still, this latter option is also compatible with both possibilities mentioned earlier: either kind essences are purely formal or other factors are also included in the generic essence of a certain kind of hylomorphic compound, e.g., that it be suitably enmattered. Thus, to advance further in our attempt to assign forms to their proper ontological category, we must appeal to a different set of considerations besides those already canvased concerning the causal role of forms and the relationship between form and essence. In Section 3.4.3, we will discover that the remaining set of desiderata and decision points which are immediately relevant to our discussion of the ontological status of form (see Section 1.6, "Identity and Indiscernibility") can be used to provide motivations in favor of a particular combination of views among those outlined in previous sections.

(p.89) 3.4.3 Identity and Indiscernibility

How (if at all) are questions concerning the (synchronic, diachronic, and cross-world) numerical identity or distinctness of concrete particular objects to be settled?[31] Recall, from Section 1.6, that hylomorphists and non-hylomorphists alike face various questions concerning the numerical identity and distinctness

of concrete particular objects. A scenario such as that presented in Black (1952) raises the question of how to distinguish between objects that are allegedly numerically distinct but qualitatively indiscernible at a single time. In addition to these questions concerning *synchronic distinctness*, however, we may also ask what accounts for an object's *synchronic, diachronic*, and *cross-world identity*: what, if anything, makes a single concrete particular object identical to itself *synchronically*, i.e., at a single time? What, if anything, makes a single concrete particular object that exists at one time *diachronically identical* to the very same concrete particular object existing at a different time, despite the fact that the object in question may have undergone qualitative change? And what, if anything, makes a single concrete particular object which exists in one world *cross-world identical* to the very same object existing in another world? Hylomorphists in particular will want to take a stand on whether and how the matter or the form of a matter–form compound plays into facts about its numerical identity or distinctness from other objects. In what follows, I concentrate in particular on the very challenging case of cross-world identity, since it brings into focus the strengths and weaknesses of particular proposals which have been made in this area. When I use the language of possible worlds to describe various scenarios which raise puzzling questions, I do so merely as a convenient shorthand. Those who are uncomfortable with approaching questions of possibility and necessity in terms of a possible worlds framework can reformulate the various scenarios I consider in terms of what is possible or necessary for the entities which centrally figure in these scenarios.[32]

(p.90) Why should we even take seriously questions concerning the cross-world identity and distinctness of concrete particular objects? Some philosophers (e.g., van Inwagen (1985)) claim to have shown that there really is no genuine metaphysical problem about the cross-world identity of concrete particular objects at all (see also Kripke (1971 and 1980)). Such philosophers adopt the attitude that the demand for necessary and sufficient conditions governing the cross-world identity of concrete particular objects really poses no genuine challenge, since we should not expect questions of the form, "Why is an entity, x, in a world, w_1, numerically identical to an entity, y, in a distinct world, w_2?," to have an informative answer. (One motivation for such a position might be the conviction that all there is to numerical identity is simply the identity of each entity with itself and nothing could be more unproblematic than that.) To this, I reply that even philosophers who are attracted to this line of argumentation still owe us an answer to such questions as "Could Nixon have been a poached egg?". This question, as I have just formulated it, makes no explicit appeal to cross-world identity; but we could have asked what I take to be the very same question in a way which does explicitly mention cross-world identity, viz., "Is there a possible world, w, containing a concrete particular object which is a poached egg, such that our actual Nixon is numerically identical to this individual in w?". If the answer to this question is "No, there is no such

(metaphysically) possible world and no such (metaphysically) possible concrete particular object which is a poached egg and cross-world identical to our actual Nixon" (or, more simply put, "No, Nixon could not have been a poached egg"), then we still need to understand why a counterfactual scenario involving the supposition that Nixon might have been a poached egg does not in fact manage to describe a genuine (metaphysical) possibility involving the actual concrete particular object, Nixon. Presumably, the answer to the question of why Nixon could not have been a poached egg would in some way appeal to Nixon's essence in order to bring out what is wrong with the supposition that Nixon could have been a poached egg. Moreover, if the appeal to Nixon's essence to which the proposed answer refers merely states necessary conditions for the cross-world identity of concrete particular objects, then (as we will discover in what follows) certain tricky questions concerning the numerical identity and distinctness of concrete particular objects will be left unanswered. For we will then not have succeeded in ruling out counterfactual situations in which numerically distinct concrete particular objects are indiscernible with respect to their alleged essences, but the criteria in question do not settle which of these concrete particular objects is numerically identical to Nixon in the actual world. I will therefore, in what follows, proceed under the assumption that we ought to take seriously questions concerning the cross-world identity and distinctness of concrete particular objects.

(p.91) The following are prominent candidate principles by means of which one might try to settle questions concerning the numerical identity and distinctness of concrete particular objects across worlds: (i) an object's qualitative character;[33] (ii) its matter; (iii) its origins;[34] (iv) its haecceity or primitive non-qualitative thisness property (e.g., the property Socrates, and Socrates alone, has of being numerically identical to Socrates); (v) what Plantinga (1974) calls "world-indexed properties" (e.g., the property Socrates, and Socrates alone, has of being Xanthippe's husband in the actual world); or (vi) its form.

As we will see in what follows, the first five of these candidates are problematic in certain ways. In the case of (i), (ii), and (iii), it is doubtful whether the proposed principle in question actually succeeds in providing both necessary and sufficient conditions for the cross-world identity of individuals. In the case of (iv) and (v), the question is not so much whether the proposed principle manages to supply the desired necessary and sufficient conditions for cross-world identity, since haecceities and world-indexed properties are tailored precisely to fit this purpose; rather, the more pressing question in this case is whether the proposed principles accomplish this task in an explanatorily satisfying manner. For these reasons, I will recommend that (vi) is an option we should take very seriously. It is difficult to see, however, how forms could serve as the cross-world identity principles for matter–form compounds, unless these forms are themselves individual or particular entities. The option of invoking forms as the principles of cross-world identity for matter–form compounds therefore seems to carry with it

a commitment to the individual forms hypothesis. Once individual forms are on the table, the strategy of settling questions concerning the numerical identity and distinctness of concrete particular objects by appeal to them, while also not entirely problem-free, nevertheless turns out to have various advantages over competing approaches, some of which I will briefly highlight. (A more extended version of the argument that is provided in what follows in an abbreviated fashion can be found in Koslicki (2018a).)[35]

(p.92) *Qualitative Indiscernibility, Sameness of Matter, and Sameness of Origins*. I turn first to the question of whether the first three proposed principles of cross-world identity (viz., (i) qualitative indiscernibility, (ii) sameness of matter, and (iii) sameness of origins) can, even jointly, yield sufficient conditions for cross-world identity. To see why they fail to do so, we consider the following scenario described in McKay (1986):[36]

> It seems that two distinct individuals could originate at different times from the same matter configured in exactly the same way. (I am not suggesting that this is likely, merely that it is possible.) Individual O_1 might cease to exist, its matter become disorganized, and then its originating matter m might, by chance, come together in exactly the same configuration at t_2. A new object O_2 would then come into existence at t_2. Now find a time t halfway between t_1 and t_2. Object O_1 could have originated at t. Object O_2 could have originated at t. These might be facts about the potentialities of O_1 and O_2 that ought to be respected by a modal system. But the possible situations, O_1's coming into existence at t (without O_2 existing at all) and O_2's coming into existence at t (without O_1 existing at all) are qualitatively indistinguishable. No features of origin distinguish these two, even though they are clearly distinct objects.
>
> (McKay (1986), p. 297)

We can provide an illustration of the kind of scenario McKay has in mind by considering the following course of events. Suppose that in a world, w_1, Socrates' original matter, at the time of his birth in 469 BC, is m. Socrates goes around his merry ways in w_1 until his death in 399 BC. Twenty years later, Callias is born in 379 BC in w_1 and his original matter in w_1 is also m. In the intervening period between 469 BC and 379 BC, the matter which originally composes Socrates at the time of his birth in 469 BC somehow miraculously reconfigures itself into a qualitatively indiscernible arrangement and comes to compose Callias at the time of his birth in 379 BC.

Now consider a distinct world, w_2, in which a human being comes into existence in 419 BC. This human being is in every conceivable respect qualitatively indistinguishable **(p.93)** from Socrates and Callias, as they were at the time of their respective births in w_1 in 469 BC and 379 BC. The matter which originally

composes this human being in w_2, when he comes into existence in 419 BC, is m as well, i.e., the same as the matter which originally composes both Socrates and Callias at the time of their respective births in w_1, configured in exactly the same way in which Socrates' and Callias' original matter was configured when Socrates and Callias came into existence.

The scenario just described immediately confronts us with the question of how we managed to identify the matter, m, in question across times and across worlds. For we assumed just now, firstly, that it is somehow possible to establish a cross-temporal identity within a single world, w_1, between Socrates' original matter in 469 BC and Callias' original matter in 379 BC. Secondly, we took for granted, in addition, that Socrates' and Callias' original matter in w_1 can be cross-world identified with the matter which originally composes the human being in w_2 when he comes into existence in 419 BC. To help us in this endeavor, I will make the simplifying assumption that we can identify the matter in question with a certain collection of particles, $\{p_1, ..., p_n\}$, as follows:[37]

Intra-world Identities for w_1:

Socrates' original matter in 469 BC = m = $\{p_1, ..., p_n\}$

Callias' original matter in 379 BC = m = $\{p_1, ..., p_n\}$

Cross-temporal Identities for Collections of Particles for w_1:

$$\{P_1,\ldots,P_n\}\,\text{in}469\text{BC} = \{P_1,\ldots,P_n\}\,\text{in}379\text{BC}$$

Cross-world Identities for Collections of Particles:

$$\{P_1,\ldots,P_n\}\,\text{in}w_1 = \{P_1,\ldots,P_n\}\,\text{in}w_2$$

When we approach the scenario just described with these assumptions in mind, further questions arise. Firstly, the relevant cross-temporal and cross-world identity facts concerning collections of particles must be settled in some way; and, secondly, it must be determined how the particles themselves, which go into these collections, are to be identified across times and across worlds. Perhaps we may presuppose, for present purposes, that this latter question concerning the cross-temporal and cross-world identity of particles is resolved in some way, either because the cross-temporal and cross-world identity of particles may legitimately be taken for granted, or because the **(p.94)** demand for necessary and sufficient conditions for their cross-temporal and cross-world identity can be met in some fashion.[38]

Now, with these assumptions in place, we may extract the following results from the scenario outlined earlier. Unless we want to be committed to the position (which I take to be highly implausible) that the time at which an individual comes into existence is essential to that individual, we should allow that

Socrates might have been born fifty years later than when he was born in w_1, and similarly that Callias might have been born forty years earlier than when he was born in w_1. In that case, both Socrates and Callias seem to have an equally good claim at being cross-world identified with the human being who comes into existence in 419 BC in w_2 and is originally composed of $\{p_1, \ldots, p_n\}$. Given that Socrates and Callias are obviously numerically distinct in w_1, they cannot both be identified with a single individual in w_2, since doing so would constitute a violation of the transitivity of identity.

If this scenario describes a genuine possibility, however unlikely in practical terms, then we ought to conclude that, even together, the first three contenders described earlier (viz., (i) qualitative indiscernibility, (ii) sameness of matter, and (iii) sameness of origins) do not yield sufficient conditions for cross-world identity. (iii) is satisfied in the specific version of McKay's scenario just described, since the original matter was assumed to be the same in each case, viz., a certain collection of particles $\{p_1, \ldots, p_n\}$. Moreover, the second criterion is satisfied as well in this case, since (iii) sameness of original matter is just a special case of (ii) sameness of (original or non-original) matter. Lastly, since the collection of particles in question was said to be configured in exactly the same way each time it originally composes one of the individuals in question, we are thus presumably dealing with individuals who are qualitatively indiscernible at the time of their respective births. Therefore, unless our conception of qualitative indiscernibility, sameness of matter, and sameness of origins can be amended somehow to recognize a difference in these circumstances, McKay's scenario by itself establishes that even the combined force of the three proposed criteria together will not answer all tricky questions **(p.95)** which arise concerning the numerical identity and distinctness of concrete particular objects.[39,40,41]

Haecceities. Haecceities ("thisnesses") are typically taken to be primitive non-qualitative identity properties.[42] For example, on this construal, Socrates' haecceity (if he has one) is the property of being numerically identical to Socrates. Similarly, for each individual, its haecceity (if it has one) is the property of being numerically identical to *that* individual. A haecceity must be distinguished from the property of being self-identical, since this latter property is shared by all entities. Since numerical identity is a one-to-one relation, each haecceity can only be exemplified by exactly one individual at particular times, across times, and across worlds. For example, no one other than **(p.96)** Socrates can instantiate the property of being numerically identical to Socrates at every time and in every world in which Socrates exists; and the same holds for all entities whose individual essences include haecceities.

There is no question, then, that haecceities provide necessary and sufficient conditions for the cross-world identity of those individuals with which haecceities are associated: an individual's haecceity picks out precisely that

individual and no other, whenever and wherever that individual exists. But the worry does arise as to whether an appeal to haecceities settles questions concerning the numerical identity and distinctness of concrete particular objects in an explanatorily satisfactory way: for one might feel that haecceities have been invented by philosophers for no other reason than precisely to resolve the sorts of puzzles we considered earlier which apparently cannot be put to rest in any other way.

Ideally, questions of the form, "Why is entity, x, in a world, w_1, numerically identical to an entity, y, in a distinct world, w_2?," should not be given a purely stipulative answer, "It just *is*, because we said so." The trouble with haecceities is that they have just such a postulated air about them. According to the haecceitistic strategy, whether x in w_1 is identical to y in w_2 turns on whether the haecceity exemplified by x in w_1 is numerically identical to the haecceity exemplified by y in w_2. And to the question, "But *why* is the haecceity exemplified by x in w_1 numerically identical to, or distinct from, the haecceity exemplified by y in w_2?," no further answer is forthcoming, since facts about the numerical identity or distinctness of haecceities are to be accepted as basic. Moreover, since haecceities are also non-qualitative, there is no hope of being able to point to some other feature which does not already presuppose the numerical identity or distinctness of the object involved and which accompanies the presence of a certain haecceity in the object in question.

In order for haecceities to do their intended job, we must assume that they satisfy certain requirements. For example, if Socrates' haecceity is to settle questions concerning Socrates' numerical identity in all possible situations, it must be the case that Socrates' haecceity is numerically distinct from the haecceity of every other object numerically distinct from Socrates. That is, in every world in which Socrates' haecceity is exemplified at all, it must be the case that Socrates' haecceity is only ever exemplified by Socrates. Furthermore, it cannot be the case that what explains why only Socrates can ever exemplify Socrates' haecceity, and why it is impossible for, say, Callias to exemplify Socrates' haecceity, is that Socrates is numerically distinct from Callias; for the explanation is supposed to proceed in the other direction, viz., the distinctness of Socrates' and Callias' haecceities is meant to explain the fact that Socrates is numerically distinct from Callias. Since haecceities are taken to be primitive non-qualitative identity properties, we cannot ever expect to be given a further reason of any sort, qualitative or otherwise, as to why Socrates' haecceity is numerically distinct from Callias' haecceity and from that of any other object numerically distinct from Socrates. One might thus come away feeling that haecceities are simply stipulated to satisfy whatever requirements they need to satisfy in order to resolve questions **(p.97)** concerning the numerical identity of those objects with which these haecceities are said to be affiliated.

The complaints against haecceities just voiced may appear to be motivated at least in part by their role as explanatory primitives, rather than by anything that is peculiar to haecceities as primitive non-qualitative identity properties. To be sure, it is sometimes difficult, if only for psychological reasons, to resist the temptation to ask for further explanation in the face of being told that one has reached a basic level beyond which no further explanations are available. But we may still press those who favor haecceities as their preferred principles of cross-world identity to justify that their particular choice of explanatory primitive really locates the point at which all explanation is supposed to come to a halt in a good place.

Here is another way of bringing out why one might think that the stipulativity worry just raised does pose a serious challenge after all for the defender of haecceities which turns specifically on the non-qualitative character of haecceities, rather than their role as explanatory primitives. Consider the following question which gives rise to what I will refer to as the “poached egg” objection: what, so we might ask the haecceitist, prevents Socrates’ haecceity, say, from being exemplified by a poached egg? Since anything which exemplifies Socrates’ haecceity is numerically identical to Socrates, a situation in which Socrates’ haecceity is exemplified by a poached egg is, *eo ipso*, a situation in which Socrates is (numerically identical to) a poached egg. Thus, so the objection goes, it appears as though a commitment to haecceities provides truth-makers for such apparently implausible modal judgments as “Socrates might have been a poached egg.”

Haecceitists may respond to the “poached egg” objection by imposing certain constraints which concrete particular objects must satisfy in order for them to be able to exemplify particular haecceities. For example, the haecceitist might require, among other things, that only a human being can exemplify Socrates’ haecceity. Given the non-qualitative character of haecceities, however, such constraints cannot in any way be motivated by appeal to factors internal to the particular haecceities themselves. There is nothing about Socrates’ haecceity itself which helps to explain why this particular haecceity can only be exemplified by a human being, and not, as it might be, by a poached egg. Any such constraint that is imposed on a concrete particular object in order to insure that it is eligible for the exemplification of a particular haecceity must therefore be an externally imposed necessary connection which is required to hold between the haecceity and its exemplifier. We will see shortly that other cross-world identity principles, which have at least a partially qualitative character, are in this respect preferable to haecceities, since they can do a better job in motivating the necessary constraints which must obtain between the identity principle in question and the object with which it is affiliated.

World-Indexed Properties. A further potential resource for essentialists in their quest to resolve difficult questions concerning the numerical identity and distinctness of concrete particular objects is to invoke what Plantinga (1974) calls "world-indexed properties." According to Plantinga, if *P* is any property Socrates, and Socrates alone, **(p.98)** has in the actual world, α, then *having P in α* is an individual essence of Socrates, e.g., *being married to Xanthippe in α, being the shortest Greek philosopher in α*, or *being A. E. Taylor's favorite philosopher in α* (see Plantinga (1974), pp. 72ff). What is more, Plantinga's world-indexed properties apparently succeed in providing necessary and sufficient conditions for the cross-world identity of individuals: in every world in which Socrates exists, Socrates' world-indexed essences are exemplified by one and only one individual, viz., Socrates.

At the same time, it is questionable whether Plantinga-style world-indexed properties meet the demand for a cross-world identity principle in a more explanatorily satisfactory way than our previous contender, viz., haecceities. For one thing, the strategy of settling cross-world identity questions by appeal to world-indexed properties does not account for the cross-world identity of all entities belonging to some specific ontological category (e.g., set, organism, artifact, event, etc.) in a systematic, category-wide manner, since, for each such entity, x, which world-indexed properties qualify as individual essences for x, will depend on which features are unique to x in a given world. For example, if Xanthippe had remarried after Socrates' death, then, for some world β in which Xanthippe remarries after Socrates' death, *being married to Xanthippe in β* does not qualify as a cross-world identity principle for Socrates. But Xanthippe's and Socrates' marital status is a contingent feature of these objects in each world in which they exist and not one which we would expect to be terribly central to their numerical identity.

In other respects, the appeal to world-indexed properties behaves in ways that are quite similar to the haecceitistic strategy considered just now. In particular the troublesome stipulativity worry, which was voiced earlier in connection with the haecceitistic strategy, also affects the success of the current approach. Suppose the question arises as to whether an individual, S, in a world, w, is numerically identical to Socrates in α. One of the properties which allegedly uniquely identifies Socrates across possible worlds, according to Plantinga, is *being married to Xanthippe in α*. Call this uniquely identifying world-indexed property, "E." Now we may ask: does S in w exemplify E? Given the strategy currently under consideration, this question must be answered without presupposing that S in w is identical to, or distinct from, Socrates in α. Otherwise, the appeal to world-indexed individual essences would be circular, since after all whether S in w is identical to, or distinct from, Socrates in α is supposed to be explained by appeal to whether S in w exemplifies E, and not the other way around. Unlike the haecceitistic strategy, the appeal to world-indexed individual essences does set some qualitative constraints on individuals in order

for them to be eligible for the exemplification of some particular individual essence. In this case, in order for S in w to exemplify E, S in w would have to be such that in α he is Xanthippe's only husband. This tells us at least that S in w must be the sort of thing that is capable of entering into the legal relationship of marriage.[43] But even if we narrow down the range of entities **(p.99)** under consideration from the domain of w to only those which are suited for the role of being Xanthippe's husband in another world, there is no reason to think this condition would uniquely single out S in w from among the eligible candidates in the domain of w which might be Xanthippe's husband in another world. Thus, the question of whether S in w exemplifies E has yet to be settled in some way. If, on the one hand, it is settled by brutely declaring that S either does or does not exemplify E, then the appeal to world-indexed individual essences is subject to the stipulativity concern voiced earlier in connection with the haecceitistic strategy. If, on the other hand, it is settled by appeal to the fact that S in w is either identical to, or distinct from, Socrates in α, then the strategy under consideration is circular. In this way, while world-indexed properties do provide a criterion which is strictly speaking materially adequate (i.e., necessary and sufficient) for cross-world identity, there is reason to be skeptical as to whether the appeal to world-indexed properties settles questions concerning the cross-world identity of objects in a way that is more explanatorily satisfactory than the haecceitistic approach considered earlier.

Forms. In the preceding sections, we have evaluated some of the major options which are available to essentialists in their attempt to settle questions concerning the numerical identity and distinctness of concrete particular objects across possible worlds. We found that the first three proposed principles of cross-world identity (viz., an object's qualitative character; its matter; and its origins) fail to establish criteria that are both necessary and sufficient for the cross-world identity of individuals, while the fourth and fifth candidates (viz., haecceities and world-indexed properties) are open to various charges of explanatory inadequacy. A hylomorphic analysis of concrete particular objects as compounds of matter and form opens up a further possibility: that the form of a hylomorphic compound might serve as its principle of cross-world identity. If forms are to supply necessary and sufficient conditions for the cross-world identity of concrete particular objects, then facts about the numerical identity of forms must either be taken as primitive or they must themselves be explained by reference to some further cross-world identity principle. Given the sorts of difficulties we have already encountered in our attempts to arrive at non-haecceitistic explanations of facts about the numerical identity of concrete particular objects, I will opt for the first strategy which takes facts about the numerical identity of forms as primitive; however, nothing I say in what follows is incompatible with a non-haecceitistic explanation of facts about the numerical identity of forms, should such a possibility arise.

It is difficult to see how forms could serve as cross-world identity principles for hylomorphic compounds, unless these forms are themselves particular or individual entities. The option of invoking forms as principles of cross-world identity for hylomorphic compounds thus seems to carry with it a commitment to the individual forms **(p.100)** hypothesis. And while contemporary metaphysicians might feel some hesitation in turning to individual forms to settle questions concerning the numerical identity and distinctness of concrete particular objects, we must also bear in mind that, in light of the arguments put forward in the preceding sections, essentialists may at this point simply have run out of other options. For once we rule out an object's qualitative profile, its matter, its origins, its haecceity, and its world-indexed properties as possible contenders for the role of supplying explanatorily adequate, necessary and sufficient conditions for its cross-world identity, what other candidates remain which could be considered for this office? It seems that, for those who already feel the pull of hylomorphism for other reasons, individual forms are the one explanatory principle left standing which could plausibly be invoked to settle questions concerning the numerical identity and distinctness of concrete particular objects across possible situations.

The strategy of invoking forms as the cross-world identity principles for hylomorphic compounds offers a unique combination of explanatory advantages which places it ahead of its competitors. By appeal to individual forms, cross-world identity facts concerning concrete particular objects can be settled in a way that is (1) non-circular, (2) not susceptible to the threat of an infinite regress, (3) complete within its intended domain of matter–form compounds, (4) non-ad hoc, (5) uniform, and (6) non-stipulative.

Firstly, given that facts about the numerical identity of forms are distinct from facts about the numerical identity of hylomorphic compounds whose cross-world identity and distinctness are supposed to be explained by appeal to their individual forms, the strategy under consideration does not fall prey to the threat of circularity. Secondly, since we assumed that facts about the numerical identity of forms are to be taken as primitive, the appeal to individual forms also does not give rise to an infinite regress, i.e., a chain of alleged explanations in which questions concerning the cross-world identity of entities belonging to class A are settled by appeal to facts about the cross-world identity of entities belonging to a distinct class B, and so on, ad infinitum. Thirdly, the individual forms strategy will yield answers to questions concerning the cross-world identity of individuals for all those entities with which individual forms are associated, i.e., for all hylomorphic compounds. Fourthly, hylomorphists may point to a whole arsenal of independent reasons, such as those laid out in Koslicki (2008a) and in other parts of the present study, for positing forms as explanatory principles that are associated with matter–form compounds and thus avoid the charge that they are postulating entities simply as an ad hoc

measure designed specifically to meet the demand for necessary and sufficient conditions for the cross-world identity of concrete particular objects.

Fifthly, the individual forms account also fares well with respect to uniformity considerations, in that it explains facts concerning the numerical identity and distinctness of concrete particular objects across possible situations in a way that is uniform across specific ontological categories. For even though the strategy at issue ascribes to each hylomorphic compound its very own individual form, numerically distinct from that of every other hylomorphic compound, nothing prevents the proponent of individual forms from also recognizing significant similarities between the individual forms that **(p.101)** are present in hylomorphic compounds belonging to a single species. For example, while Socrates' individual form is, by hypothesis, numerically distinct from Callias', their respective individual forms are nevertheless both *human* forms and therefore can be expected to resemble each other in systematic and principled ways, e.g., in that they enable both Socrates and Callias to engage in growth, nourishment, locomotion, perception, and thought. Thus, hylomorphic compounds which belong to the kind, *human being*, will have facts concerning their cross-world identity explained in the same way, even though each such particular explanation will make reference to a numerically distinct explanatory principle. These explanations will take the following form: a human being, x, in a world, w_1, is identical to a human being, y, in a world, w_2, just in case x's individual form (e.g., x's human soul) in w_1 is identical to y's individual form (viz., y's human soul) in w_2.

Finally, the individual forms account favorably compares to its two closest competitors, viz., the haecceitistic strategy and the appeal to world-indexed individual essences, with respect to the most challenging issue facing proposed cross-world identity principles, viz., the stipulativity worry. We noted earlier that the haecceitistic strategy is especially vulnerable to the stipulativity worry, not only because haecceities are postulated as explanatory primitives, but also, and especially, because their non-qualitative character precludes haecceities from putting to rest questions about any of the other features of the entities with which they are associated besides questions concerning their bare numerical identity. World-indexed properties were seen to fare somewhat better in this respect, since they at least impose some qualitative constraints on the entities which exemplify them. However, in the case of the particular example we considered above (viz., *being Xanthippe's husband in α*), the qualitative condition at issue concerned a contingent state of affairs that obtains in another world, α, which turns out to be not particularly helpful in adjudicating, in a non-stipulative and non-circular fashion, the question of whether a given entity in the world under consideration, w, does or does not exemplify the world-indexed property in question.

Individual forms constitute an improvement with respect to these stipulativity concerns over both the haecceitistic strategy and the appeal to world-indexed individual essences in at least the following two ways. Firstly, individual forms impose some qualitative constraints on the hylomorphic compounds with which they are associated. Secondly, these qualitative conditions do not merely concern contingent states of affairs which obtain in particular worlds; rather, they apply to the relevant hylomorphic compounds across worlds, since they impact not only their contingent qualitative makeup, but also the features they exhibit as a matter of *de re* necessity.

Consider again the world-indexed property which Socrates, and Socrates alone, has of being Xanthippe's husband in α. The fact that Socrates has this property does not contribute in any meaningful way to an explanation of some of the other striking features Socrates shares with other typical members of his biological kind, e.g., the ability to think, act, deliberate, perceive, laugh, speak, move, grow, ingest and digest food, procreate, breathe, sleep, dream, or engage in any of the myriad of other activities **(p.102)** human beings are typically able to manifest in the course of a lifetime. Socrates' form, in contrast, as the explanatory principle in virtue of which he is a living human being, is much more suitable to carrying significant weight when faced with the question of why the range of characteristic human behaviors is as much open to Socrates as it is to other members of his species.[44]

Relatedly, a commitment to individual forms may be further justified on the grounds of theoretical utility, since it can be used to accomplish three important tasks simultaneously: the commitment to individual forms opens up the possibility of settling questions concerning the cross-world identity of hylomorphic compounds, their intra-world synchronic identity, and their intra-world diachronic identity by appeal to a single explanatory principle. The first and second explanatory role for individual forms is endorsed, for example, in Lowe (1999), who takes concrete particular objects (or "individual substances," as he calls them) to be identical to their individual forms. Thus, questions concerning, for example, Socrates' synchronic intra-world identity, for Lowe, are answered by appeal to Socrates' individual form, as are questions concerning his cross-world identity. Michael Frede, e.g., in Frede (1985 and 1987a), as noted earlier, leans on individual forms in his account of the intra-world diachronic identity of hylomorphic compounds. In Frede's view, when a hylomorphic compound persists over time, despite the fact that its matter or qualitative character may change, what stays numerically the same from one time to another is the hylomorphic compound's individual form: it is what accounts for the continuity of organization as well as the organism's disposition to function or behave in certain characteristic ways from one time to another. All of these additional explanatory benefits which come with a commitment to individual forms work together in protecting this account from stipulativity concerns in a

way that is not also available to its two closest competitors, viz., the haecceitistic strategy and the appeal to world-indexed individual essences.

Summary. My primary focus in this section has been on how questions concerning the cross-world identity of concrete particular objects should be answered. I examined six contenders for the role of cross-world identity principles: (i) an object's qualitative character; (ii) matter; (iii) origins; (iv) haecceities; (v) world-indexed properties; and (vi) forms. The first three fail to provide conditions that are necessary and sufficient for the cross-world identity of individuals; the fourth and fifth criteria are open to the charge that they do not succeed in settling the relevant questions concerning cross-world identity in an explanatorily adequate fashion. And while the sixth strategy also involves an appeal to some presupposed cross-world identity facts (viz., those concerning individual forms), this option, on the whole, can nevertheless take on a much greater explanatory burden with respect to the hylomorphic compounds in which they are **(p.103)** present than the two closest competing cross-world identity principles, viz., haecceities and world-indexed properties. On balance, then, the sixth option deserves to be taken very seriously as a possible response to the demand for necessary and sufficient conditions for the cross-world identity of concrete particular objects, especially by neo-Aristotelians who are already committed to a hylomorphic analysis of these objects for other reasons. Many of these hylomorphists also accept a non-modal conception of essence and thus face the further difficult task, over and above what is required to meet the challenge concerning cross-world identity, of having to explain an object's *de re* modal profile in terms of facts about its essence which are accepted as basic. Haecceities and world-indexed properties are unlikely to be of much help with respect to this second challenge, while the forms of hylomorphic compounds are, in fact, well suited for this purpose.

3.5 Conclusion

In this chapter, I considered various proposals which have been outlined in the literature concerning the ontological category to which forms should be assigned. My own view, as I argued in Section 3.4.3, is that individual forms are better able to take on certain important explanatory tasks than their most salient competitors. In particular, individual forms are well suited to settle questions concerning the numerical identity and distinctness of matter–form compounds as well as their modal profile, which will be discussed further in Chapter 4. Other issues, e.g., the causal roles ascribed to form (Section 3.4.1) or the relation between form and essence (Section 3.4.2), perhaps surprisingly, turned out to be neutral between the individual forms hypothesis and the universal forms hypothesis. In Chapter 4, I now turn to the defense of my preferred conception of forms as "robust" particulars which do not simultaneously bear the same relation to the matter–form compound (essentially) and to the matter composing it (accidentally).

Notes:

([1]) Frede also refers to the individual form of a living organism as “its organization, structure, and disposition,” viz., that in virtue of which the organism has the capacity to behave in a certain characteristic way and live the kind of life that is characteristic of the kind of organism it is (see, e.g., Frede (1987a), p. 66). This aspect of Frede’s view makes it sound like a version of the forms-as-particular-powers approach which will be reviewed shortly. At the same time, Frede is also explicit about wanting to assign individual forms to the category of substance and Aristotle presumably would classify the organization or disposition of a thing to behave in a certain way as a *dunamis* (capacity, potentiality) of a substance, and not as itself a substance (using “substance” here in the non-relational sense of “substance *simpliciter*,” as opposed to the relational sense of “the substance *of* a thing”). At most, then, we can chalk up Frede’s tendency to speak of individual forms in this way to a potential tension within his own view: depending on which direction is emphasized, we could read him as subscribing either to a version of the forms-as-particular-objects approach or to a version of the forms-as-particular-powers approach.

([2]) “But this text is more correctly understood as saying that a human being is a soul, which is also characterized as being found in a certain kind of body. For without this kind of body the soul could not exist; and without this kind of body the soul would not be a human being.” (My translation.)

([3]) See also Brower (2016) for further discussion. The special case of the human soul is discussed in Brower (2014), ch. 11, especially Sections 11.4–11.5. In this case, substantial forms and properties come apart: although the human soul is a form, it is not a property; rather, it is an incorporeal substance (Brower (2014), pp. 251–4).

([4]) For a more detailed discussion of Fine (1982 and 1999), see Koslicki (2007b and 2008a), especially Ch. 4.

([5]) See also Koons (2014) for an approach according to which forms are construed as processes.

([6]) We will have occasion to examine the conception of artifacts proposed in Evnine (2016a) in more detail in Ch. 8.

([7]) In connection with (i), Rea notes, for one thing, that existing attempts to draw a universal/particular distinction all face problems of various sorts (see MacBride (2005); Ramsey (1925)); he has in mind here, for example, attempts which are formulated in terms of (a) a subject–predicate distinction; or the idea that universals, but not particulars, are (b) multiply locatable, (c) obey the law of the identity of indiscernibles, or (d) are instantiable or non-inherent (Rea (2011), p. 343). In addition, Rea believes that a universal/particular distinction is not

needed, since all the necessary philosophical work can be accomplished without such a distinction.

([8]) As already noted, Rea regards numerical sameness as a genus of which numerical identity is merely a species, since non-identical objects, in his view, can be the same material object, e.g., in cases of constitution (see Rea (1998)). Rea's "sameness without numerical identity" view is not required to make his power-based hylomorphic theory work, though he formulates the latter in such a way that it is compatible with the former.

([9]) Substance natures, in Rea's view, are "fundamental" powers, in the sense that (i) they are perfectly natural; (ii) they are not reducible to other powers; and (iii) they ground non-natural powers (Rea (1998), p. 347). A power P (e.g., humanity) "unites" some other powers (e.g., the capacity for rational thought, growth, running, dancing, etc.) just in case: "P is so connected to the other powers that its manifestation depends upon the cooperative manifestation of the united powers and, furthermore, the latter do not confer any powers on the object that has P that are both intrinsic to the object and independent of P" (pp. 348–9).

([10]) In what follows, in order to keep an already very complex dialectical situation at least somewhat manageable, I will bracket the hybrid position and characterize the debate over Aristotelian forms as confronting us with just two main choices, viz., the universal forms and the individual forms hypothesis.

([11]) The arguments advanced in the remainder of this chapter will not directly concern the fifth, seventh, and eighth sets of desiderata and decision points (see Section 1.6, "Material Constitution," "Unity," and "The Grounding Problem"), since these sets of issues either have been, or will be treated, in other chapters. How particular hylomorphists approach the Problem of Material Constitution depends on how the theorists in question conceive, firstly, of the matter composing a concrete particular object (which was treated in Chapter 2) and, secondly, of the relation between a hylomorphic compound and its matter. The Grounding Problem will be considered in connection with our discussion of the compound-form relation in Chapter 4. The question of unity, or how (if at all) the presence of form in a matter–form compound helps to account for the degree of unity that is manifested by these objects, is taken up separately in Chapter 7.

([12]) The eighth set of desiderata and decision points (see Section 1.6: "The Grounding Problem") invites hylomorphists to clarify their stance concerning the explanatory work that is to be done by their two central pieces of apparatus, viz., form and matter, in accounting for the modal profile of matter–form compounds. We will find, in connection with our discussion of the compound-form relation in Chapter 4, that the Grounding Problem provides additional considerations by means of which to adjudicate between the range of conceptions of form outlined

earlier in Section 3.2. Furthermore, the Grounding Problem connects up with items (g) and (e), from Section 3.3, viz., the causal roles Aristotle assigns to forms and their relation to essence. Our discussion of the Grounding Problem will also shed some light on the issues raised by the first set of desiderata and decision points ("Property Possession and the Problem of Universals"), namely, the question of whether the relation(s) between a concrete particular object, its matter and its form should be conceived of as the same as, or different from, the relation of property possession which holds between a property-bearer and its properties.

([13]) The following paragraphs are extracted from Koslicki (2014), where I examine in more detail the causal priority Aristotle attributes to form, in its role as cause and principle, over the matter and the compound.

([14]) It follows immediately from this correlation between an organism's *being* what it is and its *living* a certain characteristic life that there can be no such thing, for example, as a *dead* human being. For nothing that is dead could have the same essence as a human being, in Aristotle's view, since the definition which states the essence of, or what it is to be, a human being requires that organisms of this kind live a certain kind of life, viz., one that is characteristically human.

([15]) I here follow the reading offered in Johansen (2012), according to which an animal's ability to engage in locomotion *follows from*, but is not included in, the definition which states what it is to be an animal (Johansen (2012), Ch. 12).

([16]) Aristotle thinks of these capacities and their corresponding activities as arranged in a series, in which each successive member presupposes the member preceding it, so that whatever is able to engage in perception also possesses the capacity for nutrition, while whatever is able to engage in thought also possesses both the capacity for nutrition and the capacity for perception (see *DA* II.3, 414b28–415a12).

([17]) In the case of thought, Aristotle agonizes, for theological and other reasons, over the question of whether and to what extent the body is involved as well in carrying out the activities relating to the intellect. If, in the case of human beings, thinking requires imagination [*phantasia*], then this activity as well involves a bodily component at least indirectly, since imagination, in Aristotle's view, presupposes perception, which in turn clearly has a material basis. If Aristotle in the end does take the intellect to be separable from the body, then the corresponding definitions would make no reference to matter. Otherwise, the same model applies to thought as to the other activities and capacities which Aristotle clearly recognizes as being realized in matter (viz., nutrition, perception as well as all the other capacities and activities which follow from them, e.g. locomotion, imagination, desire, sleeping, dreaming, etc.).

([18]) The question of whether or to what extent the matter composing a living organism should be mentioned in its definition, i.e., the statement of its essence, has been discussed extensively among Aristotle scholars (see, for example, Lennox (2008); Peramatzis (2011)). We will return briefly to this complex set of issues in Section 3.4.2.

([19]) I have illustrated the soul's role as the efficient cause of the living organism here by means of a particular case, viz., an exercise of the living organism's capacity for nutrition. When we attempt to work out how the soul is supposed to act as the efficient cause (or at least *an* efficient cause) in other cases, e.g., perception and thought, the details become quite tricky (see Johansen (2012), Ch. 7, for useful discussion). Nevertheless, Aristotle's claim that the soul is the efficient cause of the living organism is meant to be completely general.

([20]) For further exploration of this crucially important and difficult material, see, for example, the detailed examination of Aristotle's function argument in *NE* I.7 in Barney (2008). For the role of thinking as a characteristic activity which distinguishes human beings from other living organisms, see Frede (2008). Relevant also in this context is Aristotle's conception of the divine intellect in *Met*. Λ as well as his discussion of the active intellect in *DA* III. Such texts as *Met*. A.1–2, as well as the emphasis on theoretical contemplation in *NE* X.7–10, suggest that human beings, for Aristotle, are at their best when the activities on which their life centers most closely resemble those of the divine intellect. For further discussion of the divine intellect, see, for example, Burnyeat (2008).

([21]) In this section, for ease of exposition, I will focus only on the possibility that the definition which states the essence of or what it is to be a certain kind of hylomorphic compound may need to make reference to the *type* of matter or material parts of which entities of the kind in question are (or must be) composed. In addition, however, those who hold that the matter composing a hylomorphic compound in some way figures into its essence, and who therefore reject the identification of essence with form, may also consider the possibility that the *particular* matter or material parts of which a hylomorphic compound is composed (e.g., the *original* matter which composed it when it first came into existence) ought to be mentioned in its definition. I will argue against this second position in Section 3.4.3 on the grounds that sameness of *original* matter does not yield a sufficient condition for the cross-world identity of hylomorphic compounds. Other factors, besides the entity's form and possibly its matter, may also turn out to be candidates for inclusion into its essence, depending on the specific case under consideration. For example, in the case of artifacts, as we will see in Chapter 8, some theorists propose that the specific creative intention guiding an artifact's maker or the specific act of creation resulting in the artifact's production should also be included in the artifact's essence. To keep our current discussion at the most general level, however, I will focus here only

on form and matter as the most obvious candidates for what might be taken to be part of the essence of a hylomorphic compound.

([22]) Versions of this position can be found, for example, in Lewis (1984) and Cohen (2009).

([23]) Peramatzis' development of the second position has some idiosyncratic features which need not concern us further here. In particular, he holds that a definition which takes the form, "$F_C =_{def} F_1, F_2, \ldots, F_m$ enmattered in $M_1, M_2, \ldots, M_n$," states the essence of a natural form, F_C, i.e., the form of a certain type of natural hylomorphic compound (e.g., the kind, human being). In Peramatzis' view, this natural form, F_C (i.e., the *definiendum* of the definition in question) itself has a hylomorphic structure, since its essence is given by the *definiens* which states both essential formal constituents, $F_1, F_2, \ldots, F_m$, and essential material constituents, $M_1, M_2, \ldots, M_n$. Thus, Peramatzis is committed to holding that the form of a natural hylomorphic compound, confusingly, is itself "made of matter" (Peramatzis (2011), pp. 53–4).

([24]) The combination of views characteristic of the second position is also congenial to the neo-Aristotelian mereology developed in Koslicki (2008a). According to the position defended there, mereologically complex material objects to which we are committed as part of our scientifically informed common-sense ontology are unified structured wholes. To state what it is to be a mereologically complex material object of a certain kind, K, one must appeal both (i) to the type of matter or material parts of which objects of kind, K, are composed; and (ii) to the form which dictates how the material parts composing these objects must be arranged or configured in order for these material parts to compose a whole of kind, K. In Koslicki (2008a), I leave open whether, in addition to kind-level forms, neo-Aristotelian mereologists should also take on board individual forms. Below, I endorse a version of the individual forms hypothesis for reasons connected with the cross-world identity of hylomorphic compounds. Thus, the position to which I am now most sympathetic is a version of the fourth position according to which forms are individuals, but the essence of a hylomorphic compound is not exhausted by its individual form, e.g., on the grounds that the type of matter or other factors that are essential to the object under consideration also figure in its essence.

([25]) Proponents of this position include, for example, Frede (1985, 1987a, 2000); and Frede and Patzig (1988). We might also count Lowe (1999) as an advocate of the third position, though (as I shall bring out shortly) care is needed when we try to subsume Lowe's position under one of the headings provided in the text.

([26]) The mismatch in question only arises given the anti-Leibnizian assumption that whatever qualitative content is given in a definition is not by itself sufficient to single out a unique individual form/essence and differentiate it from all the

other individual forms/essences that are present in other members of the kind in question.

([27]) Jennifer Whiting's interpretation of Aristotle's hylomorphism can be read as subscribing to either the third or the fourth position (see, for example, Whiting (1984, 1986, 1991, 1992)).

([28]) I assume that Lowe cautions us against understanding "identity," in its occurrence in the phrase "the very *identity* of *X*," as denoting the identity relation for the following reason: relations *are* further entities that are numerically distinct from their relata; therefore, if we were to understand the essence of an entity, X, in terms of X's bearing the relation of identity to itself, then we would be understanding X's essence in terms of a further entity besides X itself, viz., the identity relation. This construal of essence would in turn open us up to the threat of the regress of essences outlined by Lowe in the cited passage. We should also keep in mind here that some entities (e.g., tropes), in Lowe's view, are essentially identity-dependent on other entities numerically distinct from them (viz., the concrete particular objects that are the bearers of these tropes). In these cases, the essence of an entity, X (e.g., a trope), does involve X's bearing a relation to a further numerically distinct entity, Y (viz., the concrete particular object that is the trope's bearer), but not in a way which, in Lowe's view, gives rise to a regress of essences. For suppose we have characterized the essence of the ontologically dependent item, X (viz., the trope), in terms of the numerically distinct further entity on which it depends, Y (viz., the concrete particular object that is the trope's bearer). Then we could find ourselves in one of two situations: either (i) Y is itself *not* ontologically dependent on any other entity numerically distinct from itself; or (ii) Y *is* itself ontologically dependent on some numerically distinct further entity, Z. In the first case, we are done appealing to numerically distinct entities in the process of specifying the essences of X and Y. In the second case, specifying Y's essence will require a reference to some further numerically distinct entity, Z. At some point in this process, however, the need to refer to numerically distinct further entities will come to a stop, namely, when we have reached entities which, in Lowe's view, are not themselves essentially identity dependent on anything numerically distinct from themselves. Thus, Lowe's own ontology does not fall prey to his regress of essences, despite the fact that he assigns a place within his ontology to ontologically dependent entities which essentially bear certain relations to numerically distinct further entities. We will come back to these issues when we investigate Lowe's views concerning ontological dependence further in Chapters 5 and 6.

([29]) See especially Lowe (1998), Ch. 9, "Matter and Form," pp. 190–203; and Lowe (1999). For his more recent thoughts on the matter–form distinction, see Lowe (2012b). As noted earlier (see Chapter 1, n. 28), in the context of this discussion, we find Lowe distancing himself from hylomorphism, but only insofar

as the latter is interpreted as giving rise to a particular kind of constituent ontology. Provided that the matter–form distinction is understood properly, Lowe continues to see an application for this distinction within his own approach, viz., the "four category ontology," which he views as neither a constituent ontology nor a relational ontology.

([30]) Recall that, according to the interpretation of Aristotle developed in Peramatzis (2011), the essence of a matter–form compound, X, is its (universal) form, conceived of as a certain kind of property, "a mode or way of being," associated with X's membership in the kind to which it belongs: for example, Socrates' essence or form is *to be a human being*, while Bucephalus' essence or form is *to be a horse*. But forms themselves, in Peramatzis' view, have essences, which are also modes or ways of being. Does Peramatzis therefore run into the regress of essences outlined by Lowe in the passage just cited? Peramatzis' method for stopping the regress of essences is to hold that, in the case of forms, the essence of the thing and the thing whose essence it is (viz., the form) are identical (Peramatzis (2011), p. 5). Thus, at most, we might be charged with a misleading way of speaking when we say that forms *have* essences, since the more proper form of expression would be to describe forms as *being* (numerically identical to) essences.

([31]) Earlier we mentioned that Aristotle scholars disagree with one another over whether matter–form compounds should be individuated by reference to their matter or their form (see item (d), Section 3.3). These concerns are taken up again in this section in connection with the fourth set of desiderata and decision points (see Section 1.6: "Identity and Indiscernibility"), which challenges hylomorphists to say how (if at all) the form of a hylomorphic compound should figure in an account of the synchronic, diachronic, or cross-world identity and distinctness relations which obtain among these objects.

([32]) The remainder of this section consists of material that is extracted from Koslicki (2018a). The main topic on which I focus in this section is how to settle questions concerning the cross-world identity of concrete particular objects. One might find it odd or surprising that I now take up the topic of cross-world identity when, up to this point, I have been discussing primarily the question of whether we should conceive of forms as universal or general entities or as particular or individual entities. However, as will become apparent shortly, these two topics are intimately connected, since I will be recommending that those who are already committed to hylomorphism for other reasons are best served by settling questions concerning the cross-world identity of matter–form compounds by appeal to their forms. Proponents of the universal forms hypothesis, however, do not have the option of invoking forms as cross-world identity principles for matter–form compounds, since these theorists hold that the very same form is present in numerically distinct matter–form compounds which belong to a single kind. Thus, a universal forms theorist could not very

well answer the question of whether a certain object is numerically identical to Socrates or Callias, for example, by appeal to Socrates' or Callias' form, since by hypothesis the universal form associated with Socrates is numerically identical to the universal form associated with Callias. Thus, the argument I offer here in favor of designating forms as the cross-world identity principles for matter–form compounds is in effect an argument in favor of (some version of) the individual forms hypothesis.

([33]) As noted in Chapter 1, it is tricky to say precisely how the distinction between qualitative and non-qualitative properties is to be drawn. For present purposes, I rely on the rough characterization of this distinction given in Adams (1979): " … a property is purely qualitative—a suchness—if and only if it could be expressed, in a language sufficiently rich, without the aid of such referential devices as proper names, proper adjectives and verbs (such as 'Leibnizian' and 'pegasizes'), indexical expressions, and referential uses of definite descriptions" (Adams (1979), p. 7).

([34]) Below, we will consider a proposal which conceives of (iii), the origins of a concrete particular object, as a special case of (ii), the matter composing a concrete particular object. However, even for entities which are composed of matter, it is in principle possible to think of an entity's origin in a different way which does not lead to the subsumption of (iii) under (ii). For example, in Chapter 8, we will encounter a type of origin essentialism about artifacts defended by Simon Evnine, according to which it is the act of creation, rather than the original matter, that is taken to be essential to the resulting artifact. It thus makes sense to distinguish (ii) and (iii), even if in some cases, and according to some proposals, instances of (iii) may turn out to be a special case of (ii).

([35]) See also Whiting (1986) for an argument in favor of individual forms on the basis of considerations concerning the numerical identity of matter–form compounds. Whiting outlines cases in which the same species form is realized in the same matter, even while one concrete particular object goes out of existence and another one comes into existence, thereby indicating that the traditional doctrine which views matter as the principle of individuation must be abandoned in favor of the position that this role must instead be assigned to individual forms.

([36]) I will in what follows construe the essentiality of origins thesis, due to Kripke (1971 and 1980), as it applies to composite material objects, as a special case of sameness of matter as a criterion for cross-world identity: instead of considering the matter of which individuals are composed at some later point during their career, the essentiality of origins thesis instead shifts the focus to the *original* matter of which an entity is composed when it first comes into existence. For example, in the case of artifacts, e.g., a table, the original matter

might be the wood which composes the table at the time at which it is created by the craftsperson. The case of organisms is slightly more complicated. A human being, for example, originates from a particular sperm and egg, which together result in a zygote. This zygote then splits into two zygotes, and so on. When we look closely at discussions of the essentiality of origins thesis as it applies to organisms (e.g., Forbes (1985)), we see that what is supposed to be essential to the organism is the *matter* which is passed on from the sperm and egg to the first zygote, and not, for example, the genetic information encoded in these antecedently existing entities, since the genetic information could be reduplicated in, and hence shared by, numerically distinct organisms, e.g., identical twins. Those who want to deny that the essentiality of origins for composite material objects can be understood in terms of sameness of original matter will, I think, have to appeal instead, implicitly or explicitly, to one of the other principles of cross-world identity I go on to discuss (viz., (iv) haecceities, (v) world-indexed properties, or (vi) forms), when they attempt to settle questions concerning the numerical identity of individuals across worlds.

([37]) According to the simplifying assumption I make here, we suppose (for the sake of the argument) that the matter, m, from which both Socrates and Callias are supposed to originate, can be identified with a collection of particles, $\{p_1, \ldots, p_n\}$. The notation I use suggests that the collection of particles, $\{p_1, \ldots, p_n\}$, is a *set*. But "m" could just as well be taken to be a term of plural reference which denotes a *plurality* of particles, $p_1, \ldots, p_n$, instead. Nothing I say in what follows hangs on whether we prefer one of these options over the other.

([38]) We have now assumed that questions concerning the numerical identity of the matter, m, from which both Socrates and Callias are supposed to have originated, need not concern us further here, either because m's cross-temporal and cross-world identity can somehow be settled or because it can legitimately be taken as basic. Although, following my simplifying assumption, I speak of m as a collection of particles, $\{p_1, \ldots, p_n\}$, we could equally well have taken m to be a portion of prime matter, following the Thomistic prime matter hypothesis discussed in Chapter 2. As we noted in Section 2.3.2, Brower (unlike Oderberg) assumes that portions of prime matter are the primitive source by appeal to which questions concerning the numerical identity and distinctness of matter–form compounds are to be settled derivatively. Thus, despite my "un-Thomistic" formulation of the scenario currently under discussion, it can nevertheless be rephrased in terms which would be congenial to prime matter theorists. In that case, however, we should note that McKay's argument can also be used to show that primitively individuated portions of prime matter alone do not suffice to settle all remaining questions concerning the numerical identity and distinctness of matter–form compounds. For Brower's most recent thoughts on these topics, see Brower (2017).

([39]) In response to McKay's objection involving the recycling of an organism's original matter, Forbes considers adopting a conception of cross-world identity which would count such properties as *being first* or *being second* in the order of creation as *identity-relevant* properties (see Forbes (1997 and 2002)). But this move faces the same difficulties as those encountered by best-candidate accounts of personal identity, according to which the question of whether an individual is identical to itself across worlds is apparently turned into an extrinsic matter, sensitive to what goes on with numerically distinct individuals.

([40]) Even if the criteria considered so far do not succeed in yielding sufficient conditions for cross-world identity, essentialists may nevertheless point out in their defense that some of these criteria still at least provide necessary conditions for cross-world identity, in particular indiscernibility with respect to qualitative essential properties and sameness of origins. (Sameness of matter at later points during an object's career is in many cases implausible as a necessary condition for cross-world identity, if we want to allow that objects can persist through changes with respect to the matter which composes them at some later point during their careers.) If indiscernibility with respect to qualitative essential properties and sameness of original matter at least provide necessary conditions for cross-world identity, essentialists will have made some progress in avoiding cross-world identity judgments which are apparently completely ungrounded in anything other than facts about the numerical identity of the individuals involved in actual and possible situations. Still, a Quinean critic, who challenges essentialists to provide principles of cross-world identity that are both necessary and sufficient, will not be completely satisfied until both halves of his or her demand have been met.

([41]) Given that we have allowed an in-principle distinction between (ii) sameness of matter and (iii) sameness of origins, one might wonder whether a response could be formulated to McKay's challenge which does not turn on (iii)'s being a special case of (ii). One such possibility would be to conceive of an object's origin in terms of the *event* which led to the creation of the object in question. In this vein, as noted earlier, Evnine (2016a), for example, develops a version of origin essentialism for artifacts according to which an artifact is essentially the product of a certain act of creation in which the artifact's maker successfully exercises his or her creative intention to produce a certain thing. Evnine's account, which will be examined further in Chapter 8, turns out to give rise to serious difficulties concerning the individuation of artifacts. But even if an account of this type could be made to work for artifacts, one wonders how it could be successfully extended to members of natural kinds: for, in that case, some analogue of an "act of creation" would have to be found that does not make reference to the intentions guiding the artifact's maker during the process of production. Since we have already assumed that Socrates and Callias could have come into existence slightly earlier or later than they in fact did, the *time* at which the "creation event" occurred is not plausibly taken to be part of the

essence of the resulting object. I assume that the *place* at which the "creation event" occurred can be ruled out for similar reasons. But if neither the time nor the place at which the "creation event" occurred are part of the essence of the resulting object, and the participating original matter is not sufficiently fine-grained to yield a satisfactory principle of cross-world identity, then it is difficult to see what other options there are (besides those that will be considered in the remainder of this section) to generate a successful response to McKay's challenge. (For further discussion concerning the individuation of events, see, for example, Diekemper (2009, 2015).)

([42]) Historically, Duns Scotus is credited with the introduction of haecceities into our philosophical discourse; see, for example, Cross (2003) for discussion. See also Rosenkrantz (1993).

([43]) This restriction is perhaps sufficient to exclude certain categories of entities in the domain of w from being able to exemplify E, e.g., poached eggs as well as all those entities which do not belong to the right kind to be able to enter into the legal relationship of marriage. In this respect, the appeal to world-indexed properties, due to their partially qualitative content, does a somewhat better job in providing a non-stipulative response to the "poached egg" objection considered earlier than the haecceitistic strategy.

([44]) I take it that one of Aristotle's main projects in the biological treatises is to show how the forms of living organisms are causally, and hence explanatorily, relevant in precisely this way to an organism's ability to engage in the range of activities that are characteristic of members of its biological kind. However, as I argue in Koslicki (2012b), an appeal to facts about the essences of other related entities will also be required in order to arrive at a plausible derivation of an entity's *de re* modal profile (see also Section 4.5).