

Repeatable Artwork Sentences and Generics¹

We seem to talk about repeatable artworks, such as symphonies, plays, films, dances, and so on, all the time. We say things like, “*The Moonlight Sonata* has three movements” and “*Duck Soup* makes me laugh”. But how are these sentences to be understood?

On a simple treatment of these sentences, they have ordinary, subject-predicate form. The subject² refers to a repeatable artwork (e.g., *The Moonlight Sonata*, or *Duck Soup*) and the predicate ascribes some property to this artwork. The sentences are true just in case the individual referred to by the subject has the property ascribed to it by the predicate. Accepting this simple interpretation of the semantics of these sentences will have immediate consequences for our theory of repeatable artworks: the truth of the sentences will require that things like *The Moonlight Sonata* exist, that they are singular entities, and that they have the properties that the predicates in our sentences about them pick out.

But perhaps the simple treatment of these sentences isn't the correct one. The surface form of a sentence isn't always a sure guide to its logical form. We are familiar with this phenomenon with respect to sentences like the following:

1. The average man has two and a half children.
2. Nothing is inside of the room.

Neither of these sentences is such that the subject refers to some individual entity and the predicate tells us something about that entity. We will argue that the same is true of the following sentences:

3. The polar bear has four paws.
4. *The Moonlight Sonata* is roughly fifteen minutes long.

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² Here and throughout the paper, when we say ‘subject’ we will be speaking of the grammatical subject.

We will argue, in §1, that sentences such as (3) and (4) do not have simple subject-predicate structure, wherein the subject refers to some individual, the predicate picks out a property that is ascribed to that individual, and the sentence is true iff the referent of the subject has the property picked out by the predicate. Then, in the remainder of the paper, we will consider alternatives to this simple account. In §2, we will consider, and argue against, one view according to which these sentences are not subject-predicate sentences at all. In §3, we will consider, and argue against, a view on which these sentences are subject-predicate sentences, but on which the subject phrase has a special kind of plural reference, and on which the predicate phrase picks out a higher-order property. Finally, in § 4, we will propose a view that combines features of the second and third views, and which avoids the problems facing each of them.

If we are correct, then unlike the simple semantics that is commonly assumed to apply to sentences about repeatable artworks, the correct semantics of these sentences will be ontologically undemanding. It will not require, for instance, that we expand our ontology to include a referent of ‘*The Moonlight Sonata*’ in order to account for the truth of (4). In fact, it may even give us reason to prefer a more sparse ontology over a more robust one, at least with respect to repeatable artworks.

1. Simple Semantics

In what follows we will be interested in sentences such as (3) and (4), which we take to fall into a single class. To understand which class of sentences this is, consider how (3) differs from:

5. The polar bear is eating a fish.

The noun-phrase “the polar bear” is used very differently in (3) and (5). In (5), it picks out some particular, contextually salient polar bear (say, a polar bear the speaker is watching), whereas in (3) it does not. Instead, (3) seems to be saying something about how polar bears generally, typically, or characteristically are. That is, it seems to be a kind of generic statement, relevantly like “dogs bark” and “ducks lay eggs”: it is a generalisations about entities of a given kind, though in order to be true the relevant property needn’t be had by *all* or (in some cases) even *most* of the entities of that kind.³

³ For an introduction to generics, see Carlson and Pelletier (1995), and Leslie (Forthcoming).

There is a similar divide between sentences about repeatable artworks.⁴ Contrast (4) with:

6. *The Moonlight Sonata* will begin any minute now.

The noun-phrase “*The Moonlight Sonata*” is used very differently in (4) and (6). In (6) it picks out some particular, contextually salient performance, whereas in (4) it does not. Instead, in (4) we seem to be making a claim about how performances of *The Moonlight Sonata* generally, typically, or characteristically are. And this claim will be true even if some, or even most, of the performances are not roughly 15 minutes long.

We will be interested in sentences about repeatable artworks, such as (4), and generic sentences, such as (3). Sentences of both kinds are such that, though their surface structure suggests they have subject-predicate form with the subject referring to an individual, the subject does not seem to pick out some particular, contextually salient manifestation or instance of the relevant repeatable artwork or kind. We will call these sentences the *target sentences*, and we will be investigating how these sentences are to be understood.

One fairly natural view about the target sentence is this.

- *Simple Semantics* (SS): each of the target sentences has simple subject-predicate form, and is true iff the individual entity referred to by the subject has the property picked out by the predicate.

Theorists who endorse Simple Semantics have two options: They can take the predicates in the target sentences to pick out exactly the properties they seem to, or they can take the predicates in question to pick out some other, less obvious properties. That is, they must accept or reject the following.

- *The Straightforward Predication View* (SPV): In the target sentences, the predicate picks out the very same property that it appears to pick out. That is, it picks out the very same property it picks out in ordinary subject-predicate sentences where the subject refers to an ordinary individual.

We will call the denial of the Straightforward Predication View the *Obscure Predication View* (OPV). We will argue against Simple Semantics by presenting a dilemma. If the proponent of Simple Semantics accepts the Straightforward Predication View, then her view will both

⁴ The similarities between repeatable artwork sentences and generics has been noted elsewhere. . . Most recently by Stefano Predelli (2011), but he points to discussions of this similarity by Wolheim (1968 and 1980), Wolterstorff, (1975), and Levinson (1980), among others.

overgenerate and *undergenerate*: it will overgenerate by predicting that there are true readings of some target sentences that do not seem to have true readings, and it will undergenerate by predicting that there are not true readings of some target sentences that do have true readings. We will then show that if the proponent of Simple Semantics accepts the Obscure Predication View, then although she can avoid both these problems, she will face a third problem, the familiar *problem of anaphoric predication*.

The basic problem with the combination of Simple Semantics and the Straightforward view is this. If we adopts such a view, then we will need to say that there is some entity that is the referent of “the polar bear” in target sentence of the form “the polar bear is F” and some entity that is the referent of “*The Moonlight Sonata*” in in target sentences of the form “the Moonlight Sonata is G,” and so on for other target sentences. But for any entity that we may identify as the referent of “the polar bear,” it will have features that polar bears don’t typically have, and it will lack features that polar bears do typically have—and similarly for “*The Moonlight Sonata*.” Consequently, this view will predict that seemingly false target sentences are true, and that seemingly true target sentences are false.

If SS is true, the subject of any given true target sentence refers to some entity. Thus, in (3), there is some entity referred to by “the polar bear,” and in (4), there is some entity referred to by “*The Moonlight Sonata*”. Suppose we were to endorse the dominant view, on which entities like these are aspatial and atemporal.⁵ We might, for instance, identify them with abstract properties. Perhaps “the polar bear” refers to the property *being a polar bear*, and perhaps “*The Moonlight Sonata*” refers to the property *being a Moonlight Sonata performance*. Unfortunately, this kind of view undergenerates. Consider the following:

7. The polar bear is roughly eight feet long.
4. *The Moonlight Sonata* is roughly fifteen minutes long.

Both of these sentences have true readings. But, given our current assumptions, we should predict that they do not. For we are now assuming that (7) ascribes the property of *being roughly eight feet long* to an aspatial entity, and, similarly, that (4) ascribes the property of *being roughly fifteen minutes long* to an atemporal entity. It is reasonable to assume, however,

⁵ The view that repeatable artworks are abstract has been defended by Wolterstorff (1980), Levinson (1980), Kivy (1983), Currie (1989), and Dodd (2004). For a more complete list of defenses of this view, see Caplan and Matheson (2006, p. 59). However, one may claim repeatable artworks are kinds while claiming that they are present where their instances are: Wollheim (1980, p. 76) is an example of a proponent of such a view. Views on which these entities are present in space and time will be discussed shortly.

that only objects present in space can have size, and only objects present in time can have temporal duration. (Later, we will discharge this assumption.) It would seem, therefore, that on our current suppositions, sentences (7) and (4) should be unambiguously false. This view, therefore, undergenerates. It also overgenerates, since this view predicts that the negations of (7) and (4) are unambiguously true.

What if, instead, we combine SS and SPV with the view that the subjects of our target sentences (e.g., “*The Moonlight Sonata*”, “the polar bear”) refer to entities that are present in space and time? There are then three alternatives that are fairly natural:

- (i) The referent, x , of the subject in question is some privileged individual among what we would ordinarily take to be the instances or manifestations of x . Thus, even in sentences such as (3) and (7) in which there is no contextually salient polar bear that we are picking out, there is still a unique polar bear that is the referent of “the polar bear.” Similarly, in sentences such as (4), “*The Moonlight Sonata*” refers to some particular *Moonlight Sonata* performance, or to some other particular manifestation of *The Moonlight Sonata*, such as particular written score, recording, or mental tokening.⁶
- (ii) The referent, x , of the subject in question is located at the fusion of all of the regions occupied by its instances or manifestations (and may be identical to the fusion of all of those instances or manifestations). Thus, the referent of “the polar bear” is spread across every region at which there is a polar bear, being just partly present in each region. Similarly, “*The Moonlight Sonata*” is spread across every region at which there is a *Moonlight Sonata* performance -- or perhaps every region at which there is a performance, written score, recording, or mental tokening.⁷
- (iii) The referent of the term in question is a multilocated entity that is wholly present at each of its complete instances or manifestations. Thus, just as one might hold that a time-traveller can be wholly located at each of two distinct locations at the same time, so the proponent of the present view maintains that the referent of “the polar bear” is an entity that is wholly at each of the regions where there is a complete polar bear, and similarly, that the referent of “*The Moonlight Sonata*” is wholly located at each of the regions where there is a complete *Moonlight Sonata* performance—or perhaps at each

⁶ We wish to remain neutral on which sorts of entities count as manifestations of *The Moonlight Sonata*.

⁷ Recently, a version of this view has been proposed and defended by Caplan and Matheson ((2004), (2006), and (2008)).

of the locations where there is a performance, a score, a recording, or a mental tokening.⁸

Suppose we endorse SS, SPV, and (i). Then for any target sentence with “the polar bear” as its subject, the referent is some individual polar bear or other. Suppose for the sake of simplicity that every polar bear is either completely inside or completely outside of Alaska.⁹ Since each of the following two sentences fall into our group of target sentences, this combination of views predicts a true reading of one of:

8. The polar bear is only present in Alaska.
9. The polar bear is only present outside of Alaska.

But, though we can truly say, for instance, that the polar bear is only present on planet Earth, we cannot, absent some contextually salient polar bear, truly utter either of (8) or (9). So this combination of views overgenerates. And, because the negations of (8) and (9) both seem true, but this combination of views predicts that at least one of them will lack any true readings, this combination of views undergenerates.

One might try to avoid these consequences by claiming that which polar bear is the referent of the subject of any given target sentence will depend on the sentence. However, it is not clear what the grounds would be for claiming that the subject of (8) happens to have a referent that is located completely outside of Alaska, whereas the subject of (9) happens to have a referent that is located completely inside Alaska. Further, they will need to claim that in these two sentences,

10. The polar bear has four paws and is only present in Alaska.
11. The polar bear has four paws and is only present outside of Alaska.

what the referent of “the polar bear” is in the conjunct of each sentence depends on what comes after that conjunct. But this is implausible.

Suppose instead that we endorse (ii). If we accept SS and SPV, and we want to allow that sentences such as (7) and (4) have true readings, then this will impose serious constraints on what sorts of things can be the referents of the terms in question. For in this case the

⁸ This view was proposed by Tillman (2011), and further defended in Spencer and Tillman (forthcoming).

⁹ If the reader rejects the assumption, then they can just use ‘Alaska’ to pick out a region roughly the size of Alaska and roughly where Alaska is (and which, of course, existed long before the state was founded), but which does not cut through any polar bears.

referent of “the polar bear” in (7) will have to be roughly eight feet long, and the referent of “*The Moonlight Sonata*” in (4) will have to be roughly fifteen minutes long. But according to (ii), the referent of the subject of (7) is the size of the fusion of all polar bears, which is much longer than eight feet. And the referent of (4) will have the duration of the fusion of all *Moonlight Sonata* performances, which will be much longer than fifteen minutes. So this view will undergenerate. It will also overgenerate, in producing true readings of the negations of (7) and (4).¹⁰

It seems, then, that the only remaining natural alternative for the proponent of SS and SPV is to opt for (iii), and claim that the referent of “the polar bear”, and similarly the referent of “*The Moonlight Sonata*”, is a multilocated entity that is wholly located wherever there is a complete polar bear or a complete *Moonlight Sonata* performance. Unfortunately, there is also a problem with this view. (We’ll focus here on “*The Moonlight Sonata*”, though the same problem arises for “the polar bear,” and for the subjects of our target sentences more generally.)

There are two claims we need to make to generate the problem. Locative Claim 1: each part of *The Moonlight Sonata* is located where and only where it is performed.¹¹ This is supported by the same reasons that motivated us to accept the multilocation view about *The Moonlight Sonata*. E.g., assuming SS and SPV, we will have trouble explaining the truth of “the first movement of *The Moonlight Sonata* is roughly six minutes long” if we claim the first movement is either non-located or that it is located at the fusion of its performances. And taking the referent of “the first movement” to be some *particular* performance of the first movement is unhelpful for reasons like those given above.

Locative Claim 2: if some but not all of a wholly material object, *o*, is present within some region, *r1*, then there must be some other, disjoint region, *r2*, such that some of *o* is present in *r2*, and the parts of *o* present in *r1* and the parts of *o* present in *r2* together make up

¹⁰ This objection isn’t new. An objection similar to this one was presented by Dodd (2004, p. 353), and responded to by Caplan and Matheson (2006, pp. 61-63). That discussion leads me to believe that Caplan and Matheson would simply reject (4), and accept sentences like “The second half of *The Moonlight Sonata* was missing from that complete performance.” But sentences like that one seem particularly bad.

Similar worries face temporal parts theorists: e.g., we might say of a persisting point-sized object, *x*, “*x* has exactly one part.” If we accept Simple Semantics, and take the referent of the subject to be *x* rather than, say, its current temporal part, then we must either reject the Simple Predication View, reject four-dimensionalism, or deny the truth of the sentence. It is not uncommon to think that such sentences are, strictly speaking, false.

¹¹ One could instead claim that whenever there is a merely partial performance of *The Moonlight Sonata*, the entire *Moonlight Sonata* is present. However, for any merely partial performance of *The Moonlight Sonata*, there is some part of *The Moonlight Sonata* that is unperformed. So, with respect to where the performance is, we can truly say: “Part of *The Moonlight Sonata* is absent.” However, on this view, we can also truly say: “No part of *The Moonlight Sonata* is absent.” But these two sentences cannot even possibly both be true.

o. For example, if some, but not all, of the sailboat is located in the garage, there must be somewhere else, perhaps the driveway, where the rest of it is at, such that the parts in the garage and the parts in this other place together make up the whole sailboat.

Now we face a serious problem: *the problem of incomplete instances*. Consider a world in which there are exactly two *Moonlight Sonata* performances: P1 (performed in region R1) and P2 (performed in region R2), such that P2 occurs one hundred years after P1. And suppose that, in the concert hall where P2 occurs, a bomb is detonated right before the Recapitulation is performed. Thus, P1 is a *complete* performance of *The Moonlight Sonata*, in which every part of *The Moonlight Sonata* is performed, whereas P2 is an *incomplete* performance of *The Moonlight Sonata*, in which all but the Recapitulation is performed.¹² Suppose further that, apart from P1 and P2, no part of *The Moonlight Sonata* is performed on any other occasion.

It follows from Locative Claim 1 that every part of *The Moonlight Sonata* except the Recapitulation is located in R2. And it follows from this and Locative Claim 2 that the Recapitulation is present somewhere else, and that the Recapitulation at that region and the parts of *The Moonlight Sonata* at R2 together make up *The Moonlight Sonata*. Since, in our case, the Recapitulation is performed only once, namely in P1, Locative Claim 1 entails that the Recapitulation is located at just one place: a subregion of R1. Thus, the Recapitulation within R1 and the parts of *The Moonlight Sonata* in R2 together make up *The Moonlight Sonata*.

Recall, however, that P1 precedes P2 by one hundred years. This, then, has two problematic consequences. First, it means that *The Moonlight Sonata* has a scattered location, with one part present in one performance, and the rest of it present in a distinct performance a century later. This is exactly the kind of consequence that those endorsing the multilocation option are hoping to avoid by claiming that entities like symphonies are wholly present in each of their performances. Second, since the Recapitulation in R1 and the parts of the *Sonata* in R2 together make up *The Moonlight Sonata*, it seems that in at least one manifestation of *The Moonlight Sonata*, the Recapitulation precedes the rest of the *Sonata*. But in addition to

¹² One could instead say that for any part of *The Moonlight Sonata* to be present in a performance, all of *The Sonata* must be performed. But this would mean that, no matter how close to being complete a merely partial performance of *The Moonlight Sonata* is, not a single part of the symphony would be present in it, though the whole *Sonata* would be present in a complete performance that was ever so slightly different. Further, anyone at a performance of *The Moonlight Sonata* could not know whether they were in the presence of *The Sonata* until they knew whether the performance would be a complete one.

being inherently implausible, this has implausible semantic implications when combined with the SS and SPV. For this sentence seems clearly true:

12. *The Moonlight Sonata* is such that its Recapitulation always comes after its Exposition and its Development.

Assuming SS and SPV, this sentence attributes to referent of “*The Moonlight Sonata*” the property of *being such that its Recapitulation always comes after its Exposition and its Development*, and according to the multilocation view, in the case we’ve described the referent of “*The Moonlight Sonata*” does not have that property. So this combination of views will predict that there are no true readings of (12), and will thereby undergenerate. (Similarly, it will overgenerate due to predicting a true reading of the negation of (12).)

Thus, it seems that if the proponent of SS accepts SPV, then her view will have unacceptable consequences regardless of what she takes the subjects of the target sentences to refer to. For, regardless of what we take to be the referent of “the polar bear”, or the referent of “*The Moonlight Sonata*”, either there will be *some feature* had by that referent that will, via SS and SPV, guarantee true readings of sentences that we take to be false, or there will be *some feature* that the referent lacks that will, via SS and SPV, guarantee false readings of some sentences we take to be true. We’ve focused on just some of these features, but there are many ways one can run an argument of this form against the combination of SS and SPV.

There is, however, is an objection to our argument that deserves some comment. In presenting this argument, we assumed that if “the polar bear” and “*The Moonlight Sonata*” are aspatial and atemporal, then these entities don’t have the sorts of features that appear to be ascribed to them in sentences (7) and (4). For while the sentence “polar bears are roughly eight feet long” is true, aspatial entities don’t have size. And while the sentence “*The Moonlight Sonata* is roughly fifteen minutes long” is true, atemporal entities don’t have duration. There are, however, some who would deny this, maintaining that non-located entities can have such ordinary features as sizes and durations. They could do so by appealing to the following claim, defended by David Liebesman (forthcoming):

- *Inheritance Hypothesis*: Whenever k is a kind whose members generically have some property, F , k itself is F .

For suppose that the Inheritance Hypothesis is true, and suppose that “the polar bear” refers to a *kind*, specifically, the kind *the polar bear*. Suppose further that, generically, polar bears are

roughly eight feet long. In this case, it will follow from the Inheritance Hypothesis that the kind referred to by “the polar bear” is itself roughly eight feet long. Hence it will follow, from SS and SPV, that sentence (7), “the polar bear is roughly eight feet long”, is true. Similarly, if “*The Moonlight Sonata*” refers to a kind to which all and only the *Moonlight Sonata* performances belong, and if, generically, *Moonlight Sonata* performances are roughly fifteen minutes long, then it will follow from the Inheritance Hypothesis that *The Moonlight Sonata* is roughly fifteen minutes long. Hence it will follow from SS and SPV that sentence (4), “*The Moonlight Sonata* is roughly fifteen minutes long”, is true. These are exactly the results we want.

Unfortunately, this explanation of the truth of (7) and (4) is unacceptable, since it leads to paradox. To see how, let K be the kind to which all and only performances of *The Moonlight Sonata* belong. Note that, necessarily, *Moonlight Sonata* performances are not kinds. But if something is true necessarily of all *Moonlight Sonata* performances, then (perhaps excepting any necessarily finkish dispositions) it is true generically of *Moonlight Sonata* performances. And so it follows that K is a kind whose members are, generically, not kinds. Hence it follows from the Inheritance Hypothesis that K is not a Kind. And so we have deduced that the kind to which all and only *Moonlight Sonata* performances belong is not a kind, which is a contradiction. And so the Inheritance Hypothesis is unacceptable. We conclude, therefore, that one cannot plausibly object to our argument via appeal to the Inheritance Hypothesis.

One might respond by claiming that the Inheritance Hypothesis is more general than what is needed to explain the truth of (7) and (4), and that we should instead appeal to a restricted Inheritance Hypothesis instead. However, not only is it unclear how we can do this in a way that would avoid the sort of worry just raised (for we can raise it with respect to other properties such as *being spatial*, *lacking members*, etc), but any restriction would leave us without a unified explanation of the truth-conditions of this sort of generic sentence. The sentence “*Moonlight Sonata* performances aren’t kinds” seems relevantly similar to the sentence “Dogs bark”. So if one is true in virtue of the relevant kind having the predicated property (and it is generic in virtue of it having inherited that property from its instances, which generically have it), the other should be as well.

So far we have seen that problems result from combining SS with SPV. Let us therefore turn to the view that results from combining SS with OPV. That is, let us consider

the view that when a predicate like “has four paws” or “is roughly fifteen minutes long” occurs in a target sentences, it can thereby pick out some property that differs from the property it would normally pick out. If we adopt such a view, we can claim that in the sentence (3)

3. The polar bear has four paws.

“has four paws” picks out not the property *having four paws* but rather the property *being such that its typical instances have four paws*. Similarly, one can maintain that in (4)

4. *The Moonlight Sonata* is roughly fifteen minutes long.

“is roughly fifteen minutes long” picks out the property *being such that its typical performances are roughly fifteen minutes long*. By adopting such a view, the proponent of SS could endorse (3) and (4). For she could claim that the referent of the subject of (3) is a kind, and that this kind has the property picked out by the predicate of (3), since it is such that its typical instances have four paws. And she could say something similar about (4).¹³

Such a view, however, faces a well-known problem—the *problem of anaphoric predication*. Consider the following dialogue.

3. The polar bear has four paws.

13. Yes, and so does this puppy, Chompy.

Because of the anaphoric reference in (13), it’s reasonable to assume that the two sentences ascribe the same property to the entity referred to by their respective subjects. But on the view we are now considering, in (3) “has four paws” picks out the property *being such that its typical instances have four paws*. And so, if the two sentences ascribe the same property, then (13) must ascribe to Chompy the property *being such that his typical instances have four paws*. But Chompy, presumably, isn’t the sort of thing that has instances. And so the view under consideration seems to predict, falsely, that (13) can’t be true. A similar problem will arise if we claim that in (4), “is roughly fifteen minutes long” picks out the property *being such that one’s performances are typically roughly fifteen minutes long*. For such a view falsely predicts that, in the following dialogue, the second sentence cannot be true.

¹³ Wolterstorff endorses this. He follows Wollheim in claiming that, for any kind, *k*, and predicate, *P*, if *P* can apply to *k*, and *P* picks out (at least in some instances of use in natural language) a property that must be had by an entity in order for it to be an ideal member of *k*, then *p* can be truly predicated of *k* (Wollheim 1968, p. 64-65), (Wolterstorff 1975, p. 328). However, he then claims that, in many cases of this, the kinds and their members do not share the relevant properties. He says that instead, there is “analogical predication”; the predicate picks out one property when applied to the member, and a distinct property when applied to the kind. (Wolterstorff 1975, pp. 326-328)

4. *The Moonlight Sonata* is roughly fifteen minutes long.

14. Yes, and so is the time-out I just received.

For the time-out referred to in (14) presumably doesn't have instances, and so it isn't such that its typical instances are roughly fifteen minutes long.

To recap: if the proponent of Simple Semantics adopts the Straightforward Predication View, then her view will overgenerate (predicting that sentences have true readings when they don't) and it will also undergenerate (predicting that sentences don't have true readings when they do). If, on the other hand, she rejects the Straightforward Prediction View, then she will face the problem of anaphoric predication just described.

2. The GEN Operator View

Maybe we should take seriously the idea that “the polar bear has four paws” is not a claim about some singular entity referred to by “the polar bear,” but is rather a general claim about polar bears, and similarly, that “*The Moonlight Sonata* is roughly fifteen minutes long” is really a general claim about *Moonlight Sonata* performances.¹⁴

Clearly this view would be implausible if it implied that the target sentences were *universal generalisations*, since they do not require full generality. Instead, these sentences seem to be about how polar bears and *Moonlight Sonata* performances *typically* or *generally* are. To capture this, we can appeal to an unvoiced, two-place operator, the GEN operator, which functions as an adverb of quantification (like ‘usually’, ‘typically’, ‘generally’, etc.).¹⁵ Thus, instead of having simple subject-predicate form, sentences containing the GEN operator have three components: the two-place operator, and its two arguments.¹⁶ Using this operator, for any predicates F and G , we can state that things that are F are usually, typically or characteristically G , as follows:

15. $\text{GEN}(x)[F(x), G(x)]$

One might then propose that the logical forms of (3) and (4) are as follows.

¹⁴ Perhaps including some merely possible *Moonlight Sonata* performances.

¹⁵ For an introduction to the GEN operator, see Carlson and Pelletier (1995), and Leslie (Forthcoming).

¹⁶ Leslie (Forthcoming).

3a. $\text{GEN}(x)[\text{Is-a-polar-bear}(x), \text{Has-four-paws}(x)]$

4a. $\text{GEN}(x)[\text{Is-a-Moonlight-Sonata-performance}(x), \text{Is-roughly-15-minutes-long}(x)]$

On this view, in (3), “the polar bear” is not a name referring to some individual. Rather, it picks out a property, namely the property *being a polar bear*, which occurs within the scope of the GEN operator. Similarly, in (4), “*The Moonlight Sonata*” isn’t a name referring to an individual, but rather picks out the property being a *Moonlight Sonata* performance. And this account seems to explain nicely why (3) and (4) are true: (3) is true because polar bears typically have four paws, and (4) is true because *Moonlight Sonata* performances are typically roughly fifteen minutes long.

However, not all sentences whose subject phrases are “the polar bear” or “*The Moonlight Sonata*” can be interpreted in this way. For many such sentences do not seem to make generic claims about polar bears or performances. Consider:

- 16. The polar bear is widespread.
- 17. The polar bear is nearly extinct.
- 18. *The Moonlight Sonata* is popular.
- 19. *The Moonlight Sonata* is two hundred years old.

Clearly (16) and (17) don’t say that, typically, individual polar bears are widespread or extinct, and (18) and (19) don’t say that, typically, individual performances of *The Moonlight Sonata* are popular or over two hundred years old.

In order to explain the difference between (3) and (4) on the one hand, and (16) through (19) on the other, one might hold that “the polar bear” and “*The Moonlight Sonata*” don’t refer to individuals in (3) and (4), but that they are names referring to individuals in (16) through (19). Thus, one might hold that the logical forms of (16) and (17) are as follows.

16a. Widespread(The Polar Bear)

17a. Popular(The Moonlight Sonata)

However, cases involving anaphoric reference raise problems for this view. Consider the following sentence.

20. *The Moonlight Sonata* is popular and is roughly fifteen minutes long.

On the view under consideration, the logical form of this sentence would have to be as follows.

20a. Popular(*The Moonlight Sonata*) &
GEN(x)[Is-a-Moonlight-Sonata-performance(x), Is-roughly-15-minutes-long(x)]

But this can't be the form of the sentence. For in (20), the reference in the second conjunct is anaphoric on the first, and so the two conjuncts must have some element in common. But in (20a), this is not the case.

This problem can be solved, however, via appeal to Gregory Carlson's theory of generic statements (applied to repeatable artwork sentences by Stefano Predelli (2011)). Carlson (1982) posits a "realization" relation holding between the relevant manifestations, and the entity being manifested.¹⁷ On this treatment of generic sentences, (3) has the form (3b):

3. The polar bear has four paws.

3b. GEN(x)[M(*The polar bear*, x), Has-four-paws(x)]

Here, M(y , x) indicates that x is a member of y . We can thus take "the polar bear" to refer to a single entity, like a kind.

Similarly, on Predelli's view of repeatable artwork sentences, "*The Moonlight Sonata*" is always a name referring to a single entity. Sometimes, as in the standard reading of (18), this name serves as the subject of a simple subject-predicate sentence. And in other cases, such as the standard reading of (4), this name lies within the scope of a GEN operator. Thus, on Predelli's view, the logical form of (4) is (4b):

4. *The Moonlight Sonata* is roughly fifteen minutes long.

4b. GEN(x)[R(*The Moonlight Sonata*, x), Is-under-20-min-long(x)]

Here R(y , x) indicates that x is a performance of y . More generally, according to Predelli, where ' m ' is the name of a musical work, sentences with the surface form " m is F " can have readings with either of the following two logical forms:

¹⁷ For Carlson, this relation can be stood in by instances and the kinds they belong to, or by stages and the individuals they belong to. The latter is helpful in capturing the meaning of "characterising sentences", where a property is claimed to be generically had by an individual (e.g., "Jake sings").

21. $F(m)$
22. $\text{GEN}(x)[R(m, x), F(x)]$

Similarly, for Carlson, where ‘ k ’ refers to some natural or artificial kind, such as *the polar bear* or *the Honda Fit*, sentences with the surface form “ k is F ” can have readings with either of the following two logical forms:

23. $F(k)$
24. $\text{GEN}(x)[M(k, x), A(x)]$

And in the case of a mixed sentence with the surface form “ m is F and m is G ”, the two conjuncts may differ in their logical form: one may have a simple subject-predicate form, while the other may involve the GEN operator. And this, according to Predelli, will also be true in the case of sentences like (20). According to Predelli, the standard reading of (20) has the following logical form:

- 20b. Popular(The Moonlight Sonata) &
 $\text{GEN}(x)[R(\text{The Moonlight Sonata}, x), \text{Is-roughly-min-long}(x)]$

On this view, we can make sense of the reference in the second conjunct being anaphoric on the first, since the two conjuncts share a common element, as they both refer to *The Moonlight Sonata*.

The Carlson/Predelli View also solves the undergeneration problem faced by SS. Recall from the last section that, if we assume SS and SPV, then regardless of what we take “*The Moonlight Sonata*” to refer to, we will predict of some sentences that they lack true readings when in fact they have true readings. If, for example, we take “*The Moonlight Sonata*” to refer to some atemporal entity, then our view will predict that

4. *The Moonlight Sonata* is roughly fifteen minutes long.

has no true reading, since atemporal entities don’t have durations. The Carlson/Predelli View solves this problem, for according to Predelli’s view, (4b) is a possible reading of (4), and on this reading, (4) is true even if the referent of “*The Moonlight Sonata*” is atemporal. Similarly, according to Carlson’s view, one possible reading of (3) is (3b), and on this reading it is true. More generally, since the Carlson/Predelli View implies that the target sentences have readings on which they make generic claims about the members of the kinds to which the

subject refers, rather than claims about the referent of the subject, this view implies that such sentences can be true even when this referent lacks the property picked out by the predicate.

Unfortunately, though the Carlson/Predelli View solves the problem of undergeneration, it doesn't solve the problem of overgeneration. That is, the Carlson/Predelli View, like the view that arises from combining SS with SPV, implies that sentences have true readings when they don't. The reason is this: in order to explain the existence of true readings of sentences such as "the polar bear is widespread" and "*The Moonlight Sonata* is popular," which don't seem to predicate *being widespread* or *being popular* generically of polar bears or of *Moonlight Sonata* performances, the view under consideration claims that the target sentences have a reading on which they have simple subject-predicate form. Hence, this view implies that such sentences have a reading on which they have precisely the Simple Semantics discussed in the previous section. And, in order to avoid the problem of anaphoric predication, the view under consideration will be paired with the SPV. But we saw in the last section that if we combine SS with SPV, we will predict that some sentences have true readings that they lack. Hence, the Carlson/Predelli View will likewise imply that some sentences have true readings that they lack. Suppose, for example, that we take "*The Moonlight Sonata*" to refer to an atemporal entity, the sort of entity that has no duration. In this case the Carlson/Predelli View will predict that

25. *The Moonlight Sonata* is not roughly fifteen minutes long.

has two readings, namely:

25a. $\neg(\text{Is-roughly-fifteen-minutes-long } (\textit{The Moonlight Sonata}))$

25b. $\neg\text{GEN}(x)[\text{R}(\textit{The Moonlight Sonata}, x), \text{Is-roughly-fifteen-minutes-long}x]$

While on the second of these readings the sentence will be false, on the first reading it will be true. Hence, the Carlson/Predelli View will incorrectly predicts that (25) has a reading on which it is true. Similarly, if we take "*The Moonlight Sonata*" to refer to a concrete entity that has some location or other, then his view will predict, for some unambiguously false sentence concerning the location of *The Moonlight Sonata*, that it has a true reading (in the manner indicated in section 1).

This same problem of overgeneration extends straightforwardly to the corresponding view of generic sentences. Moreover, since Carlson's view of generics applies not only to

generic sentences involving definite singulars (e.g., “the polar bear has four paws”) but also to generic sentences involving bare plurals (e.g., “polar bears have four paws”), it faces an additional problem. Consider the following generic sentence involving a bare plural:

26. Kinds that are not members of themselves are lovely.

On Carlson’s view, this statement would be interpreted as follows.

- 26a. $\text{GEN}(k)[\text{M}(\text{K}, k), \text{Lovely}(k)]$

Where k ranges over kinds and K is the kind consisting of all and only those kinds that are not members of themselves. But there is a problem. There is no kind consisting of all and only those kinds that are not members of themselves; the supposition that there is such a kind leads to Russell’s paradox. Hence, on the view of generics we are now considering, (36) involves reference to a non-existing kind, and so it cannot be true. But clearly (36) (or some sentence relevantly similar to it) could be true. And so the view of generics we are considering doesn’t provide an adequate, general account of generics.

It seems, then, that we should look for an alternative account of the target sentences.

3. The Higher-Order Predication View

Let’s take stock. We want to make sense of sentences such as the following.

20. *The Moonlight Sonata* is popular and it is roughly fifteen minutes long.
 27. The polar bear is nearing extinction and lives on a diet of marine animals.

In each of these sentences, the anaphoric reference suggests that the two conjuncts are about the same thing. And yet, the conjuncts seem to be about different things: the second conjunct of (20) appears to say something about individual *Moonlight Sonata* performances, while the first does not; and similarly, the second conjunct of (27) appears to say something about individual polar bears, while the first does not. One response, which we considered in the previous section, is to interpret each first conjunct as referring to something other than polar bears or individual *Moonlight Sonata* performances, and to interpret each sentence’s second conjunct in light of its first, as involving reference to that same entity. This, response, as we have seen, faces serious problems. But there is another option: perhaps we should take the second conjunct at face value, and interpret the first conjunct in light of the second. In other

words, perhaps we should claim that both conjuncts of (20) are about *Moonlight Sonata* performances, and that both conjuncts of (27) are about individual polar bears, and that these two conjuncts differ only in terms of what sort of thing they say about these entities. On this view, the first conjunct of (20) says of *Moonlight Sonata* performances that *collectively they are popular*, and the first conjunct of (27) says of polar bears that *collectively they are nearing extinction*. By contrast, the second conjunct of (20) says of *Moonlight Sonata* performances that *individually they are roughly fifteen minutes long*, and the second conjunct of (27) says of polar bears that *individually they live on a diet of marine animals*.

An analogy may be helpful. Consider the following:

28. Outside our tent there were three lions: Leo, Lex and Lionel. The lions were gathered around the water hole and they had shaggy manes.

It is very plausible that both conjuncts of (28) are simply about Leo, Lex and Lionel. These conjuncts differ in that while the first says something about them collectively, the second conjunct says something about them distributively.

A view of generics along these lines has been proposed by Kathrin Koslicki (1999), who develops an account of generics that borrows from the view of plural quantification developed by George Boolos, James Higginbotham, and Barry Schein. On Koslicki's view, the logical form of (3) can be represented as follows.

- 3c. **Have - four - paws** $\left(\left(\iota X\right)\left(\forall y\right)\left[X\left(y\right) \leftrightarrow \text{Is-a-polar-bear}\left(y\right)\right]\right)$.

Here, the expression within the outer parentheses is to be read as follows: "the things such that, for all y , y is one of them just in case y is a polar bear." Thus, (3c) says, of the things such that, for all y , y is one of them just in case y is a polar bear, that, generically speaking, they have four paws. In other words, (3c) says of the polar bears that they generally, usually or characteristically have four paws. Similarly, on Koslicki's view, the logical form of

16. The polar bear is widespread.

is as follows:

- 16b. **Widespread** $\left(\left(\iota X\right)\left(\forall y\right)\left[X\left(y\right) \leftrightarrow \text{Is-a-polar-bear}\left(y\right)\right]\right)$.

Thus, (16b) says of the polar bears that they are widespread. And so (3) and (16) are about the same things, namely, the polar bears. They differ only in the sort of thing they say about the

polar bears: the predicate ascribed in (16b) (denoted by “**Widespread**”) is collective, whereas the predicate ascribed in (3c) (denoted by “**Have-four-paws**”) is distributive (though it is not strictly universal). Since such a view implies that (3) and (16) have the same subject, this view can make sense of the anaphoric reference in sentences such as “the polar bear has four paws and is widespread” or “the polar bear is nearing extinction and lives on a diet of marine animals.”

Such a view can straightforwardly be extended to repeatable artwork sentences. On the resulting view, the logical forms of (4) and (29) will be as follows:

4c. **Are- ~15-min-long** $\left(\left(\iota X\right)\left(\forall y\right)\left[X\left(y\right) \leftrightarrow \text{Is-a-Moonlight-Sonata-performance}\left(y\right)\right]\right)$

17b. **Popular** $\left(\left(\iota X\right)\left(\forall y\right)\left[X\left(y\right) \leftrightarrow \text{Is-a-Moonlight-Sonata-performance}\left(y\right)\right]\right)$

Once again, because this view implies that (4) and (17) have the same subject, this view can explain the anaphoric reference in sentences such as (20).

This view also solves the Russell’s paradox problem we discussed at the end of the last section. For according to the present view, the logical form of

26. **Kinds that are not members of themselves are lovely.**

is as follows (where k ranges over kinds):

26b. **Are-lovely** $\left(\left(\iota X\right)\left(\forall k\right)\left[X\left(k\right) \leftrightarrow \text{Is-not-a-member-of-itself}\left(k\right)\right]\right)$

The expression within the outer parentheses is to be read as follows: “the kinds such that, for any kind, k , k is one of them just in case k is not a member of itself.” This sentence thus says, of those kinds, that, generically speaking, they are lovely. Hence, on the view we are now considering, sentence (26) makes no reference to any kind consisting of all those kinds that are not members of themselves. And so this view avoids Russell’s paradox.¹⁸

Note that on Koslicki’s view, the predicates that appear in the target sentences are not ordinary, first-order predicates, but are rather second-order predicates (we are using the bold font to represent second-order predicates). Thus, on Koslicki’s view, there is an important difference between sentences (3) and (29), on the one hand, and sentence (30) on the other.

3. **The polar bear has four paws.**

¹⁸ The use of second order quantification to avoid problems raised by Russell’s paradox goes back to Boolos (1984).

29. Polar bears have four paws

30. Chompy has four paws.

According to Koslicki, (3) and (29) are two ways of saying the same thing. In each case, the logical form is as follows:

3c. **Have-four-paws** $\left(\left(\iota X\right)\left(\forall y\right)\left[X\left(y\right) \leftrightarrow \text{Is-a-polar-bear}\left(y\right)\right]\right)$.

By contrast, on Koslicki's view, the logical form of 43 is this.

30a. *Has-four-paws*(Chompy)

Sentence (30a) involves an ordinary, first-order predicate (denoted by *Has-four-paws*), a predicate that applies directly to an individual. By contrast, (3c) involves a higher-order predicate (denoted by **Have-four-paws**), a predicate that applies plurally: it is the sort of thing that can be true not, e.g., of some particular polar bear, but rather of polar bears. Koslicki acknowledges that there is an important connection between these two predicates. According to Koslicki, in order to understand the predicate **Have-four-paws**, one must understand that this predicate is true of the *Xs* just in case, generically, *Has-four-paws* is true of the individual members of the *Xs*. Or symbolically,

31. **Have-four-paws** (*X*) \leftrightarrow GEN (*x*) [*X*(*x*), *Has-four-paws*(*x*)].

Similarly, the predicate *Are-~15-min-long* that appears in (4c) is a higher-order predicate that differs from, but is importantly related to, the ordinary predicate *Is-~15-min-long* that applies to individual performances or other events. Their connection can be indicated as follows.

32. **Are-~15-min-long** (*X*) \leftrightarrow GEN (*x*) [*X*(*x*), *Is-~15-min-long*(*x*)].

According to Koslicki, collective predicates, such as **Widespread** in (16b) and **Popular** in (17b), are likewise higher-order predicates that can be elucidated in terms of first-order predicates that apply directly to individuals. But in the case of such collective predicates, their elucidations in terms of first-order predicates will generally be significantly more complicated than those given in (31) and (32).

While Koslicki holds that second-order predicates are importantly related to first-order predicates, and that their truth conditions can be elucidated in terms of the latter, she is very

clear that these first-order predicates do not figure in the logical form of the sentences that they elucidate. In her words, logical form (LF) is

that level of linguistic representation at which all *grammatical* structure relevant to semantic interpretation is made explicit. That is, LF represents the contributions of *grammar* to meaning ... [Consider the following elucidation]

[33.] ‘cut’ is a verb that applies truly to events *e*, involving a patient *y*, and an agent *x* who, by means of some instrument *z*, effects in *e* a linear separation in the material integrity of *y*.

... The paraphrases presented above [as in (31) and (32)] should be viewed as similar in nature to the elucidation of the meaning of ‘cut’ in [(33)]. They reflect part of the *lexical* knowledge a speaker possesses concerning verbs ... and are, for this reason, not represented as part of the logical form of the sentence.¹⁹

But now we have a problem. For consider sentences such as the following.

33. The polar bear has four paws, and so does Chompy.
34. *The Moonlight Sonata* is roughly fifteen minutes long, and so is the time-out I just received.

On Koslicki’s view, in (33) “has four paws” picks out a higher-order predicate. While an understanding of the first conjunct of (33) might require appreciating the connection between this higher-order predicate and the first-order predicate *Has-four-paws* that applies to individuals, it is only the higher-order predicate, not the first-order predicate, that figures in the structure of the first conjunct. However, what the second conjunct ascribes to Chompy cannot be a higher-order predicate. It must instead be the first order predicate *Has-four-paws*. And since the latter doesn’t figure in the first conjunct, it is very hard to makes sense of the anaphoric predication in (33). And the same applies to (34). If Koslicki’s view is extended to repeatable artwork sentences, then it will imply that in (34) “is roughly fifteen minutes long” picks out a higher order predicate, which is not the sort of thing that can apply to directly to the referent of “the time-out I just received.” Hence, on this view, we cannot make sense of the anaphoric predication in (34).

4. The Multi-Operator View

¹⁹ Koslicki (1999, 461-463).

So: in the first two sections, we considered some views according to which “the polar bear” and “*The Moonlight Sonata*” are singular terms. We saw that these views face a problem of overgeneration: regardless of what entity is taken to be the referent of “the polar bear” or “*The Moonlight Sonata*,” the view in question will predict that some target sentences have true readings which, in fact, they lack. Then in the third section we considered a view that seems to avoid this problem. On Koslicki’s view, “the polar bear” is not a singular term referring to some special entity, but rather, it refers plurally to the polar bears. Since this view avoids the implication that “the polar bear” refers to some entity distinct from polar bears, it avoids the implication that there are true sentences of the form “the polar bear is *F*” where *F* cannot be truly predicated of polar bears (either individually or collectively). The corresponding view of repeatable artwork sentences has the same advantage in avoiding overgeneration. However, as we have seen, this view comes with a cost: it implies that the predicates that figure in the target sentences are higher-order predicates, and it implies, further, that at the level of logical form, there is nothing in common between the target sentences and sentences about ordinary objects. Thus, this view implies that the sentences “the polar bear has four paws” and “Chompy has four paws” have nothing in common at the level of logical form, since the logical form of former is:

$$3c. \quad \text{Have-four-paws}((\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-polar-bear}(y)])$$

While the logical form of the latter is:

$$30a. \quad \text{Has-four-paws}(\text{Chompy})$$

And so this view has trouble making sense of anaphoric predication, as in (33).

One might think that the problem facing Koslicki’s view could be solved with a simple modification. Perhaps the logical form of (3) is not (3c) but rather:

$$3d. \quad \text{Has-four-paws}((\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-polar-bear}(y)])$$

Thus, perhaps, while the sentence involves plural reference, the predicate it involves is simply an ordinary, first order predicate. Such a view would make sense of the anaphoric predication in (33), but it faces serious difficulties. The problem is that it is unclear how an ordinary first order-predicate could be applied plurally to the polar bears. To see the force of this problem, consider the following sentences.

$$35. \quad \text{Polar bears consume a ton of fish per day. And so does Moby Dick.}$$

36. Coral reefs cover a huge area. And so does Alaska.

On the view we are now considering, the logical forms of (35) and (36) are as follows.

35a. $\text{Consume-a-ton-of-fish-per-day}((\exists X)(\forall y)[X(y) \leftrightarrow \text{Is-a-polar-bear}(y)])$
 & $\text{Consume-a-ton-of-fish-per-day}(\text{Moby Dick})$

36a. $\text{Cover-a-huge-area}((\exists X)(\forall y)[X(y) \leftrightarrow \text{Is-a-coral-reef}(y)])$
 & $\text{Cover-a-huge-area}(\text{Alaska})$

But there's a problem with this view. For sentences (35) and (36) are ambiguous. There is one reading of (35) on which the first sentence means that polar bears usually, typically or characteristically consume a ton of fish per day, and there is another reading on which it means that, collectively, polar bears consume a ton of fish per day. Similarly, there is a reading of (36) on which the first sentence means that coral reefs usually, typically or characteristically cover a huge area, and there is another reading on which it means that, collectively, coral reefs cover a huge area. What this shows is that there is more than one way in which a given predicate can apply to the polar bears, or to the coral reefs. The very same predicate, "consumes a ton of fish per day" can be said to apply to the polar bears because it applies to them individually, or because it applies to them collectively. By analyzing the logical form of (35) simply as (35a), the view we are now considering obscures this distinction, and hence it fails to account for the ambiguity of (35). Similarly, in analyzing (36) simply as (36a), this view obscures the distinction between the two ways in which the predicate picked out by "covers a huge area" can be said to apply to the coral reefs. Hence, this view fails to account for the ambiguity of (36).

So how are we to account for the ambiguity of (35) and (36)? We don't want the two readings of (35) simply to involve two distinct predicates ascribing two distinct properties. For, on each of the two readings of (35), we must explain the anaphoric predication in "so does Moby Dick." But what is said of Moby Dick does not vary between the two readings of (35). And so seems to follow that the same property must be picked out by "eats a ton of fish" on the two readings of (35). Nor do we want to say that the two readings of (35) differ because the subjects have different referents. We don't want to say, for example, that the difference between the individual and collective readings of (35) is that on the individual reading, "polar bears" refers to individual polar bears, whereas on the collective reading "polar bears" refers to the collection of polar bears. For consider the following pairs of sentences.

37. Polar bears consume a ton of fish per day. And they four paws.

38. Polar bears consume a ton of fish per day. And they are widespread.

Note that in each of (37) and (38), there are two possible readings of the first sentence. But the explanation of this ambiguity can't be that, in the case of the individual reading, the subject refers to something individual, whereas in the case of the collective reading, the subject refers to something collective. For if this were the explanation, then on the reading of (37) where the first sentence has the collective reading, the anaphoric reference in the second sentence would make no sense, and on the reading of (38) where the first sentence has the individual reading, the second sentence would make no sense.

And so we are in the following predicament. We want to explain the two readings of "polar bears consume a ton of fish per day." We don't want to explain this difference by positing an ambiguity in "polar bears." Moreover, we don't want to say that the bare plural "polar bears" is a singular term referring to some special entity (e.g. an abstract object, or the fusion or polar bears, etc.) for then we will run into the same kind of overgeneration problem we discussed in part 1. Instead, we want a view on which the bare plural "polar bears," like the definite singular "the polar bear," refers plurally to polar bears. Thus, we want it to be the case that, on both interpretations of (35), "polar bears" refers to the things such that, for all y , y is one of them just in case y is a polar bear. And so, on either reading of

39. Polar bears consume a ton of fish per day

we want the subject to be:

40. $(\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-polar-bear}(y)]$

Moreover, in order to allow for the anaphoric predication in (33) ("the polar bear has four paws, and so does Chompy"), we want it to be the case that, on either reading of (39), the logical form includes the ordinary, first-order predicate "consumes-a-ton-of-fish-per-day," the very same first-order predicate that applies to Moby Dick. And yet, in order to allow for the two possible readings of (39), there must be some additional element, over and above (40) and the property picked out by the predicate "consumes-a-ton-of-fish-per-day". There must be something that tells us how this property applies to the polar bears. In particular, there must be something that tells us whether this property applies to the polar bears individually or collectively.

So here is our suggestion: in addition to an element that refers plurally to the polar bears and an element that picks out the property *consumes a ton of fish per day*, each of the two readings of (39) contains a third element that indicates how this property applies to the

polar bears. On one of the readings of (39), it contains a *generic operator* which indicates that the property applies generically to the individual polar bears. And on the other reading, it contains a *collective operator* that indicates that the property applies *collectively* to polar bears as a whole. Let us denote these two operators with a superscript *G* and a superscript *C*, respectively. Thus, on one reading of (39), it contains the generic (*G*) operator, and it has the following form:

$$39a. {}^G\text{Consumes-a-ton-of-fish-per-day}((\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-polar-bear}(y)])$$

and on the other reading of (39), it contains the collective (*C*) operator, and it has the following form:

$$39b. {}^C\text{Consumes-a-ton-of-fish-per-day}((\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-polar-bear}(y)])$$

On the first of these readings (39a), the sentence means that usually, typically or characteristically, individual polar bears consume a ton of fish per day. Hence, on this reading, (39) is true if and only if the following is true:

$$41. \text{GEN}(x)[\text{Is-a-polar-bear}(x), \text{Consumes-a-ton-of-fish-per-day}(x)]$$

On the second reading (39b), the sentence means that *together* polar bears consume a ton of fish per day.

Thus, on the view we are proposing, the target sentences refer plurally to many individuals. And if a target sentence involves an ordinary, first-order predicate (that is, the kind of predicate that can apply directly to an individual), then the sentence involves an unvoiced operator that indicates how the property picked out by the predicate applies to the many individuals referred to by the subject.

Note, however, that some target sentences do not involve ordinary, first-order predicates. Rather, they involve higher-order predicates that cannot apply directly to individuals. Consider, for example:

$$42. \text{Polar bears are nearly extinct.}$$

Unlike the property picked out by the predicate in (39), the property picked out in (42) cannot be applied directly to individuals: no individual polar bear, bald eagle, or hump back whale can be nearly extinct—it's *polar bears*, *bald eagles*, or *hump back whales* that can be nearly extinct. Thus, while the subject that the predicate “consumes a ton of fish per day” applies to is individual, the subject that the predicate “are nearly extinct” applies to is plural. We don't, therefore, need an operator that indicates how this property applies to the polar bears. Hence, on our view, the logical form of (42) is as follows.

42a. Nearly-Extinct($(\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-polar-bear}(y)]$)

Thus, when it comes to target sentences involving higher-order predicates—predicates that pick out properties that cannot be applied directly to individuals, such as “nearly extinct” and “widespread”—our view coincides with Koslicki’s: at the level of logical form, these sentences consist in a higher-order predicate applied to an expression that refers plurally to many things. Our view differs from Koslicki’s view only with respect to sentences that involve what appear to be ordinary predicates, such as

3. The polar bear has four paws.

And it makes sense that (3) should differ in its logical form from (27) and from (16) (“the polar bear is widespread”). For we can say, “the polar bear has four paws, and so does Chompy,” but we can’t say, “the polar bear is nearly extinct, and so is Chompy,” nor can we say “the polar bear is widespread, and so is Chompy.” And so we should want an account according to which (3) involves an ordinary, first order predicate whereas (27) and (16) do not.

Another advantage of our view is that it can explain some *prima facie* puzzling differences between different generic sentences. We noted earlier that sentences like the following are ambiguous, as they allow for an individual and a collective reading.

39. Polar bears consume a ton of fish per day.

43. Coral reefs cover a huge area.

Note, however, that the following sentences are not similarly ambiguous.

44. A polar bear consumes a ton of fish per day.

45. A coral reef covers a huge area.

There is no reading of (44) on which it means that polar bears *together* consume a ton of fish per day, nor is there a reading of (45) on which it means that coral reefs *together* cover a huge area. Note, further, that while each of the following sentences could be true.

27. The polar bear is widespread.

28. The polar bear is nearly extinct.

46. Polar bears are widespread.

47. Polar bears are nearly extinct.

The following sentences could not be true.

48. A polar bear is widespread.

49. A polar bear is nearly extinct.

All of these differences can be straightforwardly explained, on our view, if we hold that the difference between the definite singular (“the polar bear”), the indefinite singular (“a polar bear”) and the bare plural (“polar bears”) in the subject position of the sentences under consideration marks a difference in the unvoiced operators that the sentence may contain. In particular, the indefinite singular, when it is used in a sentence in which no particular contextually salient individual is being referred to, *requires* the *generic operator*; this requirement explains both why there are no collective readings of (44) and (45) and why there can be no true reading of (48) and (49). Thus, our view can nicely explain some differences between sentences involving indefinite singular, definite singular, and bare plural noun phrases in the subject position—differences which are mysterious on some other views of these sentences, such as Koslicki’s.

Most of the target sentences we’ve discussed have involved definite singular noun-phrases, such as “the polar bear”. It is important to note that frequently, the definite singular precludes application of the collective operator. Consider, for instance:

50. The polar bear weighs over a thousand pounds.

51. Polar bears weigh over a thousand pounds.

While we can get a collective reading of (51), sentence (50) seems ungrammatical in the absence of a contextually salient polar bear. We will find similar results with predicates involving size, shape, mass, possession of parts, etc.²⁰ These are first-order predicates, and thus, on our view, they must combine with an unvoiced operator that indicates how the first-order predicate is to be applied. Since the definite singular excludes the collective operator in combination with these predicates, the operator in question must be the generic operator. Hence, on the view we have proposed, target sentences involving ordinary, first order predicates, such as:

3. The polar bear has four paws.

will contain a generic operator, and will thus have a form like the following

39a. ${}^G\text{Consumes-a-ton-of-fish-per-day}((\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-polar-bear}(y)])$

²⁰ There are some properties that can be combined with definite singular noun-phrases collectively. For instance, it seems fine to say “the automobile is a big polluter”. However, such predicates seem to be the exception to the rule. There is an intuitive, natural class that the collective-operator-excluding predicates form, though what it is in virtue of that those predicates, rather than these more unusual ones, exclude the collective operator, is a project that is beyond the scope of this paper.

By contrast, on our view, target sentences with higher-order predicates that cannot be applied directly to individuals, such as

27. The polar bear is widespread.

will involve no such operator, and will thus have a form like the following.

27b. $\text{Widespread}((\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-polar-bear}(y)])$

If we extend this view to repeatable artwork sentences, and thus treat sentences of the form “*The Moonlight Sonata* is *F*” in the same way we treat sentences of the form “the polar bear is *F*,” then our view will imply that insofar as such sentences involve ordinary first-order predicates, such as

3. The polar bear has four paws.

4. *The Moonlight Sonata* is roughly 15 minutes long.

they will involve a generic operator, and will thus have a form like the following:

4e. ${}^G\text{Has-four-paws}((\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-polar-bear}(y)])$

4d. ${}^G\text{Is-roughly-15-min-long}((\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-Moonlight-Sonata-performance}(y)])$

And insofar as a repeatable artwork sentence involves a predicate that cannot apply directly to particular performances, such as

29. *The Moonlight Sonata* is often performed.

it will contain a higher-order predicate and no unvoiced operator, and will thus have a form like the following.

29c. $\text{Often-performed}((\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-Moonlight-Sonata-performance}(y)])$

Note that this view solves the problem of overgeneration faced by the views we considered in sections 1 and 2. Recall that on views on which “the polar bear” and “*The Moonlight Sonata*” are singular terms referring to abstract entities or kinds, sentences (3) and (4) will each have at least one reading on which they are false. For abstract entities and kinds are not under twenty-minutes long, nor do they have four paws. By contrast, on our view, sentences (3) and (4) are unambiguously true, since (excluding readings on which some particular, contextually salient polar bear or performance is being referred to) our view implies that the only readings of (3) and (4) are (3e) and (4d) respectively, and on these readings, these sentences are true. Furthermore, our view solves the problem of anaphoric predication that arose both for the obscure predication view we considered in section 1, and

for Kathryn Koslicki's view we considered in section 3. Neither of these views can account for the anaphoric predication in sentences such as:

33. The polar bear has four paws, and so does Chompy.
34. *The Moonlight Sonata* is roughly fifteen minutes long, and so is the time-out I just received.

But such sentences pose no difficulty for our view. For on our view these sentences have the following form.

33a. $\text{}^G\text{Has-four-paws}((\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-polar-bear}(y)]) \& \text{Has-four-paws}(\text{Chompy})$

34a. $\text{}^G\text{Is-under-20-min-long}((\iota X)(\forall y)[X(y) \leftrightarrow \text{Is-a-Moonlight-Sonata-performance}(y)])$
 $\& \text{Is-under-20-min-long}(\text{the time out I just received})$

In each case, the two conjuncts contain the same predicate, and so the anaphoric predication is unproblematic.

5. Conclusion

We began this paper by noting that the semantics we give for repeatable artwork sentences can have consequences for our ontology of repeatable artworks. Insofar as we take these sentences to be true, we can learn about the world by learning about their truth conditions. This is nothing new; it is not uncommon, both in the literature about repeatable artworks and in Metaphysics more generally, to add to one's ontology in an attempt to get the right semantic results. For instance, if something like Simple Semantics is true, and we think that some repeatable artwork sentences, like "*The Moonlight Sonata* is under twenty minutes long", are true, then we will be committed to positing individual entities with which we can identify things like *The Moonlight Sonata*. But, contrary to what may be otherwise assumed, we have argued that Simple Semantics is not true, and we have presented an alternative semantics for our target sentences which has no steep ontological commitments. This semantics has motivation that is independent of ontological considerations, and unlike Simple Semantics, this view is ontologically undemanding. It requires only that we posit manifestations of the relevant artworks. That is, to account for the truth of sentences about, e.g., *The Moonlight Sonata*, we need merely posit some (at least possible) *Moonlight Sonata* performances. We are free to deny the existence of any spooky entities like abstract kinds, multilocators, or even fusions of performances.

In fact, not only does the sort of semantics we've argued for give us the option of being eliminativists about repeatable artworks, it seems to give us a reason for taking that option. For, given this semantics, being realists about repeatable artworks wouldn't merely require us to posit some strange entities in addition to the more familiar ones, it would require us to posit entities that we never seem to speak of (at least outside of philosophical contexts). The sentences that were the best candidates for being about these spooky entities are, on their most plausible interpretation, actually not about those entities at all. So, rather than being required by semantics to expand our ontology, semantics seems to instead push for a restriction of it.

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