1 Introduction

Metaphysics is the philosophical study of reality, and truthmaking is the bridge connecting two aspects of it. On one side is the *stuff* of reality: the things that populate the universe, the objects we bump into, think about, and engage on a daily basis. *Ontology* is the branch of metaphysics that argues about what is included in the inventory of the universe. Do numbers exist? Objective moral values? God? On the other side are the *truths* about reality, those claims that accurately describe it. Echidnas can swim. Two is a prime number. If the Chicxulub asteroid hadn't collided with Earth, it wouldn't have caused a mass extinction. Truthmaking is the study of how these two dimensions of reality – what exists, and what is true – are related.

A common way of describing the relationship between what exists and what is true is in terms of dependence: what is true depends upon what exists, but not vice versa. Aristotle (1984: 22) captured the basic idea with an example along the following lines. Consider the island of Tasmania. The island belongs to the ontological inventory of the world: it's a real place, not a mere fiction. Furthermore, the sentence "Tasmania exists" is true. If the island didn't exist, the sentence wouldn't be true. And if the sentence weren't true, the island wouldn't exist. So this tiny bit of existence and truth go hand in hand; you can't have one without the other. Yet there is also an asymmetry between them. The island doesn't exist because the sentence about it is true. The sentence's being true isn't what accounts for or explains the existence of the island. (Consult a geologist for a better answer.) Instead, the sentence is true because the island exists. The sentence says that Tasmania exists, and so Tasmania itself is directly responsible for the truth of the sentence. The island, in other words, makes the sentence true: it is its truthmaker. In this way, existing objects are prior to, or more fundamental than, the truth of the claims involving those objects. *Truth depends on being* is thus a useful slogan for truthmaker theory.

Slogans are fine (and I imagine few would disagree with this one), but the real promise of truthmaker theory lies in its ability to deepen our understanding of truth, ontology, and the relationship between them. I contend that truthmaking can be wielded in a way that advances ontological debates and captures the metaphysical underpinnings of the various domains of our thought. This Element develops those goals, and thereby defends the utility of truthmaking. It first covers some foundational issues for truthmaking. Section 2 introduces the dominant perspectives on what truthmaking is, and Section 3 tackles the contentious issue of whether all truths have truthmakers. Truthmaking is then put to work. Section 4 explores the debate between presentism and eternalism over the reality of the past and future, showing how truthmaking is central to

that dispute. Section 5 covers some truthmaking issues raised by nonactual possibilities. Finally, Section 6 connects truthmaking to social constructions, exploring how truthmaking relates to questions of race and gender.

2 Truthmakers and Truthmaking

Imagine you are the creator of a universe and have hired an accountancy firm to organize the inevitable loads of paperwork involved. Before you activate the universe, bringing it into being by snapping your omnipotent fingers, you meticulously plan it out in advance. As you draw up and revise your plans, your new accountants keep a comprehensive record of your universe. The firm's ontology department is charged with keeping track of all the things you've created within the universe. If something exists in the universe, it belongs on the ontology department's master inventory. Meanwhile, the clerks over in the truth department are busy compiling all the truths for the universe. As you add to the universe and rearrange your creation, the truth department is constantly updating its work. Their goal is to write the master book of your universe, which collects everything true about it.

Notice that these two departments need to work together. Suppose you decide to create an orca and name her "Oriana." The ontology department adds Oriana to their database, and the truth department adds "Oriana exists," "Oriana is an orca," and others to their manuscript. If you change your mind about including Sharko and remove him from your blueprints, the ontology department will strike him from their records and the truth department will erase "Sharko is one of the sharks" from its book. In general, any time the ontology needs adjusting, so too will the truths. (Whether the converse is true is more contentious.)

Truthmaking is, at least at a minimum, the project of developing the correct equilibrium between the ontology and truth departments. Sometimes that task is straightforward; if you create two sharks for your world, you've added "There are two sharks" as a truth about it. Similarly, if you want it to be true that there are at least seven red pandas, you'll need to create at least seven red pandas. But suppose you want your world to be one where copper conducts electricity, the square of three is nine, and the moral arc of the universe bends toward justice. You instruct the truth department to add these to the list. What, if anything, does the ontology department need to do in response? The answer isn't obvious; it requires philosophical argument. Engaging in such argument is engaging in truthmaking.

As with most philosophy, there is little that truthmaker theorists agree on, even with respect to the foundational issues for truthmaking. Differences over the nuts and bolts of truthmaking can have dramatic consequences when it

comes to the ontological implications we should draw from a certain body of truths. In the remainder of this section I'll cover some of the basic questions that any truthmaker theorist must consider.

2.1 What Are Truthmakers?

Suppose the ontology department has finished its accounting. It has produced an exhaustive list of all the "furniture" of your universe. All the truthmakers for your universe are found on that list. Something can't *be* a truthmaker if it has no *being*. But is everything on the list a truthmaker?

Some say "no." On this view, truthmakers are a special or specific kind of entity. For example, it has been claimed that truthmakers must be *fundamental* entities: something is a truthmaker only if it is fundamental (Cameron 2008c, Schaffer 2010, Rettler 2016). What counts as fundamental is highly disputed. Perhaps the smallest pieces of the universe (elementary particles, say) constitute the fundamental, or perhaps the largest object of all – the entire cosmos – is singlehandedly the fundament (Schaffer 2010). Other views find the fundamental somewhere in the "middle" (see Inman 2017 and Bernstein 2021). In any event, the tape dispenser on my desk isn't a fundamental element of reality on anyone's view, and therefore doesn't make anything true, not even "The tape dispenser on my desk exists." What makes it true instead are whatever pieces of fundamental reality are responsible for the tape dispenser.

Some say "yes," and I believe that is the better answer.[1] Ontology is the study of what exists, and there's more to existence than just the fundamental. Metaphysicians are *also* concerned with fundamental ontology, but that doesn't mean they are not concerned with the derivative, nonfundamental features of reality (cf. Barnes 2014). Likewise, particle physics may be the fundamental science, but chemistry, biology, and psychology remain indispensable to the scientific enterprise.[2] Most of the truths that we believe do not concern the fundamental dimensions of reality, and the ontologically curious wonder how those truths line up with nonfundamental reality. Section 6, for instance, investigates the ontology behind social constructions, which – being *constructions* – are not fundamental.

Hence, I argue that literally everything in the universe is a truthmaker. For any object φ, it is a truthmaker for at least one sentence, namely, "φ exists." Truthmakers, then, are not a distinctive subset of what there is. One advantage of this perspective is that it demonstrates that the notion of a truthmaker is ontologically neutral. Regardless of what kinds of objects you have in your

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[1] See Asay 2020a: 22–24 and Schipper 2021.
[2] See Tahko 2021 on the relationships between the sciences vis-à-vis fundamentality.

ontology, you have an ontology filled with truthmakers. Truthmaking can thus be utilized regardless of one's antecedent ontological views. All are invited to the truthmaking table: realists and anti-realists, nominalists and Platonists, rationalists and empiricists. Signing up for truthmaking is not signing up for distinctive, theoretically optional entities called "truthmakers."

Everything may be a truthmaker, but that doesn't begin to settle the question of what falls under "everything." Do we need natural laws, numbers, and deities within our ontologies? Truthmaker theorists argue over what we do and don't need to include within our ontological inventories in order to arrive at an equilibrium between our beliefs about what is true and our beliefs about what exists. Crucial to those arguments is a perspective on the relationship between a truth and its truthmaker. Suppose Opal is, unlike Oriana, an actual orca. She is a truthmaker because there are some truths she makes true, such as "Opal exists" and "There are orcas." But that she makes *some* claims true doesn't mean she makes *every* true claim true. She is a truthmaker, but not for "Bucharest is the capital of Romania." What, then, accounts for which truths an object makes true?

2.2 What Is Truthmaking?

Opal is a truthmaker for "There are orcas" but not "There are sharks." Why? The explanation turns on the nature of the truthmaking relationship: if some object φ is a truthmaker for some sentence S, then they stand in the truthmaking relation.[3] If we knew what that relation was, we could make a start at determining which objects are related to which truths via truthmaking.

2.2.1 Necessitation

As we've seen, the basic idea behind truthmaking is that sentences are true because of the objects that exist in the world. Truthmakers are the entities that are in some sense "responsible" for the truth of sentences. One way to unpack this metaphor is to imagine what the world would have been like had certain things not existed, or certain sentences not been true. In the actual world, Opal

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[3] I have chosen to restrict my discussion of truthmaking to sentences. This is solely for simplicity. True sentences are only one kind of truth: There are also true beliefs, true statements, true propositions, etc. (assuming, of course, that there are such things as beliefs, statements, and propositions). Truthmaker theorists sometimes argue about which *truth-bearers* are required for or fundamental to truthmaking; see Asay 2020a: 19–22. While sentences are less ontologically controversial than, say, propositions, they do involve a further complication. If a sentence could have meant something other than what it does mean, the full account of the truthmaker for the *sentence* (but not the proposition it expresses) will require an accounting of what makes it true that the sentence means what it does. I shall set aside that further complication in what follows; the topic of what makes sentences mean what they do will arise again in Section 6.1.

exists and "There are sharks" is true. But it's possible (though incredibly unlikely) that sharks could go extinct during Opal's lifetime. If they did, Opal would still exist, but "There are sharks" would be false. This possibility undermines the idea that Opal makes true "There are sharks," since her existence is compatible with the sentence being false. Opal's being in the world offers no guarantee that "There are sharks" is true. Something else, then, would seem to be responsible for the truth of the sentence (cf. Armstrong 2004: 6–7). By contrast, so long as Opal exists, "There are orcas" will be true. If we presume that being an orca is *essential* to Opal (such that she couldn't have been born an iguana, say), then it's impossible for Opal to exist without "There are orcas" being true.

The takeaway from these observations is that truthmaking involves *necessitation*. A truthmaker is an alethic guarantor: a truthmaker guarantees the truth of any sentence it makes true. Formally put, an object φ is a truthmaker for a sentence *S* only if it's necessary that if φ exists, *S* is true. This condition states that necessitation is a *necessary* condition on truthmaking; it must be in place if there is to be any truthmaking. Whether it is a *sufficient* condition on truthmaking is a further question I broach in Section 2.2.2.

Taking necessitation to be a necessary condition for truthmaking is incredibly common; it's been referred to as truthmaking "orthodoxy" (e.g., Merricks 2007: 5). But not everyone agrees (e.g., Briggs 2012). Oftentimes the dispute depends on how some particularly thorny cases should be handled. Suppose that Bobo was the very last dodo. Shortly before he died, "There is exactly one dodo" was true. Bobo doesn't necessitate this sentence because it was false when he was born, as there were still other dodos around (such as his mother). The question is whether Bobo, near the end of his species, is nonetheless the truthmaker for "There is exactly one dodo." If he is, then his status as its truthmaker is contingent on the fact that no other dodos are around.[4] That is, Bobo is a truthmaker for "There is exactly one dodo" only if "There are no dodos besides Bobo" is true. Bobo, presumably, isn't a truthmaker for that latter claim – he's not responsible for the near demise of his species. In response, the orthodox view maintains that the real truthmaker for "There is exactly one dodo" is Bobo *plus* whatever makes true "There are no dodos besides Bobo."

2.2.2 Explanation

The language of truthmakers being "responsible" for their truths suggests that there is more to truthmaking than just necessitation. I have said that sentences

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[4] I argue (Asay 2016a) that this fact is problematic for the view, as it raises further truthmaking questions that the orthodox view doesn't face.

are true *because of*, or because they *depend on*, their truthmakers. Oftentimes the point is made that truths are true *in virtue of* their truthmakers (e.g., Rodriguez-Pereyra 2005). Many truthmaker theorists have argued that under-lying this language is the idea that truthmaking is *explanatory*: what it is to make something true is to explain why it is true (e.g., Griffith 2013: 305).

Necessitation doesn't appear to be sufficient for explanation. Here are two classic kinds of cases.[5] Is it possible that you could have existed without your parents ever having existed? Many think not: if your parents hadn't existed, then neither would have the particular gametes essential to *you*. Perhaps a person very similar could have existed, but if they had a different genetic origin than you, that person wouldn't be you. If so, then you necessitate the truth of "Your parents exist(ed)": your existence guarantees that your parents existed. But *you* don't explain the truths about your parents' existence. *They* do. If you necessi-tate truths about your parents without making them true, then necessitation by itself is insufficient for truthmaking.

The other common example involves necessary truths. It's necessary that if Mount Vesuvius exists, then the Pythagorean theorem is true. That's another way of saying that it's impossible for Mount Vesuvius to exist and the Pythagorean theorem to be false. Because it's necessary, it's impossible for the Pythagorean theorem to be false, and so it's impossible for the Pythagorean theorem to be false *and* for Mount Vesuvius to exist. Trivially, then, any existing object necessitates the truth of any necessary truth. But the existence of Italian volcanoes doesn't explain Euclidean geometry, and the truth of "2 + 2 = 4" doesn't depend upon the existence of my favorite whiteboard marker. These sorts of cases, then, also suggest that necessitation is not sufficient for truthmaking.

These examples aim to show that there is more to the truthmaking relation-ship than just necessitation. Even if some sentence must be true if a certain object exists, that doesn't mean that the object is a truthmaker for that sentence. Philosophers, therefore, often describe truthmaking as being a *hyperintensional* relationship (e.g., Schaffer 2008). This means that there is more to an object making something true than just that object guaranteeing, with necessity, the truth in question. The idea is that although two things might necessarily occur together, that doesn't suffice to show that they are relevant to each other, or that one explains or causes the other. A world with Koko the gorilla is a world where "Either there are pangolins or there aren't any pangolins" is true, but that doesn't reveal that Koko has any relevance to the question of why that disjunction is true.

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[5] See Smith 1999 and Restall 1996, respectively.

To say that necessitation is not enough for truthmaking is not to say what is. Thus, the notion of explanation is frequently invoked to bridge the gap between necessitation and truthmaking. Koko doesn't explain why "Either there are pangolins or there aren't any pangolins" is true, but she does explain the truth of "Koko exists." Similarly, my existence doesn't account for why "My parents exist" is true, though it perfectly accounts for why "I exist" is true. The notion of *aboutness* is often appealed to here (e.g., Merricks 2007 and Schipper 2020). "My parents exist" isn't about me, so I can serve no role in explaining its truth. "I exist," by contrast, is, so I am a suitable truthmaker for it. Though the notions of aboutness and explanation are philosophically fraught, and are themselves the subject of enormous theoretical controversy, they both appear to be hyperintensional notions. (For example, the sentences "Triangles have three sides" and "2 is prime" are necessarily equivalent in that it's impossible for one of them to be true and the other false, yet they are about different things.) If they are part of the truthmaking relation, they can be used to explain why necessitation is not sufficient for truthmaking.[6]

Putting together necessitation and explanation, we arrive at a dominant perspective in truthmaker theory:

For any object φ and sentence S, φ is a truthmaker for S if and only if it's necessary that if φ exists, S is true, and the truth of S is explained by φ.

This account can be used to maintain that Koko is a truthmaker for "There are gorillas" but not "There are sharks" or "2 + 2 = 4."

Another reason to include a hyperintensional dimension to truthmaking is to account for that basic slogan of truthmaker theory: truth depends on being, but not vice versa. Sometimes necessitation runs in both directions. The existence of Koko guarantees that "Koko exists" is true, and the truth of "Koko exists" guarantees the existence of Koko. If the truthmaking relation itself is to account for the asymmetry between truth and being, then necessitation alone is inadequate. Explanation, however, is an asymmetric relation. If α explains β, then β doesn't explain α. So an explanatory account of the truthmaking relation is better positioned for capturing the dependency between truth and being.

The main impetus for believing that there is a hyperintensional dimension to the truthmaking relation is dealing with the counterexamples considered above, and accounting for how truth depends on being. The main challenge for such accounts is spelling out the relevant notion of explanation (or any other hyperintensional notion deployed). For instance, Jonathan Tallant (2018) wields the

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[6] A related hyperintensional notion is *grounding*, which has also been employed to show what separates truthmaking from necessitation (e.g., Schaffer 2008 and Jago 2018).

notion of explanation *against* truthmaking. He agrees with the view that the purpose of providing truthmakers is to provide explanations of truth. But, Tallant claims, providing explanations of truth is very easy. The reason why "Sichuan peppercorns are numbing" is true is that Sichuan peppercorns are numbing. In general, any true sentence "*S*" is true because *S*. Because providing explanations for truth is ridiculously easy (one need only "disquote" the sentence in question), there is no point to exploring the sorts of challenging ontological questions like those pursued in this Element.

I agree with Tallant that an explanation-focused approach to truthmaking leads to trouble, precisely because of the teeming availability of explanations (see Asay 2018).[7] I disagree with Tallant that truthmaking is first and foremost an exercise in explanation. Moreover, as I've argued elsewhere, truthmaking needn't incorporate *any* hyperintensional notion at all: necessitation is necessary *and sufficient* for truthmaking (Asay 2020a: chapter 3). This means that I accept, for example, that I am a truthmaker for both "My parents exist" and "7 + 3 = 10." It might *sound* strange to say that I make it true that my parents exist, and that 7 and 3 are 10; but remember that "truthmaking" is a term of art, employed for a certain theoretical purpose within metaphysics. And the purpose of truthmaking, as I've articulated it, is developing a proper harmony between one's "ontology department" and "truth department." Admitting that I make true certain truths involving my parents doesn't show that my parents won't end up in my ontology; there are at least some truths involving them for which they, but not I, will be required (e.g., "My parents were married in 1972"). Whether it's tolerable to admit that everything in the universe, trivially, is a truthmaker for every necessary truth may well depend on one's background views about how substantive or trivial necessary truths themselves are, and one's view about the ontological status of things like numbers (see Asay 2020a: chapter 11). Even Restall, who initiated the concern about truthmaking and necessary truth, writes that "There is something quite touching in the view that every particle in the universe (and everything else besides!) is witness to all necessary truths" (Restall 1996: 333).

Ultimately, how one understands the purported counterexamples – and thus whether one regards truthmaking to be hyperintensional or not – turns on some big-picture questions about the fundamental theoretical motivations behind truthmaking. Truthmaking understood as "ontological accounting," as the project of maintaining a proper balance between what one takes to exist and what one takes to be true, is not obviously beholden to any hyperintensional notion.

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[7] Others, meanwhile, deny that "'*S*' is true because *S*" is any sort of explanation at all (e.g., Lewis 2001b: 611–612 and Rodriguez-Pereyra 2022).

If there is more to truthmaking than necessitation, if it needs to capture an important explanatory relationship between a truth and its truthmaker, then truthmaking includes some kind of hyperintensional component, to be spelled out in terms of explanation, grounding, aboutness, or something similar. By going beyond the goal of ontological accountability, this perspective takes the truth of a sentence to itself be something in need of explanation.[8]

2.3 Truthmaking at Work

Having considered some central theoretical questions for the notion of truthmaking, it will be useful to consider some classic examples of how truthmaking has implications for ontology. So far I have relied on some very basic examples, like Opal is a truthmaker for "There are orcas." Even this case is not entirely straightforward. Some might dispute it if they require truthmakers to be fundamental objects, and don't think that Opal is such a thing. Furthermore, those who require truthmaking to be hyperintensional need to explain in what sense the sentence is about *Opal*, or explained by her. The sentence, after all, isn't about Opal in particular. But supposing Opal really is a truthmaker for "There are orcas," we can learn a few more things about truthmaking. For one, although the existence of truthmakers are *sufficient* conditions for the truth of the sentences they make true, they are not *necessary* conditions. Opal's existence guarantees that the sentence is true. But the sentence being true doesn't guarantee that *Opal* exists: it only ensures that some orca or other exists.[9] So although Opal is a truthmaker for "There are orcas," her existence is not required for it to be true. Second, the example reveals that truthmaking is not a "one–one" relation. That means that there is not a unique truthmaker for each truth. A truth like "There are orcas" can have many truthmakers: each individual orca, for example. And any individual object can be a truthmaker for many truths. Opal makes true both "Opal exists" and "Orcas exist," among (infinitely) many others.

Most everyone can agree that orcas, great white sharks, oceans, and glaciers exist.[10] Where truthmaking becomes theoretically interesting is with more

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[8] I've argued elsewhere against relying on the notion of explanation in explicating truthmaker theory. See Asay 2016b, 2018, and 2020a: chapters 2, 3, and 6. But see also Griffith 2022, Kitamura 2022, and Rodriguez-Pereyra 2022 for the opposing view.

[9] By contrast, Smith and Simon (2007: 93) argue that truthmakers are both necessary and sufficient for their truths, and so they reject Opal as a candidate truthmaker for "There are orcas."

[10] But not everyone – this is metaphysics after all. Mereological nihilists (e.g., Merricks 2001) argue that no compound object – no object with parts – exists. (Some, like Merricks, make exceptions for living organisms.) So they deny that oceans and glaciers exist, since, if they do, they are composite objects built out of billions upon billions of H_2O molecules. Because these philosophers argue that "Oceans exist" and "Glaciers exist" are false, they don't need to provide them with a truthmaker.

contentious cases. Opal is a truthmaker for "Orcas exist" only because being an
orca is *essential* to Opal. If she could have been a chimpanzee, her existence
wouldn't guarantee the truth of "Orcas exist." But not all of our properties are
essential to us. Kierkegaard was Danish, yet that fact isn't essential to him: it's
an "accidental" or contingent feature. Kierkegaard's parents could have immi-
grated to the United States, say, while he was still in the womb, and acquired
citizenship there. So it's possible for Kierkegaard to have existed and not had
the property of being Danish. Kierkegaard himself, then, was not a necessitator
for "Kierkegaard was Danish." Nor is Kierkegaard *plus* the property *being
Danish*. For those two things could exist without "Kierkegaard was Danish"
being true: just imagine that Kierkegaard ended up American, but somebody
else was Danish. So while Kierkegaard is a truthmaker for many truths involv-
ing him, he's not a truthmaker for all of them.

Reflection on cases like these – what are called *contingent* or *accidental predi-
cations* – leads to what is perhaps the most famous ontological argument in truth-
maker theory, and it's due to David Armstrong (1997: 115). First some terminology.
A compound object – an object with parts – is *mereologically* composed by those
parts when there is nothing more to the whole than the existence of its parts.
A *mereological sum*, then, is just the sum of its parts and nothing more. It exists so
long as the parts do. A compound object is *non-mereologically* composed by its
parts when there is more to it than just the parts. Suppose you've just received
a Lego space shuttle set as a gift, and have yet to put it together. The collection of
Lego bricks – the *set* – exists already; it's just the mereological sum combining each
of the individual bricks. But the *model* doesn't exist yet, even though all its parts do.
The model, once put together, is a non-mereological composite of the bricks – the
bricks *plus* their being properly arranged. So the set and the model have all the same
parts, but there is more to the model (but not the set) than just the existence of the
parts. That's why the set endures, but not the model, when it takes a tumble to the
ground and the pieces fly everywhere.[11]

Armstrong's argument is that when an object possesses a property nonessen-
tially, neither the object nor the property is a necessitator for the truth that the
object possesses that property. Nor is the mereological sum composed by the
object and the property, since that sum could exist even if the object in question
doesn't have the property (but some other object does). So there must be another
object, a compound object composed by the object and property, but in a non-
mereological way: an object that consists in the "coming together" of object and
property. This sort of entity – what Armstrong calls a "state of affairs" – exists if

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[11] Everything I've said in this paragraph is controversial. For overviews of some of the issues
involved, see Hudson 2007, McDaniel 2010, and Paul 2010.