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Sortal Counterparts

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Abstract: Kit Fine has put forward a new argument for the coincidence between a statue and a clay, according to which the two differ in numerous sortalish properties that are non-modal. In this paper I offer a one-thinger response to Fine's argument. The key to my response is the notion of sortal counterparts. Just as in the modal case we can relegate the conflicting modal properties of the statue and the clay to distinct modal counterparts, in the non-modal case we should relegate the conflicting simple sortalish properties to distinct sortal counterparts. Sortal counterparts, I argue, aren't just the conceptual tool that we need for resolving the puzzle over conflicting sortals, they also help to shed light on the idea of a sortal paradigm and how sortal generalizations can survive recalcitrant exceptions.

Keywords: sortal counterpart; counterpart theory; materical constitution; coincidence

Consider an ordinary material object, say, the Crown of Queen Elizabeth II. The multi-thingers contend that there are at least two entities fully occupying the space currently filled out by the crown.[1] The old trick to establish this rather surprising claim is to appeal to various modal or historical differences that set the crown apart from the piece of alloy constituting it (let's ignore the trimmed cap for simplicity). The modal version of the Leibniz argument is notorious for its opacity and for that reason has failed to deliver a clear victory for the multi-thinger's camp.[2] Recently Kit Fine has put forward a new Leibniz argument for coincidence which turns

1 I am borrowing the one-thinger versus multi-thinger idiom from Bennett (2004), which she claims to pick up from Yablo. Some classic arguments for coincidence are Wiggins (1968), Thomson (1983), Johnston (1992), Baker (1997), Fine (2003, 2008) and Koslicki (2008). See Sosa (1987, 1999), Fairchild (2019) and Dorr et al. (2021) for a universalist version of the multi-thinger view on which the number of the coinciding entities is way more than two. I shall ignore the plenitude view in this paper since it relies critically on modal version of the Leibniz argument.

2 See Gibbard (1975) and Lewis (1986) for examples where the modal differences are disentangled from the historical.

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exclusively on simple sortalish properties.[3] As the argument goes, since the crown is a symbol of power, and the alloy isn't, Leibniz's Law compels us to grant their distinction. Coincidence seems cheap and ubiquitous if Fine's argument goes through!

Like many, I find coincidence unacceptable. Yet Fine's deceptively simple argument is hard to resist. For one thing, since the argument involves no modal predication, it can't be said to trigger any opaque context, at least not for the familiar story that the one-thingers used to tell against the modal version of the argument.[4] Further, even the die-hard one-thinger would probably not want to jettison the entire business of sortal attribution and generalization. To that extent we should at least want to agree with the multi-thingers that there is some truth to the claim that the crown qua a political symbol isn't the same thing as the alloy qua some hodgepodge of metal. Yet how can we make sense of the slippery qua talk without paying the price of coincidence?

The question can't be adequately answered by a mere linguistic reply to Fine. As I shall show, the main problem with the existing replies to Fine's new argument for coincidence is that they all set the goal as to show how the argument fails due to some hidden confusion over the use of language on the part of the multi-thingers. The diagnosis itself has received pushback from Fine.[5] Even if we let the one-thinger win the linguistic debate, there are key metaphysical puzzles left unanswered. One central tenet of the one-thinger's view says that there is a single entity which we can represent under distinct sortal guises. As one might wonder: What is it to represent something under different sortal guises? More crucially, how is it possible for a single entity to stand under more than one sortal, if the sortals at stake are characterized by an inconsistent set of properties?

My main goal in this paper is to propose a one-thinger response that addresses the underlying metaphysical puzzle over conflicting sortals. The key to my proposal is this idea that I call sortal counterparts. Just as we can resist the modal version of the Leibniz argument by the appeal to modal counterparts, I argue sortal counterparts is what we need to resist Fine's new Leibniz argument. Like modal counterparts, sortal counterparts aren't just tools for resolving the linguistic puzzle over coincidence. They also provide us with a metaphysical picture of how it can be unproblematic for a single entity to bear conflicting sortalish properties.

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3 By "sortalish" I mean both the sortal properties proper such as being a statue and properties that are grounded in the former, which can be either non-modal (such as having an artistic value) or modal (being necessarily shaped so and so). I borrowed the term from Bennett (2004, p. 341). Bennett is mainly concerned with sortalish properties that are modal.

4 See Lewis (1986) and Noonan (1991) for the classic one-thinger response to the modal version of the argument that makes critical use of the counterpart relation.

5 See Fine (2006) for replies to the objections to his new Leibniz argument.

Here's the roadmap: I will start by going over the existing replies to Fine and say what I find wanting with them. Then I will introduce the idea of sortal counterparts and show how we can use it to solve the puzzle over conflicting sortals. Next, I will put the puzzle under a larger context and say more about what sortal counterparts are. I will end by considering two further applications of the notion outside the discussion of material constitution.

1 The Simple Argument for Coincidence

Fine's new Leibniz argument for coincidence goes as follows:

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(1) The crown is a symbol of power.
(2) The alloy isn't a symbol of power.
Therefore,
The crown $\neq$ the alloy.

In his paper, Fine runs the argument through the classic example of a statue. Fine's key insight is that the multi-thinger can rely on a host of non-modal sortalish properties to establish her case for coincidence. For instance, the statue can be said as defective, sub-standard, well or badly made, valuable, ugly, Romanesque, exchanged, insured, or admired, whereas none of these properties can be properly ascribed to the piece of alloy constituting the statue (Fine 2003, 206).

Fine's main motivation for introducing the new list of properties is to circumvent the conundrum facing the modal version of the Leibniz argument. De re modal representation is notorious for its inconstancy. It is a commonplace to ascribe to a single entity conflicting modal properties. For instance, one can attribute to the statue the property of being possibly destroyed by squashing whereas denying the clay of the same property. No worry for contradiction, say both Noonan and Lewis. For the apparent inconsistency is a mirage generated by our shifty practice of modal representation: In labeling the entity as "the statue", we evoke one counterpart relation through which we ascribe to the entity properties such as being a piece of art necessarily or being possibly destroyed by squashing, whereas in labelling the same entity as "the alloy", we evoke another counterpart relation, whereby ascribing to the same entity contrary properties such as being a piece of art accidentally or possibly surviving the squashing.

The introduction of sortalish properties that are non-modal allows Fine to reintroduce the multi-thinger's key intuition about the sortal-based difference between a constituted entity and its constituting matter without the need to wade through the muddy water of modal or temporal predication. As a result, the new Leibniz

argument can no longer be resisted by the standard Noonan-Lewisian counterpart response. Although it is still up to the one-thinger to contend that the new argument fails due to some hidden linguistic confusion, how exactly the confusion arises needs a story distinct from the one told by Noonan and Lewis.

King (2006) and Frances (2006) offered their respective diagnosis of where the new Leibniz argument went awry. King challenges the validity of Fine's argument by following the strategy of divide and conquer. According to King, different predicates on Fine's new list require different responses: Predicates such as "is admired" trigger a referential shift by containing verbs that report psychological attitudes, whereas predicates such as "is well or badly-made" trigger a predicational shift by functioning as what King calls "gradable adjectives".

More specifically, for the first group of predicates, a referential shift happens for the familiar Fregean reason: Just as how "Ella believes that Cicero is a great orator" and "Ella believes that Tully is not a great orator" can both be true due to the referential shift in the singular term occurring within the scope of "believes", King argues that predicates such as "is admired" on Fine's new list function similarly to shift the reference of "the crown" and the "the alloy" due to their occurrence within the scope of an attitude-reporting predicate.[6]

For the second group of predicates, King first introduces a class of adjective called gradable adjectives. One distinctive feature of gradable adjective is that its interpretation covaries with the contrast class, which in turn shifts across contexts. For instance, the predicate "is tall" is truly applied to Michael Jordan under the context where the intended standard of comparison is the average height of an American male, yet falsely under another context where the intended standard of comparison is the average height of an NBA player.

Since different standards of comparison are made salient by the shift in contexts, we should expect sentences involving the same gradable adjective to come out true in some contexts and false in others. King then observes that predicates such as "is well-made" on Fine's list involve gradable adjectives: They invoke a statue-relevant standard of comparison when applied to the statue, and an alloy-relevant standard of comparison when ascribed to the alloy.

Let us label the predicate "is well-made by the standard of statue" as W_{statue} and the predicate "is well-made by the standard of alloy" as W_{alloy} respectively. According to King, Fine's argument is based on the following invalid form:

6 As both Lewis (1986) and Saul (1997) have noticed, a referential shift can be triggered by the evocative use of names alone, without the participation of psychological attitudes.

(3) the statue is W_{statue}.
(4) the alloy isn't W_{alloy}.
Therefore,
The statue ≠ the alloy.

Two preliminary remarks on King's appeal to gradable adjective:

First, without any prior theoretical commitment, (4) should strike us as an intuitively odd way to render the second premise. After all, both sides of the debate would agree that the entity standing on the end of the material constituter isn't just any nondescript piece of alloy. Rather, it is a very special piece of alloy that is statue-shaped, and for that reason it should be reasonably considered as well-made by the average standard of alloy.

Second, even if we grant King that "is well-made" could equivocate about the pertinent standard of comparison, an easy fix is available for the multi-thinger: She can simply clarify the intended standard of comparison and re-run the argument as follows:

(5) the statue is W_{statue}.
(6) the alloy isn't W_{statue}.
Therefore,
The statue ≠ the alloy

Now it is up to the one-thinger to deny (6). Yet the argument can no longer be accused of equivocation.

There is a deeper problem facing King's divide and conquer strategy: The reply is successful only if the division exhausts all the sortalish properties that a Finean has at her disposal. On the other hand, since the multi-thinger only needs one compelling application of the new Leibniz argument, she might very well grant King that some predicates on Fine's sampling list do fail due to reasons that King notices while continuing to run the same argument by the appeal to sortalish properties that escape King's taxonomy.

Call a property sortal exclusive if there is some unique sortal F such that the property can be truly predicated of all members of F and members of F alone.[7] For instance, the property of being odd or even is truly predicated of all integers yet falsely of non-integers. The property of being straight or curved is truly predicated

7 The idea of sortal exclusive property can be traced back to Aristotle's discussion of one thing belongs to another in itself (kath' hauto) in Posterior Analytics chapter 4. See Bronstein (2016, 43–50) for a helpful exposition of Aristotle's usage of "in itself" and its role in demonstration.

of lines yet falsely of circles or squares. Fine's insight can be put as saying that the constituted object differs from its constituting matter with respect to various sortal-exclusive properties. As a reply to King, the multi-thinger can run the new Leibniz argument by carefully picking predicates that express sortal exclusive properties. For instance, consider:

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(7) the statue is either well-made$_{\text{statue}}$ or ill-made$_{\text{statue}}$.
(8) it is not the case that the alloy is either well-made$_{\text{statue}}$ or ill-made$_{\text{statue}}$.
Therefore,
The statue $\neq$ the alloy.

Let's assume that the statue under consideration is a clear marvel of art so we won't get sidetracked by the question of vagueness. First, since the property under consideration doesn't report any psychological attitude, it can't be rejected on the account of a Fregean shift in reference. Further, since the property is explicit about the standard of comparison in use, it can't be said to equivocate over the standard of comparison either. In short, the one-thinger wants a different strategy to tackle the refined new Leibniz argument.

This is the place where Frances steps in. Unlike King who picks on the validity of the argument, Frances questions the truth of its premise by suggesting that we deny (8). First, he grants that (8) is infelicitous to assert. Yet oddity isn't the same thing as falsehood, says Frances. Suppose I stand in front of the Western Wall and declare: "That pile of limestone over there is sacred". I am making an understatement by referring to the wall as a pile of limestone. But understatement is no falsehood, says Frances. After all, the wall in front of me *is* a pile of limestones, just as the banknote in my pocket *is* a piece of paper. Accordingly, since (7) and (8) express the same proposition, we should expect the same truth value be assigned to both.

I find Frances's pragmatics-based response unsatisfying for two reasons:

First, the understatement interpretation of (8) feels strained: The fact that we might treat the act of referring to a statue as the alloy as an understatement in some contexts (e.g., when repairing Rodin's Thinker, one mechanic says to another: "Hand me the chisel so that I can tinker with this part of the alloy a bit.") provides little reason for thinking that it is the most natural way of rendering (8) in the *current* context. After hearing Fine's argument, it would be odd if not question-begging for a cooperative audience to pause and protest: "Wait! But the alloy must also be either well-made or ill-made by the standard of a statue as well, since the statue is just an alloy!".

Second, like King, Frances has no interest in defending the one-thinger metaphysic. Rather, both of them are content to engage with Fine on the linguistic front alone by showing how the Fineans fail to get the underlying linguistics straight.

I find the attempt to decouple the linguistic debate from the underlying metaphysics untenable for two reasons:

For one, the linguistic intuition as such is both too shifty and underdetermined to serve as a firm basis for a substantive metaphysical view of material objects. Is having a particular shape essential to a piece of alloy? Yes, if we are given enough contextual clues for thinking that the piece of alloy at issue is Rodin's Thinker. No, if the question is raised in a material science class where the sole interest of the group is to find out the chemical property of alloy as a material for bridge building. Hard to tell either way, if the description of the example at hand is mixed enough to evoke conflicting intuitions from both sides, as in the case of the one-thinger versus multi-thinger debate.[8]

Further, even if we grant that Frances's understatement response is compelling, we are still left with the metaphysical puzzle, which asks "How is it possible for a single entity to stand under more than one sortal?". Granted that the crown is also an alloy, how is it possible for *it* to bear inconsistent sortalish properties? After all, there are many properties that can be truly said of crowns but not alloys. For instance, crowns can be made up from non-metallic material, whereas alloys can't; crowns derive their value primarily from the political activities of people, whereas alloys don't. How can the contradiction be resolved if there is a single entity that is both a crown and an alloy by the lights of the one-thinger? The semantic reply is silent on this crucial question.

2 The Solution by Sortal Counterparts

The key assumption of the new Leibniz argument is that the constituted entity and its constituting matter pertain to different sortals, which are themselves characterized by an inconsistent set of properties: The crown is a symbol of power and thereby politically potent, whereas the alloy isn't a symbol of power and for that reason not politically potent. Surely nothing can be both politically potent and not so. Call this the puzzle of conflicting sortals. Any serious one-thinger account of material objects must address this puzzle.

One way to address the puzzle is to deny that there is a contradiction. There are two ways to do so: One could either deny that it is metaphysically possible for a single entity to stand under more than one sortal, or one could grant plural sortal membership yet deny the truth of one of the sortal generalizations in tension.

8 Lewis (1986, 248–251)'s observation on the rule of accommodation applies in our case: Given enough contextual clues, a co-operative, metaphysically untrenched audience can be nudged to favor either a one-thinger or a multi-thinger interpretation of the same sentence.

Since my goal is to explore a one-thinger response, I shall ignore the first option.[9] Instead, I want to focus on the latter option, which might be seen as lurking behind Frances's linguistic reply to Fine. As the thought goes, although most alloys aren't symbols of power, the particular piece of alloy that constitutes the queen's crown isn't just any piece of nondescript alloy. Rather, it is a special piece of metal endowed with political significance. No need to worry about the puzzle of conflicting sortalish properties, since the generalization which states that no alloy is politically potent is only true for the most part, to that extent inapplicable to outliers such as the crown-constituting alloy.

It is hard to find fault with this reply. Yet it is hard to find it completely satisfying either. For one, the denial of the relevant sortal generalization in the current context feels ad hoc.[10] Granted that the alloy constituting the crown has a gamut of characteristics that sets it apart from other ordinary alloy pieces, it is no less a piece of alloy. Had the queen decided to throw it in aqua regia, it would react to the solution just like its other uncharacteristic pieces of alloy. If so, what renders our sortal generalization over alloy vulnerable to exceptions?

One might note that being politically potent, unlike intrinsic properties such as having a shape, mass or charge, is is a relational property.[11] As the thought goes, for something to be a symbol of power is for it to stand in a complex nexus of relations to human conventions, which in turns requires that we continue to conceive the entity in certain way and act in accordance with such conception as a group.

It is unclear how the appeal to the relational nature of being politically potent helps though. As far as universal instantiation goes, it makes no difference whether being a symbol of power is a genuine property or a relation in disguise. Either way, suppose crowns in general aren't symbol of power and the crown is an alloy. It follows that the alloy that makes up the crown isn't a symbol of power, period.

A better way to plea for exception is to note that the alloy at hand isn't merely an alloy, since it *also* functions as a crown by sharing with other crowns the property

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9 Here I am ignoring radical positions such as sortal nihilism advocated by Unger (1980) and van Inwagen (1981). I consider the radical positions as justified only if all attempts to make sense of our sortal talk fails. I am also setting aside unorthodox positions such as Burke (1994)'s account of dominant sortal. See Sider (2001, 161–165) for a critical discussion of Burke's proposal.

10 The generalization in this context is best construed as a generic sentence of the form "crowns are politically potent" "alloys aren't politically potent". As Carlson (1982) notes, the generic sentences are recalcitrant to a simple translation into quantified sentences. Importantly, the generic sentences aren't falsified by exceptions in the same way that their quantified counterparts are.

11 It is trendy among the multi-thinger to appeal to the extrinsic properties of the statue in their response to the grounding problem. See Baker (2000, 35–39) and Koslicki (2008, 255) for the appeal to extrinsic properties such as intentionality of us and arrangement among parts in response to the grounding puzzle. Yet as Bennett (2004, 343–344) has pointed out, Goliath and Lumpl don't just share their intrinsic properties in common, they also share the same extrinsic properties.

of being a symbol of power. The assumption that some entities are cross-sortal demands explanation: How can the alloy both be an alloy and a crown? Here's how my iPhone can be both a music player and a phone: It belongs to both kinds by functioning as a music player and a phone at once. Could the analogy of multi-functioning help with our case?

Not clearly. For one, the appeal to multi-functioning only helps to get rid of coincidence if we count by the occupant of the role rather than the roles themselves. Yet both ways of counting can be appropriate under different contexts: It is proper to count by the occupant when I pay for a technician for phone repair. On the other hand, it seems proper to count by roles when we hear an Apple commercial announcing that their product is more than just a phone, thanks to the revolutionary vision of Steve jobs (though here as in other mundane cases of multi-functionality, coincidence is out of the question). In short, the appeal to multi-functionality by itself doesn't help to rid us of coincidence.

Further, in the standard case of multi-functioning, the different functions don't usually get in the way with the realization of one and another: There is nothing about being a music player that constrains the object's capacity to also play the role of a phone, and vice versa. Not so in the case of material constitution: When some portion of alloy is made into a crown by playing the role of a political symbol, its alloyhood doesn't survive intact. Rather, to serve the added function of a crown well, the alloy now has to maintain a particular shape and continue to be treated by people with respect, none of which can be considered as an integral part of the career of alloy as such. The same goes for the crown: When a crown is crafted from a particular piece of alloy, it stops to possess all the properties that are characteristic of crowns alone. For instance, even though crowns could be made from plastic or a sheet of paper, this is no longer true after we have decided to make a particular crown out of a piece of alloy. As the multi-thinger would point out, it is the fact that a material entity and its constituting matter stand under sortals characterized by mutually exclusive properties that led us to the conundrum in the first place.

Is coincidence the inevitable price we must pay to make sense of the puzzle over conflicting sortals? Not so, I contend. I say that we should resolve the puzzle by multiplying not the entity out there but its sortal counterparts instead. Just as in the Noonan-Lewisian reply to the modal argument, we should relegate the conflicting de re properties to distinct modal counterpart relations, I suggest that in the non-modal case we relegate the conflicting non-modal sortalish properties to distinct sortal counterparts of the object.

The core idea of the Noonan-Lewisian picture is that we can assign the sortalish properties in conflict to different counterpart relations. Goliath is possibly destroyed by flattening whereas Lumpl isn't, even though Goliath is Lumpl. No worry for contradiction, since strictly speaking the de re properties in conflict are

borne not by a single entity but rather two counterpart relations, one highlighting the statue-related similarity underlined by the label "Goliath", another highlighting the clay-related similarity underlined by the label "Lumpl". I suggest that a parallel solution is available in the non-modal case. The conceptual tool that we need to resist Fine's new Leibniz argument is the notion of sortal counterpart.

Call the single entity that has both a crown counterpart and an alloy counterpart the *alloy-crown*. On the picture that I am suggesting, the *alloy-crown* is politically potent by having a crown counterpart that bears the crown-exclusive property, and it is also politically impotent by having an alloy counterpart that bears the alloy-exclusive property. Just as in the modal case, a counterpart of Socrates is someone resembles him the most in another possible world, someone that our beloved philosopher could have been had numerous things in the actual history gone otherwise. Intuitively, a sortal counterpart of the *alloy-crown* is a purebred that resembles the hybrid closely, something that the *alloy-crown* could have been if it were merely a crown or merely a piece of alloy.

More rigorously, x is a sortal counterpart of y with respect to a sortal F at w iff (1) x and y are world-mates in w, (2) x is essentially an F, (3) x resembles y as closely as any other F in w, (4) if there is a sortal G such that Gs are characterized by essential properties contrary to that of Fs, then x isn't a G.

Caveats:

First, I take essential properties to be both non-modal and primitive. Essential properties are non-modal in the familiar sense that not all necessary properties of an object are essential to it: Crowns are necessarily decorated by gems or not, even though being decorated by gems or not isn't essential to any crown.[12] Since my definition of sortal counterpart has a non-modal notion of essence built into it, my solution isn't meant to persuade any radical skeptic of essence.[13]

Secondly, although I am primarily concerned with sortal counterparts among denizens of the same world, there is no reason to restrict the relation of sortal counterpart to worldmates. A more general definition can be easily obtained by dropping the "at w" qualification and let x and y be pairs of cross-world cousins. It should be

12 The non-modal characteristic of essence is made clear to many by Fine (1994)'s singleton example. See Gorman (2005), Koslicki (2012a), (2012b), (2013a), (2013b), (2018), (2020), Lowe (1994), (1998), (2006), (2012), (2013), Oderberg (2007), (2011), Takho and Lowe (2015), and Chi (2020) for proposals that aim at developing a non-modal characterization of essence.

13 The radical skeptic that I have in mind is someone closer to a Quinean who would wish to eschew the metaphysics of essential attribution rather than someone like Sider (2020) who rejects essence on the grounds of its being non-fundamental.

possible for Goliath to have sortal counterparts at worlds other than ours.[14] Moreover, as a counterpart relation, sortal counterparts are governed by the relation of overall similarity: It is possible for an object to have more than one sortal counterpart, and nothing is literally identical to any of its sortal counterparts. Further, like modal counterpart relation, the relation of sortal counterpart falls short of being an equivalence relation: A hybrid object could have a purebred as its sortal counterpart but not vice versa, and it is possible for a purebred to be the sortal counterpart of more than one hybrid which aren't sortal counterparts of one another.

A note on the metaphysical underpinning of my proposal: Although sortal counterparts share many formal characteristics with Lewis's definition of counterpart, my proposal by no means presupposes modal realism. As Sider (2006) points out, counterpart as a useful conceptual tool for solving various puzzles concerning modality should be separated carefully from modal realism as a metaphysical doctrine of the *possibilia*: The barebone idea of counterpart can be combined with any strategy to reduce the *possibilia* on the market.[15]

In advocating for a separation of counterpart as a conceptual tool for philosophers from the metaphysics of modality, Sider is mainly concerned with the modal counterpart relation. Yet the general point applies: Just as a logician would want to distinguish the possible world semantics as a formal construction of logic from the metaphysics of possible worlds, we would want to distinguish a "thin" notion of counterpart grounded in the relation of overall similarity from any substantive metaphysical view on what counterparts are.

Philosophers have been utilizing a cluster of relations that might go under Joseph Butler's label of "a loose and popular notion of identity" independently of the possible world metaphysics: Carnap (1967) borrows the notion of gen-identity from Kurt Lewin to characterize the relation held among distinct points of the same world line, Perry (1975) and Lewis (1983) introduce the unity relation and the I-relation respectively to account for the identity-like succession among stages of the same person.[16] None of these discussions presupposes modal realism. The "thin" notion of sortal counterpart as I conceive it is a natural extension of this cluster of similarity-based, quasi-identity relations: Like other relations in the cluster, sortal

14 One might take one step further to assimilate all modal counterparts of a thing to its sortal counterparts, a step I don't make myself. Counterpart is about overall resemblance, and it seems quite possible for individuals of distinct sortals to resemble each other more closely all things considered.

15 In the paper Sider defends an Ersatz theory of counterpart based a systematic approach to modal reduction. See Sider (2002) for the pluriverse semantics on which the reduction relies.

16 See Butler (1849, 305) for his distinction between a strict and philosophical sense of identity and a loose and popular sense of identity: The latter holds between numerically distinct entities that can nonetheless be considered as one for the everyday purpose. It is in this sense that the distinct stages of the same person or the distinct sortal counterparts of the same hybrid can be seen as one.

counterpart is expected to do the job of identity to some extent (i.e., by unifying opposing potentials of a material object, as I shall argue later) without sharing the formal characteristics of identity.

Given that my goal in this paper is to put forward a counterpart solution to the new Leibniz argument for coincidence, I should be taken to assume nothing more than a "thin" notion of counterpart so that it can be picked up by friends and foes of modal realism alike. Whether sortal counterparts are concrete entities on a par with the middle-sized dry goods or are they rather abstract constructs that we introduce for their theoretical value is a substantive question that should not be settled as a matter of definition. (One pressure for delving into the nature of counterparts is ontological. As the thought goes, since my definition allows sortal counterparts to be worldmates of the hybrid, we would need a "thicker" notion of counterpart to evaluate the ontological implication of my view. For otherwise we run the risk of inflating our everyday ontology by admitting queer entities into the realm of the actual. I shall get to this worry in the next section.)

Thirdly, the idea of something being merely a crown needs some clarification. Granted that the piece of alloy that constitutes the crown can be merely an alloy by having its record of artifact removed, what does it mean for something to be merely a crown? The suggestion that the crownhood of the hybrid can be detached from the alloyhood sounds dangerously close to the absurd claim that there can be material entities without matter. Yet we don't need to remove the materiality of a crown to get a grip on what makes a crown a crown. Rather, what is required is that the crown counterparts aren't essentially material, that is, being made of some matter or other doesn't characterize what a crown is.

It is one thing for a crown to be non-material, another for its materiality to be non-essential for its crownhood. The purity of sortal counterparts is of the latter kind. Far from being a spooky matter-less form, the crown-counterpart inherits the materiality of the hybrid up to a point: the innocent claim that the crown is on the desk is as much true of the hybrid as it is of its crown counterpart. The difference at stake is that while having a spatial location is in a way essential to the hybrid (via its material counterpart), it is accidental to its crown counterpart.

Fourthly, the hybrid and its crown counterparts are both crowns on my view, yet in different senses: The former by having a crown counterpart, the latter by instantiating all the essential properties exclusive to crowns. My account of sortal attribution is revisionary in the sense that it implies that no material entity has any sortalish property by itself. Note that this is not to say that the hybrid is a bare particular or property-less, for the simple reason that not all properties are sortalish (that is, sortal proper or derivative from sortal). The *alloy-crown* should be able to instantiate any property (e.g., has a particular mass, shape, artistic value,

market price and so on) provided that the property isn't essential to its alloyhood or crownhood.

Now with sortal counterparts at our disposal, we can respond to Fine's argument as follows:

The argument is invalid due to a predicational shift: By labelling the entity as "the crown" and claiming that the crown has crown exclusive property, we highlight the crown counterpart of the *alloy-crown*, whereas by labelling the entity as "the alloy" and claiming that the alloy lacks the corresponding property, we highlight the alloy counterpart of the hybrid. Note that we have an exact parallel to the modal case, where distinct modal counterpart relations are evoked by the joint action of sortal labels and conflicting de re predications. In the non-modal case, distinct sortal counterpart relations are evoked by the joint action of sortal labels and conflicting simple sortalish predication.

3 The Puzzle over Hybrid Nature

So far I have been talking about sortal counterparts as if they are a sui generis class of entity introduced to resolve the puzzle over coincidence. This isn't so. Material entities are just one of the many loci where we encounter the puzzle over conflicting sortals. The kernel of the puzzle concerns the compresence of opposing properties or potentials within a single hybrid entity. Everyday dry goods are just one out of many kinds of dual-nature entities out there: Demigods such as Achilles are both divine and mortal, a farewell party can be bitter and sweet at the same time, a drug has the potential to cure (at the hands of a skilled physician) and harm (when overdosed by a careless patient), light has properties that are both particle-like and wave-like, and euglena behaves in a way that overlaps with both animals and plants.

In all cases above, the hybrid occupies an in-between position that resists exclusive classification under a single sortal on the extremity, and the puzzle of conflicting sortals arises when we attempt to ascribe to it characteristic properties from the extremities. We are stuck because while the law of non-contradiction instructs us to deny at least one of the sortal attribution in conflict, we can't do it in a non-arbitrary manner without the cost of giving up some otherwise legit generalization. Moreover, to deny the hybrid of both classifications (consequently the related sortal attribution or generalization) at once is out of the question: Surely Achilles exhibits properties that are both gods-like and human-like, and light behaves in a way that is both wave-like and particle-like. A more reasonable escape from arbitrariness is to affirm that Achilles is both a god and a man, and light is both wave-like and

particle-like. But how can Achilles obtain a dual sortal membership given that gods and mortals are characterized by inconsistent sets of properties?

One option is to insist that it is the hybrid itself that bears the contrary properties. There are two ways to proceed with this idea: One is to follow the lead of Heraclitus and take it as a brute fact that opposite properties or states co-exist all the time within the same entity, contrary to what the Law of Non-contradiction implies. Although the radical Heraclitean position lacks supporters, it is a rather appealing position.[17] For one, there is no inflation on the part of everyday ontology: No multiplication of entities, no counterpart, just the familiar world filled with unruly hybrids that defy neat classification. Further, it deflates the puzzle over conflicting sortals by putting the validity of the Law of Non-contradiction to challenge: If the Heracliteans are right in claiming that the unity of opposites is both a fundamental and widespread fact of our messy cosmos, we would be misguided to hope that material objects and their likes behave in accordance with any neat rule of logic such as that of non-contradiction.

Alternatively, those who insist that the hybrid itself must bear the opposing properties could try to resolve the conflict by relegating the properties in conflict to different parts of the hybrid or different relations that the hybrid bears to things around. For those who believe in formal parts, the separation by part strategy seems particularly congenial: A statue is both a gem of art (in virtue of its formal part) and isn't (in virtue of its material part). (Curiously, the vocal proponents of formal part such as Fine and Koslicki are multi-thingers rather than one-thinger. As one might wonder: Why counting by the plurality of parts, if their favored mereology suggests that there is a single hylomorphic compound?) It is less clear, though, how the appeal to parthood can be applied to cases such as Achilles and light.

On the other hand, the relational reply can be made about some of the instances above. For instance, it seems plausible to say that drug has both the potential to cure and to harm, depending on the judgement and intention of the user. No worry for contradiction since the opposing potentials are just distinct relations in disguise. It is less clear that the same can be said about Achilles, *E. gracilis*, or my coffee mug, though. In each case, there are at least some sortalish properties that can't be analyzed in fully relational terms without blurring the line between intrinsic and extrinsic properties. If pressed to choose between a thoroughgoing relational account of sortalish property and the radical Heraclitean position, I would go for the latter since it at least doesn't appear to hack our way through a hard puzzle.

Sortal counterparts offer an alternative way out for those who don't like the radical Heraclitean worldview on the other hand and hope to preserve the good

17 Priest (1998, 2006) entertains the position briefly without endorsing it as a reason for his dialetheism.

commonsense of sortalish property on the other. Instead of insisting that the hybrid itself be the bearer of the opposing properties, we let the purebred counterparts of the hybrid inherit the diverging sortal profile on its behalf: Achilles is both a god and a man (hence both immortal and mortal) via his divine and human counterparts, an *E. gracilis* is both a plant and an animal (hence both photosynthetic and isn't) via its plant and animal counterparts. Just as modal counterparts are other-worldly proxies through which Achilles could lead different lives according to stories told otherwise, sortal counterparts are proxies through which Achilles could realize his full potential qua a god or a human solely: They are the loci of opposing properties that co-define his nature qua demigod.

One might expect me to say more about what sortal counterparts are by locating them along the axes of concrete versus abstract, fictive versus real. Yet it isn't clear to me how the classification as such helps to illuminate:

For one, as Lewis (1986, 81–6) notes, it is not at all clear how exactly the concrete versus abstract distinction is supposed to divide things up. If "concrete" is meant to denote individual particulars as opposed to universals, sortal counterparts are indeed concrete in the same way that Achilles, cats, and coffee mugs are. However, if "concrete" is meant to denote anything that can be grasped independently of abstraction, then it is less clear that the sortal counterparts are concrete. Although they are not abstract in the sense that numbers are abstract, they seem at least as abstract as any theoretical construct in science (e.g., a physicist's talk about frictionless plane or an economist's talk about rational agent): In both cases, the capacity to abstract away from numerous irrelevant properties and zero in on a selected few is essential for our conception of the posited entity, even though the entity of the conception might still be part of the mind-independent reality.[18]

The same is true about the fictive versus real distinction: The sortal counterparts of my coffee mug are by no means fictive if what that means is to put them in the same league as Harry Potter and Sherlock Holmes. No pretense or make-believe is at issue, and we don't get to decide by imagination or fiat what fills the list of properties for the mug counterpart – it has to inherit whatever property that makes my mug a mug. On the other hand, sortal counterparts might be thought as useful fictions that serve a theoretical goal (i.e., to make room for sortal attribution and generalization), if theoretical constructs such as the physicist's talk about frictionless plane or the economist's talk about rational agent are best understood as useful fictions.

An example from Nancy Cartwright might help to illustrate my point: In her discussion on the fundamental laws of nature, Cartwright (2004) invites us

18 See McMullin (1985) for an illuminating discussion on the role of abstraction and idealization in scientific theory building.

to imagine a scenario where a physicist analyzes the northeast motion of car in terms of a northward motion and an eastward motion acting jointly. Surely, says Cartwright, the analysis should not mislead us into thinking that the car actually has a part that moves north and another that moves east. Afterall, the analysans (a straight northward motion and a straight eastward motion) are just useful fictions that help us break a complex physical phenomenon into simpler bits for the purpose of calculation. I am happy to say that sortal counterparts are fictive in the same sense that the separately moving car parts are said to be fictive: they need not be taken in realist terms (esp. as part of the physical reality that is essentially located in spacetime) to accomplish their respective theoretical service. (Although as I noted in the last section, the fact that the crown counterparts aren't material essentially should not be taken to mean that they are matter-less spooks hovering freely in the Platonic heaven. Having a spatial location is one thing, having a spatial location as part of one's essence is another.)

Further, unlike modal counterparts, where the central pressure for getting clear on where it falls along the concrete versus the abstract axis stems from the question whether they should be allowed to causally interact with things in the actual, causal interaction isn't so much a concern in the case of sortal counterparts. The sortal counterparts of my coffee mug aren't independent actors in the causal arena distinct from the mug; rather, they are partial duplicates of the hybrid, which might be seen as the loci proper of the mug's power to shatter or to contain liquid. In contrast to the hybrid, the power of the sortal counterparts is "purer" in the sense of being unhindered by the countervailing forces from the opposing sortal: As much as we would expect the divine counterpart of Achilles to be fully immune to physical harm in contrast to Achilles qua mortal, we would expect the mug counterpart of my mug to be more mug-like, e.g., to be flexible with its material makeup up to the point of keeping its mug function unscathed.

The central idea behind sortal counterpart is partial overall resemblance: The divine counterpart of Achilles is whom resembles Achilles the most among all the gods; he is whom Achilles would become if his godly potential were to be fully realized, unhindered by his mortal body and human weakness.[19] In conceiving something as the divine counterpart of Achilles, we "distill" properties that define Achilles's divinity (e.g., his superhuman bravery and almost invulnerability to physical harm) and "purify" them so that they would align with other essential properties of gods. Likewise, we would carefully preserve anything that makes Achilles

19 See Baxter (2018) for an alternative way of resolving the puzzle via aspects. Baxter's proposal involves an exception to Leibniz's Law (since aspects aren't subject to its force), which I consider as unacceptable and a reason to favor a counterpart proposal.

human (say, his devotion to Patroclus and grievance over Agamemnon) in conceiving his mortal counterpart. In turn, the counterparts serve as the compass against which the seemingly conflicting profile of Achilles qua demigod can be construed without qualms of inconsistency.

4 Further Applications

In the last section, I want to sketch two other applications of sortal counterparts apart from the puzzle over conflicting sortals.

First, sortal counterparts offer a new way for accommodating exceptions to sortal generalizations. Exceptions plague our everyday generalization over sortals: All birds fly even though penguins don't. All dogs bark even though Billy the dachshund is polite.[20] What lesson should we draw from such exceptions? Without the posit of sortal counterparts, we would either have to deny the deviant individuals of their sortal membership, or we would have to qualify the truth of the generalization every time a deviant instance arises. The former is a non-starter: Surely penguins are birds, and Billy is a dog. The latter faces the threat of trivializing the revised generalization, if the qualified statement amounts to saying that all birds fly except those who don't, or that all dogs bark unless they are like Billy.[21]

We have a third option: We can let the sortal generalizations come out true about exceptions via their sortal counterparts. Even though penguins don't fly, their sortal counterparts might. After all, the counterpart penguins might be descendants of an alternative evolutionary history, where they had to count on their wings to fly to escape from predators. Likewise, even though Billy is polite, he can preserve his canine identity by having a vocal counterpart. The counterpart solution backs the common wisdom, according to which not all departure from the norm count as a good reason to invalidate the rule: this is especially so when the deviance is due to vicissitudes in the external surrounding or blind chance.

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20 The problem is discussed by Liebesman (2011) as a problem for generics. For my purpose I don't take a stand on the logical form of generalization based on generics: if they should be read as quantified sentences, then sortal counterparts are what we within the quantifier for deviating individuals. On the other hand, if sortals are best treated as individuals, my argument says that the characteristic that we hope to ascribe to a sortal can be seen as having a literal truth only if we allow the deviating individuals within the sortal to have their sortal counterparts to stand in their place.

21 The problem is known as the problem of provisos in the literature on laws of nature. The term "provisos" was first introduced by Hempel (1988, 23) as a label for "assumptions which are essential, but generally unstated, presuppositions of theoretical inferences". My formulation of the problem is based on Lange (2004, 162–163)'s reconstruction of Hempel's argument against the standard deductive model.

Second, sortal counterparts can be used to shed light on the nebulous idea of paradigm. Intuitively, a paradigm of kind is a standard member of the kind – a textbook example that instantiates properties characteristic of the kind. One way to cash out this intuition is to identify the paradigm with well-known individuals of the kind. So the Hope Diamond is the paradigm of a diamond, and Mt. Everest the paradigm of a mountain.

The assimilation of paradigm to well-known examples has several defects: For one thing, given that our acquaintance with an example can be induced by trains of events that are purely accidental, the fact that an instance is well-known informs us little on its actual representativeness within the group. Further, the identification of paradigm with well-known individual offers us little clue for systematic classification: Given the long list of properties that mt. Everest has, which are the properties that make it a paradigm of mountain? Suppose the paradigm of a mountain is set by the highest mountain on earth. Any mountain falling short of 8,000 m would get its mountainhood questioned for reasons entirely tangential to the practice of good orology. Still further, paradigm conceived as typical example does a poor job with grounding the truth of sortal generalizations: the fact that Socrates is a well-known human and that he is a paragon of rationality (by abiding the dictum of reason in life and death) yields little support for the rationality of his kind. On the contrary, well-known examples are likely to be outliers given their extraordinary qualities that contribute to their fame.

Sortal counterparts offer us an alternative way of conceiving paradigm: Instead of assimilating the sortal paradigm to famous individuals, the paradigm can be identified in terms of the total set of sortal counterparts of all hybrid members of the sort, each falling short of being a perfect exemplar of its sort in its own way. Since the similarity between a hybrid and its sortal counterparts needs not be epistemically salient to us, we don't need to worry that only well-known instances are included in the resulting set. Further, since outliers gain their sortal-membership via their sortal counterparts, we don't need to worry about the rule of admission being overly rigid. Still further, sortal counterparts are what we need for generalizing over a sort on the basis of its paradigm: The sortal generalization now would come out true of the paradigm, which in turn presents an egalitarian picture of a kind that doesn't overweight or underweight the outliers.

5 Conclusions

In this paper I have done three things. First, I have offered a one-thinger response to the new Leibniz argument by making use of the idea of sortal counterpart. Sortal counterparts are a natural extension of the modal counterpart response to

coincidence: Just as we can resolve the inconstancy in de re predication by appealing to different modal counterpart relations, we can resolve the puzzle over conflicting sortalish properties by appealing to sortal counterparts. Second, I have showed how sortal counterparts can illuminate the key multi-thinger intuition, according to there are true generalizations about the constituted entity that are falsely applied to the constituting matter. Finally, I canvassed some applications of sortal counterparts outside the literature on material constitution.

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