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## Essence and Identity

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### 1 Challenges for Essentialism

Essentialists hold that, among the properties objects have, some are accidental and some are essential to the objects in question.\* In contemporary metaphysics, essence is often understood in modal terms. According to this approach, which I will call “modal essentialism,” the essential properties of an object are those the object must possess if it is to exist at all, while the accidental properties are those which the object need not possess in order for it to exist. Modal essentialists also usually add to this that, among the essential properties which are attributable to an object, some are non-trivial, that is, some tell us more about the object’s nature than for example the property, *being married if a bachelor*, would. If the modal essentialist furthermore approaches modality through a possible worlds framework, then he would take the essential properties of an object to be those the object has in every possible world in which it exists, and the accidental properties to be those the object has in some, but not all, of the worlds in which it exists.

W. V. O. Quine poses an important challenge for modal essentialists.<sup>1</sup> If the essential and accidental properties of an object are those the object has in all or some of the worlds in which *that* object exists, then, in order to make sense of such

\* I am very honored to be able to contribute an essay to this volume celebrating the philosophy of Kit Fine. As should be obvious to anyone who has ever read any of my writings, I have been deeply inspired by Fine’s work in metaphysics and nearly everything I have written since the mid-1990s in some way bears the mark of his influence on my philosophical thinking. Fine has also been extremely generous over the years in sharing his ideas with me and in patiently responding to my various questions and comments concerning our common interests. It is humbling to realize that the portion of Fine’s work which is immediately relevant to my own in fact only constitutes a small sliver of the many brilliant and highly influential contributions he has made to so many different areas of philosophy; his breadth and originality certainly serve as a model to which we can all aspire. This chapter has also profited immensely from Graeme Forbes’s work on the metaphysics of modality and the many conversations we have had over nearly two decades on essence, modality, and other philosophical matters. I am grateful to both of them for their support and for creating a body of work which has proven to be so fruitful to engage with for the rest of us.

<sup>1</sup> See for example his remarks concerning the possible fat men in the doorway in Quine (1948). Quine (1953) famously argues against quantifying into modal contexts, which he views as not purely referential. Quine (1976) objects that “you can change anything to anything by easy stages through some connecting series of possible worlds” (p. 861).

attributions of *de re* modal properties to objects, modal essentialists are obliged to tell us how to identify entities across possible worlds. (“No entity without identity!”) Quine’s challenge for the modal essentialist consists in the demand for necessary and sufficient conditions for the crossworld identity of individuals, that is, conditions which would fill in the right-hand side of the following biconditional in an explanatorily adequate way (more on this below):

*Quine’s Challenge:* An entity,  $x$ , in a world,  $w_1$ , is numerically identical to an entity,  $y$ , in a distinct world,  $w_2$ , iff  $x$  in  $w_1$  and  $y$  in  $w_2$  satisfy conditions . . .<sup>2</sup>

Proponents of modal essentialism, such as Plantinga (1974) and Forbes (1985), think that Quine’s challenge can be met by way of individual essences which are to be associated with particular entities. An individual essence of a given object, according to this approach, is a collection of properties such that each property in the collection is essential to the object under consideration and it is furthermore not possible for a numerically distinct object to satisfy every member of the collection. If each object could in fact be paired with at least one individual essence (or a multitude thereof), then it seems the modal essentialist would have successfully answered Quine’s challenge. For individual essences could then be invoked by modal essentialists to meet the Quinean demand for necessary and sufficient conditions for the crossworld identity of those individuals whose essences they are:

*Individual Essences:* An entity,  $x$ , in a world,  $w_1$ , is numerically identical to an entity,  $y$ , in a distinct world,  $w_2$ , iff  $x$  in  $w_1$  and  $y$  in  $w_2$  instantiate the same individual essences.

When faced with the question of how best to build up these individual essences (if indeed there are such things) from essential properties, modal essentialists might turn to the following prominent candidates: (i) an object’s qualitative character;<sup>3</sup> (ii) its matter; (iii) its origins; (iv) its haecceity or primitive non-qualitative thisness property (e.g., the property Socrates, and Socrates alone, has of being numerically identical to Socrates); or (v) what Plantinga (1974) calls “world-indexed properties” (e.g., the property Socrates, and Socrates alone, has of being Xanthippe’s husband in

<sup>2</sup> The question of what determines the crossworld identity of individuals should be kept apart from the following two further questions one might raise concerning the numerical identity of individuals. Intra-world crosstemporal identity: Under what conditions is an entity,  $x$ , which exists at a time,  $t_1$ , identical to an entity,  $y$ , which exists at a distinct time,  $t_2$ , within a single world,  $w$ ? Intra-world synchronic identity: Under what conditions is an entity,  $x$ , which exists at a time,  $t$ , numerically identical to an entity,  $y$ , which exists at the same time,  $t$ , within a single world,  $w$ ? There is no reason in principle to require that a single set of criteria must simultaneously provide necessary and sufficient conditions for crossworld identity, intra-world crosstemporal identity, and intra-world synchronic identity, though of course some such criteria might accomplish all three of these tasks at once.

<sup>3</sup> It is tricky to say precisely how the distinction between qualitative and non-qualitative properties is to be drawn. For present purposes, we may 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” (p. 7).

the actual world). Moreover, those who accept a hylomorphic analysis of concrete particular objects as compounds of matter (*hylē*) and form (*morphē*) may consider a sixth option: (vi) form as the principle of crossworld identity for hylomorphic compounds.<sup>4,5</sup>

As I will explain below, the first five of these candidates are problematic in certain ways. In the cases 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 crossworld identity of individuals. In the cases of (iv) and (v), the question is not so much whether the proposed principle manages to supply the desired necessary and sufficient conditions for crossworld 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 below that (vi) is an option we should take very seriously.<sup>6</sup>

## 2 Preliminaries

Before we get underway with the core of this investigation, some preliminary issues need to be addressed with the following two main goals in mind: first, to speak to those who are skeptical that Quine's demand for necessary and sufficient conditions for the crossworld identity of individuals in fact poses a genuine problem; and

<sup>4</sup> The second, third, and sixth candidates listed above are only applicable to a certain range of entities, namely entities which are composed of matter, entities which originate from other antecedently existing entities, and entities which have forms present in them. In contrast, (i), (iv), and (v) have the prima facie advantage of being at least in principle applicable across the board. But there is also the option of attempting to settle Quine's challenge in a piecemeal fashion, in the hopes that the crossworld identity problem for entities which do not fall into the restricted range of entities in question may be addressed in some other way. As we will come to see below, (i), (iv), and (v) exhibit other shortcomings which outweigh their wide applicability.

<sup>5</sup> Present-day advocates of hylomorphism include for example Brower (2010), (2014); Evnine (2016); Fine (1982), (1999); Harte (2002); Ingarden (1925); Jaworski (2016); Johnston (2002), (2006); Koons (2014); Koslicki (2008), (2018a); Kovesi (1967); Lowe (1998), (1999), (2006); Marmodoro (2013); Oderberg (2007); Rea (2011); Sattig (2015); Stump (1995); and Toner (2011a), (2011b), (2012).

<sup>6</sup> Not all essentialists are modal essentialists; a growing number, following Aristotle's lead and Kit Fine's pioneering work on essence in the 1990s, now prefer a non-modal conception of essence (see especially Fine [1994a], [1995a], [1995b], [1995c]). According to this approach, *de re* necessary truths are to be explained in terms of essential truths; and *de re* necessary features of objects, traditionally known as the "propria" or "necessary accidents," similarly are conceived of as in some way derivative from the essential features of objects. Other contemporary neo-Aristotelians who have gravitated towards a non-modal conception of essence include for example: Gorman (2005); Koslicki (2012a), (2012b), (2013a), (2013b), (2018a), (2018b); Lowe (1994), (1998), (2006), (2012), (2013); Oderberg (2007), (2011); and Tahko and Lowe (2015). Those who embrace a non-modal conception of essence thus face an additional challenge, over and above Quine's demand for necessary and sufficient criteria for crossworld identity. For, according to the non-modal conception, an essence must not only, so to speak, locate an entity in every possible world in which the entity in question exists; it must also contribute to an explanation of the object's *de re* modal features. The crossworld identity principle I will be advocating below for the case of hylomorphic compounds (*viz.*, individual forms) is also more well-suited than its competitors for this additional explanatory challenge which arises for non-modal essentialists, over and above Quine's demand for necessary and sufficient conditions for the crossworld identity of individuals.

second, to set some targets for what we should expect from a proposed solution to Quine's challenge.

### 2.1 *Genuine essentialism*

Our current discussion will only strike a certain kind of essentialist as worth having at all, namely those who subscribe to what I will refer to as *genuine essentialism*. I understand this label to impose the following constraints on proposed solutions to Quine's challenge. First, genuine essentialists view the distinction between an entity's accidental and essential properties as objective, non-conventional, and not context-dependent.<sup>7</sup> Second, those who subscribe to this position only accept determinate answers to crossworld identity questions, in contrast to others who allow for some indeterminacy with respect to questions of the form, "Is an entity  $x$ , in world,  $w_1$ , numerically identical to an entity,  $y$ , in world,  $w_2$ ?"<sup>8</sup> Third, genuine essentialists consider crossworld identity to be a genuine, one-to-one relation of numerical identity. Genuine essentialists thus differ from others (e.g., those sympathetic to a counterpart-theoretic approach) who construe *de re* modal attributions in terms of one-many or many-one relations which may apply to numerically distinct individuals (e.g., similarity relations). Fourth, genuine essentialists assume that individuals are not world-bound, so that an individual in one world can be genuinely numerically identical to an individual in a distinct world. By making these assumptions, I do not intend to take a stand concerning the debate between actualists and possibilists, since many of my targets (e.g., Alvin Plantinga, Peter van Inwagen, and Graeme Forbes) are actualists and yet nevertheless, in their discussions, appeal to possible non-actual worlds and possible non-actual individuals existing in them. Such philosophers would give an actualist analysis of what this talk of possible worlds and possible non-actual individuals amounts to in ontological terms, and I do not wish to take issue with this strategy, since such actualist modal essentialists, as I see it, still face a genuine problem concerning the crossworld identity of individuals.

### 2.2 *Explanatory adequacy*

Several times already in the preceding paragraphs, I have made reference to the idea that certain responses to Quine's challenge might be explanatorily more adequate than others. It is of course a tricky matter to spell out more precisely what it might take for one set of materially adequate (i.e., necessary and sufficient) conditions for the crossworld identity of individuals to meet a higher standard of explanatory adequacy than another such set of materially adequate conditions. However, it is possible to place a few general constraints on explanatory adequacy which we may use to guide our discussion in what follows. Moreover, some of these constraints are plausibly taken to be independently motivated, in the sense that we expect explanations in general, regardless of the details of our current debate about the crossworld identity of individuals, to satisfy these conditions.

<sup>7</sup> Thus, I contrast genuine essentialism for example with the conventional approach to modality taken by Hume (2007), Sidelle (1989), Sider (2011), and Thomasson (2007), as well as with the contextual approach to *de re* modal attributions advocated in Lewis (1986).

<sup>8</sup> For a contrasting picture, see for example Parsons (2000).

### 2.2.1 NON-CIRCULARITY

In order for a given set of criteria for the crossworld identity of individuals to count as explanatorily adequate, the conditions in question ought not simply to presuppose what they are intended to explain. Otherwise, the alleged “explanation” would be circular, and there is a general prohibition against circular explanations independently of the particular context in which these explanations are proposed. Thus, if a set of criteria is supposed to explain why an entity,  $x$ , in a world,  $w_1$ , is numerically identical to an entity,  $y$ , in a distinct world,  $w_2$ , then the proposed conditions ought not simply to appeal to the fact that  $x$  in  $w_1$  is numerically identical to  $y$  in  $w_2$ .

### 2.2.2 NON-STIPULATIVITY

Ideally, in order for a set of criteria to be explanatorily adequate, an answer to the question that is supposed to be resolved ought not simply to be stipulated. I take it that it would be desirable if more could be said in response to the question, “Why is entity,  $x$ , in a world,  $w_1$ , numerically identical to an entity,  $y$ , in a distinct world,  $w_2$ ?” than simply “It just *is*, because we said so.” As Forbes (1985) remarks, Quine of course does not deny that we could simply *stipulate* principles which block the gradual transformation of anything into anything by easy stages (1985, p. 143).

### 2.2.3 NO INFINITE REGRESSES

If we are trying to explain facts about the crossworld identity of individuals belonging to class A (e.g., composite material objects) in terms of facts about the crossworld identity of individuals belonging to a distinct class B (e.g., the particles which compose them), then either facts about the crossworld identity of individuals belonging to class B must be taken as primitive, or these facts must themselves be explained in terms of facts about the crossworld identity of individuals belonging to some

<sup>9</sup> The attitude towards crossworld identity taken by Kripke (1971) and (1980) might appear to conflict with my non-stipulativity constraint, since he holds that when we specify a counterfactual situation involving, say, Nixon—e.g., when we say “Nixon might have lost the election”—then we precisely have stipulated that the individual in the counterfactual situation we have described is Nixon. For Kripke, this result just trivially follows from the way in which we have specified the counterfactual situation and so the question does not even arise as to whether the actual individual, Nixon, who in fact won the election, is numerically identical to the individual in the counterfactual situation we have specified, whom we are supposing to have lost the election. In response to this line of reasoning, I would emphasize that even someone who adopts Kripke’s stance towards issues of crossworld identity must still face the question of how to distinguish between those counterfactual situations which specify genuine (metaphysical) possibilities for Nixon and those which do not. If I say for example “Nixon might have been a poached egg,” then (in my view at least), although it sounds as though I have specified a counterfactual situation involving Nixon, I really have failed to do so, since there is no genuinely (metaphysically) possible situation involving an individual that is numerically identical to our actual Nixon who is also a poached egg in this allegedly (metaphysically) possible situation. Thus, even with Kripke’s way of thinking about counterfactual situations, we are not completely off the hook as far as Quine’s demand concerning necessary and sufficient conditions for the crossworld identity of individuals is concerned. Genuine essentialists, even if they are sympathetic to Kripke’s stance, are still under an obligation to tell us which counterfactual situations genuinely involve Nixon, say, and which are such that, despite appearances, we have lost track of Nixon, so to speak, because we have specified a counterfactual situation that is not genuinely (metaphysically) possible for Nixon, given that the individual in the specified counterfactual situation lacks some of Nixon’s essential properties, e.g., the property of being human.

further distinct class C (e.g., smaller particles which compose the entities in class B), and so on. If such a chain of alleged explanations goes on forever, then, I take it, we have not in the end succeeded in explaining any facts at all concerning the crossworld identity of individuals.

#### 2.2.4 NON-AD HOC-NESS

If we propose to explain facts about the crossworld identity of individuals belonging to class A (e.g., composite material objects) in terms of facts about the crossworld identity of individuals belonging to class B (e.g., their haecceities), and these latter facts are taken as primitive, then ideally we should be able to motivate our commitment to entities belonging to class B on independent grounds, that is, on grounds not directly connected to their role in settling questions about the crossworld identity of individuals belonging to class A. The fourth desideratum (*viz.*, non-ad hoc-ness) thus instructs us to look for explanations which are couched in terms of entities which earn their explanatory keep in other ways as well, not just by helping us settle questions about the crossworld identity of individuals belonging to class A.

#### 2.2.5 UNIFORMITY ACROSS ONTOLOGICAL CATEGORIES

Ideally, if facts about the numerical identity of individuals in possible situations can be explained at all, they should be explained in a way that is uniform across specific ontological categories. For example, if the crossworld identity of sets is explained in terms of facts about the numerical identity of their members, we would expect this explanation to apply to all sets (or at least to all non-empty sets, since presumably facts about the numerical identity of the empty set have to be taken as primitive). It would be strange if for example facts about the numerical identity of Socrates' singleton set were explained one way, but facts about the numerical identity of the set containing Socrates and Callias were explained in some other way.

#### 2.2.6 COMPLETENESS

Some might question whether genuine essentialists really are required to meet both components of Quine's challenge, that is, whether they have incurred an obligation to provide not only necessary but also sufficient conditions for the crossworld identity of individuals. We might find these philosophers maintaining that, while the genuine essentialist is under some obligation to provide necessary conditions for the crossworld identity of individuals, there is no equally pressing reason to give sufficient conditions as well for the crossworld identity of individuals. To this charge, I reply that genuine essentialists who are able to supply both necessary and sufficient conditions for the crossworld identity of individuals are in a dialectically stronger position than those who reject the demand for sufficient conditions and settle for meeting merely half of Quine's demand, *viz.*, the part which asks for necessary conditions for the crossworld identity of individuals. As we will see below, such philosophers will still be faced with scenarios in which questions about the numerical identity of individuals across worlds simply cannot be completely settled with the apparatus that has been brought to the table. Their account therefore suffers from the explanatory vice of incompleteness, since they are unable to answer all the questions which arise concerning the crossworld identity of individuals.

### 2.3 *There is a genuine metaphysical problem about crossworld identity*

Some genuine essentialists (e.g., van Inwagen [1985]) claim to have shown that there really is no genuine metaphysical problem about the crossworld identity of individuals at all. Such philosophers adopt the attitude that Quine's demand for necessary and sufficient conditions governing the crossworld identity of individuals (both parts of it) really poses no genuine challenge to the genuine essentialist at all. According to these skeptics, 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 genuine essentialists 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 crossworld identity; but we could have asked what I take to be the very same question in a way which does explicitly mention crossworld identity, viz., "Is there a possible world,  $w$ , containing an individual 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 individual which is a poached egg and crossworld 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 individual, Nixon. Presumably, the answer to the question of why Nixon could not have been a poached egg would appeal to Nixon's essential properties in order to bring out what is wrong with the supposition that Nixon could have been a poached egg. Moreover, if the essential properties to which the proposed answer appeals merely state necessary conditions for the crossworld identity of individuals, then (as we will discover below) we run into trouble with the completeness constraint proposed above. For we will not then have succeeded in ruling out counterfactual situations in which numerically distinct individuals are indiscernible with respect to these properties, but the criteria in question do not settle which of these individuals is numerically identical to Nixon in the actual world.

### 2.4 *Epistemic vs. metaphysical challenge*

For the purposes of our present discussion, I approach Quine's challenge entirely from a metaphysical, rather than an epistemological, point of view: the question thus before us is under what conditions individuals in one world are in fact numerically identical to individuals in a distinct world, independently of how we come to know such crossworld identity facts. I assume that it is at least in principle possible for us to grasp facts about what is essential and accidental to a given individual. But the epistemic question of what is required in order for us to gain such knowledge concerning essences and modality is left open by our current metaphysical enterprise and in itself constitutes a worthwhile philosophical project.

### 2.5 *A (toned-down) argument from elimination*

Based on the constraints and assumptions I have just set out, we have narrowed down the field of proposed solutions to Quine's challenge to just those which would count as "genuinely essentialist" relative to the above specifications. To recap, this label applies to positions according to which the accidental-essential distinction is an objective, non-conventional, and context-insensitive matter; individuals are not world-bound; crossworld identity is genuine numerical identity, and hence one-one; answers to questions about crossworld identity should not be indeterminate and, ideally, should be explanatory in the ways specified above. Once we conceive of the relevant players in this way, then there is some room for optimism that the list of options I identified above in (i)–(vi), as the primary contenders in our search for explanatorily adequate necessary and sufficient conditions for crossworld identity, in fact includes all the most natural and plausible strategies that are open to the genuine essentialist in responding to Quine's demand. If it turns out that, on balance, the sixth option, according to which forms act as crossworld identity principles, is to be preferred over its five competitors, then the arguments given in this chapter may be interpreted as something approaching an argument by elimination in favor of the sixth option, relative to the constraints I have imposed above.

## 3 Attempting to Meet Quine's Challenge: Necessary and Sufficient Conditions for Crossworld Identity

In order to bring out why Quine's challenge has proven so difficult to meet for essentialists, I now examine the prominent candidates identified above to which essentialists may turn in their attempt to provide criteria for crossworld identity: (i) an object's qualitative character; (ii) matter; (iii) origins; (iv) haecceities; (v) world-indexed properties; and (vi) form. In the first five cases, we will encounter reasons to be skeptical as to whether the proposed principle in fact succeeds in providing both necessary and sufficient conditions for crossworld identity or whether it does so in an explanatorily satisfactory manner. The sixth option, I will argue, while also not entirely problem-free, thus recommends itself as a serious contender in comparison to its competitors.

### 3.1 *Necessary vs. sufficient conditions*

The question of whether any of the criteria listed above succeed in providing sufficient conditions for the crossworld identity of individuals should be evaluated separately from the question of how well they do when considered as necessary conditions. After all, the essentialist may wish to avail himself of a "mix and match" strategy: there is no reason in principle why the essentialist should not be able to appeal to one set of criteria to supply necessary conditions and to a distinct set of criteria to fill the role of sufficient conditions for crossworld identity.

My arguments below concerning (i), (ii), and (iii) are directed only to the question of whether these three contenders succeed as sufficient conditions for crossworld identity. That said, we should immediately note that (ii) sameness of (non-original) matter is not a plausible necessary condition for the crossworld identity of

individuals across the board, given that some entities can quite obviously survive changes with respect to the matter which composes them at some point during their careers after they have come into existence. A similar point may seem to apply to the first option (viz., qualitative indiscernibility) as well, since it is equally plausible to suppose that some objects can survive changes with respect to their qualitative properties, viz., at least those that are accidental. But if we restrict ourselves only to an entity's qualitative essential properties, then (i), in this restricted form, does (trivially) act as a necessary condition for crossworld identity, since of course an entity cannot survive changes with respect to its essential properties. In contrast, when we evaluate the plausibility of qualitative indiscernibility as a sufficient condition for crossworld identity, there is no need to restrict ourselves only to an entity's essential qualitative properties and we may instead consider scenarios in which individuals are qualitatively indiscernible in every respect.

### 3.2 *Qualitative indiscernibility, sameness of matter, and sameness of origins*

To bring out why, even jointly, (i) qualitative indiscernibility, (ii) sameness of matter, and (iii) sameness of origins do not yield sufficient conditions for crossworld identity, I turn to a scenario described in McKay (1986):<sup>10</sup>

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. (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'

<sup>10</sup> 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 crossworld 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 craftsman. 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 crossworld identity I discuss below (viz., [iv] haecceities, [v] world-indexed properties, or [vi] forms), when they attempt to settle questions concerning the numerical identity of individuals across worlds.

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 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, that is, 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, first, that it is somehow possible to establish a crosstemporal identity within a single world,  $w_1$ , between Socrates' original matter in 469 BC and Callias' original matter in 379 BC. Second, we took for granted, in addition, that Socrates' and Callias' original matter in  $w_1$  can be crossworld 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,  $\{p_1, \dots, p_n\}$ , as follows:

*Intraworld Identities for  $w_1$ :*

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

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

*Crosstemporal Identities for Collections of Particles for  $w_1$ :*

$\{p_1, \dots, p_n\}$  in 469 BC =  $\{p_1, \dots, p_n\}$  in 379 BC

*Crossworld Identities for Collections of Particles:*

$\{p_1, \dots, p_n\}$  in  $w_1$  =  $\{p_1, \dots, p_n\}$  in  $w_2$

When we approach the scenario just described with these assumptions in mind, further questions arise. First, the relevant crosstemporal and crossworld identity facts concerning collections of particles must be settled in some way; and, second, 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 crosstemporal and crossworld identity of particles is resolved in some way, either because the crosstemporal and crossworld identity of particles may legitimately be taken for granted, or because the demand for necessary and sufficient conditions for their crosstemporal and crossworld identity can be met in some fashion.

Now, with these assumptions in place, we may extract the following results from the scenario outlined above. 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 crossworld identified with the human being who comes into existence in 419 BC in  $w_2$  and is originally composed of  $\{p_1, \dots, p_n\}$ . 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 above (viz., [i] qualitative indiscernibility, [ii] sameness of matter, and [iii] sameness of origins) do not yield sufficient conditions for crossworld 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  $\{p_1, \dots, p_n\}$ . 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 which 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 meet Quine's challenge.<sup>11,12</sup>

### 3.3 Haecceities

Haecceities ("thisnesses") are typically taken to be primitive non-qualitative identity properties.<sup>13</sup> 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

<sup>11</sup> In response to McKay's objection involving the recycling of an organism's original matter, Forbes considers adopting a conception of crossworld identity which would count such properties as *being first* or *being second* in the order of creation as *identity-relevant* properties (cf. 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.

<sup>12</sup> Even if the criteria considered so far do not succeed in yielding sufficient conditions for crossworld identity, the essentialist (as noted earlier) may nevertheless point out in his defense that some of these criteria still at least provide necessary conditions for crossworld 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, as we said before, is in many cases implausible as a necessary condition for crossworld 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 prove necessary for crossworld identity, the essentialist will have made some progress in avoiding crossworld 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, the Quinean critic will of course not be completely satisfied until her demand for crossworld identity conditions that are not only necessary but also sufficient has been met.

<sup>13</sup> Historically, Duns Scotus is credited with the introduction of haecceities into our philosophical discourse; see for example Cross (2003) for discussion.

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 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 crossworld 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 meets Quine's demand in an explanatorily satisfactory way; for one might feel that haecceities have been invented by philosophers for no other reason than to resolve puzzling questions concerning the crossworld identity of individuals which apparently cannot be answered in any other way. I will take up the question shortly of how well a haecceitistic answer to Quine's challenge fares in complying with the six explanatory adequacy conditions identified in §2.2. But first we must consider several points which should be kept in mind especially by those genuine essentialists whose first impulse is to turn their backs on an across-the-board commitment to haecceities for all those entities whose crossworld identity needs to be accounted for.

### 3.3.1 GOING ALL THE WAY

Genuine essentialists, whether they want to or not, are already committed to primitive identity facts in certain special cases. But the arguments given in the preceding sections establish that a merely partial commitment to primitive identities is not enough to settle all the open questions concerning the crossworld identity of individuals which need to be answered. So why not go in for an across-the-board commitment to haecceities instead?

In the context of the scenario considered in §3.2, we found it to be necessary to presuppose some facts concerning the crosstemporal and crossworld identity of certain special entities. In this case, the special entities at issue were the particles of which an individual's matter was said to be composed. It was stipulated there that the relevant facts about the numerical identity of particles can either be taken for granted as primitive or that necessary and sufficient conditions for the identity of particles across times and worlds can be provided. In the latter case, facts about the numerical identity of particles will of course have to be explained in terms of facts about the numerical identity of some other class of entities; and so on down. If there is no end to this chain of non-haecceitistic explanations, then it seems that no crossworld identity facts at all ultimately will have been explained. But if these non-haecceitistic explanations do come to an end somewhere, they will eventually have to bottom out in haecceitistic, or otherwise primitive, facts concerning the numerical identity of a certain special class of entities.

To avoid the threat of an infinite regress, then, genuine essentialists will have to go in for at least a partial commitment to primitive identity facts. In defense of this

strategy, it may be noted that it at least appears to minimize the damage, since these primitive identity facts are required only for special categories of entities, for example, possibly for entities which belong to the inventory of fundamental physics (e.g., fields or fundamental particles); God (if God exists); the number 0; the empty set; Cartesian minds (if there are such things); positions in spacetime (according to an absolute conception of spacetime); or events.<sup>14</sup> Perhaps, so the genuine essentialist might reason, once we take on board primitive identity facts in these special cases, facts concerning the numerical identity of other entities can then be derived from these primitive identity facts, as long as the remaining entities can be conceived of as either constructed out of, or as otherwise analyzed in terms of, these special entities.

But the arguments presented above demonstrate that such a partial commitment to primitive identity facts is not enough to settle all the other open questions concerning the numerical identity of individuals for which an answer should be provided.<sup>15</sup> For, in the scenario presented in §3.2, we did take for granted facts concerning the numerical identity of certain special entities; but we found that doing so still left unanswered questions concerning the numerical identity of other entities which are composed of, or somehow analyzed in terms of, these special entities. For the entities we considered earlier (e.g., human beings) do originate from antecedently existing entities and are composed of smaller material parts and yet it turned out that not all of the questions concerning their crossworld identity are settled by taking for granted facts about the numerical identity of the particles of which they are originally composed. Given that the genuine essentialist cannot avoid primitive identities altogether, he might instead consider an across-the-board commitment to haecceities, since such a commitment at least has the advantage that he is not left with any unfinished business concerning the crossworld identity of individuals in possible situations.

### 3.3.2 THE “POACHED EGG” OBJECTION

The genuine essentialist may be concerned that an across-the-board commitment to haecceities makes him vulnerable to the “poached egg” objection. For what, so we might ask, 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. An across-the-board commitment to haecceities thus might threaten to provide truth-makers for such apparently implausible modal judgments as “Socrates might have been a poached egg.”

<sup>14</sup> See Diekemper (2009) for recent arguments in favor of associating haecceities with events.

<sup>15</sup> Of course, some philosophers (e.g., those who subscribe to mereological nihilism) may see no need to be ontologically committed to anything other than what appears on the list of special entities, if they have reasons to deny that there are any complex entities that are constructed out of, or in some way analyzed in terms of, the entities which appear on the special list. These philosophers would escape the worry I raise above, according to which a merely partial commitment to primitive identity facts is not enough to settle all the relevant crossworld identity questions concerning individuals. Since their ontologies include only the special entities, a commitment to primitive identities for these entities would in fact be enough to determine all the relevant facts concerning the numerical identity of individuals in possible situations.

But the genuine essentialist has a response to the “poached egg” objection. For in order to prevent such implausible modal judgments from coming out true, it is enough to invoke factors which, even if they do not by themselves yield sufficient conditions, they are at least plausibly regarded as providing necessary conditions for the crossworld identity of individuals. For example, in order for an individual in a given world to be identified with Socrates in our world, one might require that this individual at least satisfy the property of being human. But the requirement that it is necessary for the crossworld identity of individuals to satisfy such minimal constraints averts the apparent threat posed by the “poached egg” objection, assuming that no poached egg satisfies the property of being human.

### 3.3.3 THE ONTOLOGICAL PRIORITY OF HAECCEITIES

In the minds of those philosophers who are sympathetic to a haecceitistic response to Quine’s challenge, a commitment to haecceities should not be equated with simply accepting as primitive facts about the numerical identity of individuals across worlds. One prominent version of this position (*viz.*, that advocated by Plantinga [1974] and adopted in Rosenkrantz [1993]) asserts that, while concrete particular objects exist only contingently, the haecceities that are associated with these concrete particular objects are necessarily existing abstract entities, *viz.*, properties of a certain kind. On this construal, then, haecceities count as ontologically prior to the contingently existing concrete particulars for which they act as the principles of crossworld identity at least in this sense: as necessarily existing abstract entities, haecceities exist in every possible world, including those in which the contingently existing concrete particular objects with which they are affiliated do not exist. Haecceities thus do not need to be exemplified by their affiliated concrete particular objects in order for them to exist; but concrete particular objects, so the haecceitist claims, cannot exist without exemplifying their haecceities.<sup>16</sup>

In addition, the strategy of ascribing the power to identify individuals across worlds to their haecceities, rather than to the individuals themselves, carries some promise in particular for those concrete particular objects which are not absolutely simple but exhibit some degree of complexity or metaphysical structure, constituent or otherwise.<sup>17</sup> For if an entity is composed of, constructed out of, or otherwise

<sup>16</sup> This strategy is obviously open only to those who embrace a Platonist conception of properties. For suppose, as the Aristotelian will be tempted to say, that Socrates’ haecceity and Socrates exist in all and only the same worlds. Then what accounts for the alleged explanatory asymmetry between Socrates and his haecceity? It cannot be the sort of existential asymmetry appealed to above, according to which Socrates’ haecceity exists in worlds in which Socrates does not exist, while Socrates exists only in worlds in which his haecceity exists. The asymmetry for the Aristotelian, if there is one, must be that even though Socrates and his haecceity exist in all and only the same worlds, still, it is Socrates whose identity is explained by appeal to his haecceity, and not the other way around. This approach thus commits the Aristotelian to the possibility of explanatory differences which hold between necessarily coextensive entities. For discussion, see for example Plantinga (1983) in defense of what he calls “existentialism,” a thesis opposed by Arthur Prior, Robert Adams, and Kit Fine, among others. The notion of ontological dependence advanced in Fine (1995a) is tailored to recognize just such explanatory asymmetries which may hold even between necessarily coextensive entities.

<sup>17</sup> Duns Scotus is seen as a representative of the position that Socrates’ identity is explained by appeal to his haecceity, while Ockham is associated with the position that Socrates’ identity is a primitive matter.

analyzed in terms of, other elements of some sort, then the further question always arises as to what (if anything) accounts for the crossworld identity of these further elements which are in some way present within the complex concrete particular object. A commitment to haecceities makes it possible to take at least some of these identity facts as nonbasic (viz., those concerning the complex entities) and to offer an explanation of these identity facts in terms of others which are in turn taken as basic (viz., those concerning the haecceities exemplified by these complex entities). In contrast, a strategy which foregoes a commitment to haecceities and instead ascribes the power to identify individuals across worlds to these individuals themselves has to accept all of these identity facts as basic and thus not open to further explanation.<sup>18</sup>

### 3.3.4 EXPLANATORY ADEQUACY

We are now in a position to return to the question of how well a haecceitistic strategy fares with respect to the six explanatory adequacy conditions proposed earlier: (1) non-circularity; (2) non-stipulativity; (3) avoidance of infinite regresses; (4) non-ad hoc-ness; (5) uniformity across ontological categories; and (6) completeness. An appeal to haecceities quite obviously satisfies some of these constraints; with respect to others, matters are somewhat murkier.

The strategy of invoking haecceities to settle questions concerning the crossworld identity of individuals is clearly in line with (3). For if facts concerning the crossworld identity of entities belonging to some particular class A are to be explained by appeal to their haecceities, then the buck simply stops there, since facts concerning the numerical identity and distinctness of haecceities are taken as primitive and thus assumed to require no further explanation. The strategy of settling questions concerning the crossworld identity of individuals by appeal to their haecceities also accords with (5), since such questions are then answered in the very same way for all those individuals with which haecceities are associated. Whether an appeal to haecceities obeys (6) depends on how far the reach of haecceities is meant to extend: at the very least, we can say that a haecceitistic explanation of crossworld identity facts will yield an answer to questions concerning the crossworld identity of all those individuals for which haecceities are posited.

Concerning (1), a reasonable case can be made that this strategy does not fall prey to outright circularity. For suppose the question of whether an entity, *x*, in world, *w*<sub>1</sub>, is numerically identical to an entity, *y*, in world, *w*<sub>2</sub>, is to be settled by appeal to *x*'s and *y*'s haecceities: *x* in *w*<sub>1</sub> is numerically identical to *y* in *w*<sub>2</sub> just in case *x*'s haecceity in *w*<sub>1</sub> is numerically identical to *y*'s haecceity in *w*<sub>2</sub>. Then, the facts in terms of which the explanation is couched are distinct from the facts which are to be explained: the fact that *x*'s haecceity in *w*<sub>1</sub> is numerically identical to, or distinct from, *y*'s haecceity

<sup>18</sup> Aristotelians, who tend to attribute a hylomorphic structure to non-simple concrete particular objects, will thus have to ask themselves whether they want to go the Ockham route and accept a hierarchy of unexplained identity facts; or whether they want to side instead with a Scotus-style strategy and aim to derive facts about the identity of hylomorphic compounds from facts about the numerical identity of other elements that are in some way associated with these hylomorphic compounds. The second group of Aristotelians may also consider the sixth option, to be discussed below, according to which form acts as the principle of crossworld identity for hylomorphic compounds.

in  $w_2$  is not the same fact as the fact that  $x$  in  $w_1$  is numerically identical to, or distinct from,  $y$  in  $w_2$ . The former after all makes reference to haecceities, while the latter only makes reference to the individuals with which the haecceities in question are associated.

With respect to (4), the proponent of a haecceitistic solution to Quine's challenge may point to some independently motivated reasons for embracing haecceities, in addition to the role they play in answering questions concerning the crossworld identity of individuals. To illustrate, a commitment to haecceities has been claimed (e.g., by Plantinga) to yield the additional benefit that these entities supply the much-needed truthmakers for modal judgments concerning unexemplified possibles, for example, "There might have been a talking donkey."<sup>19</sup> A second way in which an endorsement of haecceities may be underwritten is by noting that it follows from other, independently motivated, commitments which may strike one as attractive for reasons not directly connected with questions concerning crossworld identity. For example, according to van Inwagen's theory of properties (cf., van Inwagen [2004]), a property that is exemplified by an individual is something that can be (truly) said of the entity in question. Since it can be (truly) said of Socrates that Socrates is identical to Socrates, and similarly for every other individual, a commitment to haecceities immediately follows from this conception of properties. If this conception of properties has sufficiently many other advantages to show for itself, then perhaps one ought to not balk at its commitment to haecceities. In addition, van Inwagen's account of properties also perhaps succeeds in removing some of the mystery that has been thought to adhere to haecceities.

Perhaps the most problematic explanatory constraint for a haecceitistic response to Quine's challenge is the non-stipulativity condition in (2). We said above that, 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 individual involved and which accompanies the presence of a certain haecceity in the individual in question.

In order for haecceities to do their intended job, we must assume that they satisfy certain requirements. For example, in order for Socrates' haecceity to settle questions concerning Socrates' numerical identity in possible situations, it must be the case that Socrates' haecceity is numerically distinct from the haecceity of every other

<sup>19</sup> But see for example Williamson (1998), (2002), for arguments which might lead one to question whether haecceities actually fulfill this promise.

individual 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 individual 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 concerning the numerical identity of those the individuals with which these haecceities are said to be affiliated.

The complaints against haecceities just voiced in connection with the non-stipulativity constraint in (2) 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 at which no further explanation is possible. But we may still press those who favor a haecceitistic answer to Quine's challenge 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 (2) does pose a serious challenge after all for the defender of haecceities. Moreover, this particular formulation of the stipulativity worry turns specifically on the non-qualitative character of haecceities, rather than their role as explanatory primitives. Consider again the response to the "poached egg" objection we contemplated above, in §3.3.2, on behalf of the haecceitist. The idea was that, when faced with the concern that their theory seems to generate ready-made truthmakers for implausible modal judgments, such as "Socrates might have been a poached egg," haecceitists may respond 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 for example 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 be, so to speak, externally imposed on the haecceity and its exemplifier. We will see below that other crossworld identity principles, due to their at least partially qualitative character, can do a better job in motivating the necessary constraints required for a response to the "poached egg" objection, even while, like the haecceitistic strategy, also taking certain identity facts as primitive.

### 3.4 World-indexed properties

A further potential resource for the essentialist in his quest to satisfy Quine's demand is to invoke what Plantinga (1974) calls "world-indexed properties." According to Plantinga, if  $P$  is any property Socrates, and Socrates alone, has in the actual world,  $\alpha$ , then *having  $P$  in  $\alpha$*  is an individual essence of Socrates, for example, *being married to Xanthippe in  $\alpha$* , *being the shortest Greek philosopher in  $\alpha$* , or *being A. E. Taylor's favorite philosopher in  $\alpha$*  (cf., 1974, pp. 72ff.). What is more, Plantinga's world-indexed individual essences apparently succeed in providing necessary and sufficient conditions for the crossworld 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 individual essences meet Quine's demand in an explanatorily satisfactory manner. For one thing, the strategy of settling crossworld identity questions by appeal to world-indexed individual essences fails the uniformity constraint in (5). World-indexed individual essences do not account for the crossworld 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  $\beta$  in which Xanthippe remarries after Socrates' death, *being married to Xanthippe in  $\beta$*  does not qualify as an individual essence of Socrates. But Xanthippe's and Socrates' marital status is a contingent feature of these individuals in each world in which they exist and not one which we would expect to be terribly central to their numerical identity.

In connection with the other explanatory adequacy conditions, the appeal to world-indexed properties behaves in ways quite similar to the haecceitistic strategy considered in the previous section, in particular with respect to constraints (1), (3), (4), and (6) (viz., non-circularity, avoidance of infinite regresses, non-ad hoc-ness, and completeness).<sup>20</sup> This leaves us again with the troublesome non-stipulativity constraint in (2). Suppose the question arises as to whether an individual,  $S$ , in a world,  $w$ , is numerically identical to Socrates in  $\alpha$ . One of Socrates' individual essences, according to Plantinga, is *being married to Xanthippe in  $\alpha$* . (Call this individual essence, "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  $\alpha$ . Otherwise, the appeal to world-indexed individual essences would violate the circularity constraint in (1), since after all whether  $S$  in  $w$  is identical to, or distinct from, Socrates in  $\alpha$  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

<sup>20</sup> I take it to be a fairly straightforward matter to see that the reasoning employed above to establish that the haecceitistic strategy satisfies (1), (3), (4), and (6) applies to the appeal to world-indexed properties as well. For reasons of space, I will not spell out the analogous steps explicitly.

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  $\alpha$  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.<sup>21</sup> But even if we narrow down the range of entities under consideration from the domain of *w* to only those which are ontologically 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 it is settled by brutally declaring that *S* either does or does not exemplify *E*, then the appeal to world-indexed individual essences violates the non-stipulativity constraint in (2); if it is settled by appeal to the fact that *S* in *w* is either identical to, or distinct from, Socrates in  $\alpha$ , then the strategy under consideration violates the circularity constraint in (1). In this way, while world-indexed individual essences do provide a criterion which is strictly speaking materially adequate (i.e., necessary and sufficient) for crossworld identity, there is reason to be skeptical as to whether the appeal to world-indexed individual essences meets Quine's demand in an explanatorily satisfactory manner.

### 3.5 *Form*

In the preceding sections, we have evaluated some of the major options which are available to the essentialist in his attempt to meet Quine's challenge. We found that the first three proposed principles of crossworld identity (viz., an object's qualitative character; its matter; and its origins) fail to establish criteria that are both necessary and sufficient for the crossworld identity of individuals, while the fourth and fifth candidates (viz., haecceities and world-indexed properties) are open to various charges of explanatory inadequacy. So far, the goal of satisfying Quine's demand for crossworld identity conditions has thus proven to be elusive; but perhaps we have not yet fully exhausted the space of available resources.

A hylomorphic conception of unified wholes as compounds of matter and form opens up a further possibility: that the form of a hylomorphic compound might serve as its principle of crossworld identity.<sup>22</sup> If forms are to supply necessary and sufficient

<sup>21</sup> 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 individual essences, due to its partially qualitative content, does a somewhat better job in providing a non-stipulative response to the "poached egg" objection than the haecceitistic strategy.

<sup>22</sup> The hylomorphist may hold that not all concrete particular objects are hylomorphic compounds and, conversely, that not all hylomorphic compounds are concrete particular objects. Possible examples of the first kind might include concrete particular objects which are not sufficiently structured and unified to warrant admission into the category of hylomorphic compounds (e.g., heaps, mereological sums, quantities, collections, etc.). Possible examples of the second kind might include entities which are highly structured and unified, but do not belong to the category of concrete particular objects, either because they are not concrete or because they are not particular or because they are not objects (e.g., universals, propositions, states of affairs, facts, etc.). Thus, it should be kept in mind that the appeal to forms as principles of crossworld identity will only apply to a restricted range of entities, viz., those that are identified as hylomorphic compounds. Questions concerning the crossworld identity of other entities

conditions for the crossworld identity of hylomorphic compounds, 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 crossworld 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 crossworld identity principles for hylomorphic compounds, unless these forms are themselves individuals.<sup>23</sup> The option of invoking forms as principles of crossworld identity for hylomorphic compounds thus seems to carry with it a commitment to the controversial individual forms hypothesis.<sup>24</sup> Fine (1994b) warns us that a commitment to individual forms may be unbecoming to any “right-minded modern,” since (so Fine presumably reasons) we can now no longer endorse Aristotle’s *scientific* motivations to posit forms as “real and active principles in the world”:

It should be noted, in the first place, that it is a lot easier to attribute the belief in individual forms to Aristotle than to hold it oneself. For Aristotle seems to have a possible basis for the belief, namely that forms are real and active principles in the world, which is denied to any right-minded modern. Thus in the absence of an alternative conception of individual form, the neo-Aristotelian must find some other solution to the puzzle. (Fine [1994b], p. 19)

And while Fine’s hesitation to turn to individual forms to settle questions concerning the numerical identity of hylomorphic compounds is of course understandable, 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 crossworld identity, what other candidates remain which could be considered for this office? It seems that, for

which are not included within the range of hylomorphic compounds will have to be settled in some other way. In what follows, I will speak of hylomorphic compounds as unified wholes, leaving open for the time being exactly what sorts of entities are to be included under this rubric.

<sup>23</sup> I use the terms, “individual” and “particular,” interchangeably. According to the reading of Aquinas advanced in Brower (2014), questions concerning the numerical identity and distinctness of matter-form compounds (and their forms) are to be settled derivatively by appeal to the portions of prime matter of which they are composed, even though portions of prime matter, in Brower’s view, are non-individual, in the sense that they belong to the ontological category of stuff. In order for portions of prime matter to be able to play this role, so Brower reasons, they must have their identity and distinctness primitively. Despite my earlier “un-Thomistic” formulation of McKay’s scenario in terms of collections of particles, we should note that the arguments developed there could be rephrased to show that primitively individuated portions of prime matter alone also 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).

<sup>24</sup> The position that forms are individuals is discussed and endorsed for example in Frede (1985), (1987a); Hartman (1976); Lowe (1999); Sellars (1957); and Witt (1989).

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 of hylomorphic compounds in possible situations.

While the hypothesis that forms are themselves individuals is of course incompatible with the competing position which categorizes forms as universals, it is nevertheless neutral with respect to a whole host of other, more specific, options concerning the assignment of forms to their proper ontological category. For example, some hylomorphists, depending on their philosophical commitments, may subsume forms under the category of (presumably abstract or immaterial) objects, for example, substance dualists in the philosophy of mind. Others may find that forms, given the work they are supposed to accomplish, resemble properties or relations to a sufficient degree to warrant their entry into these categories; even this latter assignment is compatible with the individual-forms hypothesis, as long as properties or relations are themselves viewed as particulars, for example, along the lines of a trope-theoretic approach. Still others may follow the conception defended in Stump (1995), according to which forms are identified with configurational states; or that proposed in Fine (1982) and (1999), according to which forms are conceived of as functions of a certain kind. Alternatively, Rea (2011) advocates a version of hylomorphism according to which forms are powers or capacities (or collections thereof).<sup>25</sup> Evinne (2016) construes the forms of artifacts in terms of certain creative acts and intentions in the minds of craftsmen or artists. Sattig (2015) takes forms to belong to the ontological category of facts. Finally, there is also the option of recognizing a separate *sui generis* ontological category for forms, different from that occupied by objects, properties, relations, configurational states, functions, powers, capacities, intentions, acts, facts, and so forth. (And there may be additional options, besides those just canvassed.) For present purposes, I do not wish to adjudicate between these different positions, beyond what is entailed by the individual-forms hypothesis, in part for reasons of space, but also because I take it to be an attractive feature of the appeal to individual forms as principles of cross-world identity for hylomorphic compounds that it is compatible with a variety of different theoretical frameworks.

The strategy of invoking forms as the crossworld identity principles for hylomorphic compounds has several advantages compared to its competitors. First, like the appeal to haecceities and world-indexed individual essences, the individual forms strategy meets the explanatory adequacy conditions in (1), (3), and (6) (*viz.*, non-circularity, avoidance of infinite regresses and completeness). Given that facts about the numerical identity of forms are distinct from facts about the numerical identity of

<sup>25</sup> According to the specific version of hylomorphism defended in Rea (2011), forms (or “natures,” as he calls them) are powers or collections of powers. On Rea’s approach, the distinction between objects, on the one hand, and properties, on the other, all but disappears, since he identifies properties in general with powers and objects with collections of powers that are located at particular regions of spacetime. He also rejects the distinction between particulars and universals. But someone who is sympathetic to the idea that forms are powers or collections of powers need not adopt the other components of Rea’s reductive approach to the ontological categories in question.

hylomorphic compounds whose crossworld identity and distinctness are supposed to be explained by appeal to their individual forms, the strategy under consideration accords with the non-circularity constraint in (1). Since we assumed above that facts about the numerical identity of forms are to be taken as primitive, the appeal to individual forms also stops the threat of infinite regresses, as required by (3). As for (6), the individual forms strategy will answer questions concerning the crossworld identity of individuals for all those entities with which individual forms are to be affiliated (*viz.*, hylomorphic compounds).

With respect to the non-ad hoc-ness constraint in (4), hylomorphists may point to a whole arsenal of independent reasons for positing forms as explanatory principles that are associated with hylomorphic compounds and thus avoid the charge that they are postulating entities solely as an ad hoc measure designed specifically to meet Quine's demand for necessary and sufficient conditions for the crossworld identity of individuals. For example, in Koslicki (2008), I argue that the correct mereology for material objects is one which attributes to them not only material but also formal components. In this context, I construe a whole's formal components, among other things, as the source of structural constraints which must be met by a plurality of material components in order for them to compose a whole of a certain kind. In addition to the role of forms as the suppliers of structural constraints, hylomorphists may also turn to forms in connection with other important explanatory tasks, prominent among which is the traditional role of form as the principle of unity within a hylomorphic compound. I argue in Koslicki (2013b) that the unifying power of forms should figure centrally in a criterion of substancehood for composite entities with essential constituents.<sup>26</sup> These considerations illustrate how hylomorphists may justify their endorsement of individual forms as "real and active principles in the world" by appeal to independent motivations, not directly connected to their role as crossworld identity principles for hylomorphic compounds.

The individual forms account also fares quite well with respect to the uniformity constraint in (5). For even though the strategy under consideration 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 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, for example, 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 crossworld 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*<sub>1</sub>, is identical to a human being, *y*,

<sup>26</sup> See also Koslicki (2018a), chapter 7, for more discussion of how a unity criterion for composite substances might be developed.

in a world,  $w_2$ , just in case  $x$ 's individual form (viz.,  $x$ '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 non-stipulativity constraint in (2) as well. We noted earlier that the haecceitistic strategy is especially vulnerable to stipulativity worries, not only because haecceities are postulated as explanatory primitives, but especially because their non-qualitative character precludes haecceities from indicating anything else about the entities with which they are affiliated besides their bare numerical identity. World-indexed individual essences do 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  $\alpha$* ), the qualitative condition at issue concerned a contingent state of affairs that obtains in another world,  $\alpha$ , which turned 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 individual essence 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. First, individual forms impose some qualitative constraints on the hylomorphic compounds with which they are associated. Second, 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 concern not only their contingent qualitative make-up, 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  $\alpha$ . 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, for example, 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 characteristic activities which human beings are generally able to manifest in the course of a lifetime. Socrates' form, in contrast, which we might take to be his human soul, that is, that explanatory principle in virtue of which he is a living human being, is much more likely to carry significant weight in an explanation of why the full range of characteristic behaviors is as much open to Socrates as it is to other healthy and nondisabled members of his species.<sup>27</sup>

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: once we have individual forms on board, we at least have the option of using them simultaneously to settle questions concerning the crossworld

<sup>27</sup> I take it that one of Aristotle's main projects in the biological treatises is to show how the forms (i.e., souls) 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 typical members of its biological kind.

identity of hylomorphic compounds—their intraworld synchronic identity and their intraworld diachronic identity. The first and second roles are endorsed for example in Lowe (1999), who takes a human being to be numerically identical to his individual form. Thus, questions concerning for example Socrates' synchronic intraworld identity, for Lowe, are answered by appeal to Socrates' individual form, as are questions concerning his crossworld identity. Frede (1985) and (1987a) invokes sameness of individual form in his account of the intraworld 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.

#### 4 Conclusion

My primary focus in this chapter has been on the question of how essentialists should attempt to meet Quine's demand for necessary and sufficient conditions for the crossworld identity of individuals. I examined six contenders for the role of crossworld identity principles: (i) an object's qualitative character; (ii) matter; (iii) origins; (iv) haecceities; (v) world-indexed properties; and (vi) form. The first three fail to provide conditions that are both necessary and sufficient for the crossworld identity of individuals; the fourth and fifth criteria are open to the charge that they do not succeed in meeting Quine's demand in an explanatorily adequate fashion. And while the sixth strategy also involves an appeal to some presupposed crossworld identity facts (viz., those concerning individual forms), I have nevertheless tried to indicate, albeit only briefly, why individual forms, on the whole, can take on a much greater explanatory burden with respect to the hylomorphic compounds with which they are affiliated than the two closest competing crossworld 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 Quine's challenge, especially by neo-Aristotelians who are already motivated for other reasons to take on board a hylomorphic conception of unified wholes. 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 Quine's challenge, of having to explain an object's *de re* modal profile in terms of facts about its essence. 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.<sup>28</sup>

<sup>28</sup> Much of the research for this essay was conducted during 2012/2013, while I was the Alvin Plantinga fellow at the University of Notre Dame's Center for Philosophy of Religion. I am very grateful to the Center for its support as well as for the excellent feedback I received there while working on this project. I also presented this material at a conference in honor of Kit Fine which took place at NYU in January 2013.

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