

IF NOTHING EXISTED COULD ANYTHING BE TRUE? SINADA EXISTIESE, ¿PODRÍA ALGO SER VERDADERO?

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Resumen: David Armstrong propone que el mundo consiste enteramente de entidades contingentes, y que por cada proposición verdadera existe un hacedor de verdad. Armstrong deduce (de la contingencia de todos los objetos) la posibilidad de un mundo vacío. Hay dos opciones: el mundo vacío es un mundo sin verdades, o puede haber verdades sin hacedores de verdad. Si aceptamos un mundo sin verdades, hay implicaciones problemáticas. Usando el concepto de un ingrediente activo de un hacedor de verdad, sostengo que, si las verdades necesarias no tienen hacedores de verdad en un mundo vacío, entonces tampoco tienen hacedores de verdad en el mundo actual. La tesis de este artículo es que no es absurdo decir que las verdades necesarias no tienen hacedores de verdad.

Palabras clave: Hacedores de verdad, hacedores de conocimiento, verdades necesarias, mundo vacío, naturalismo, realismo.

Abstract: David Armstrong proposes that the world consists entirely of contingent objects and that for every true proposition there is a truthmaker. From the contingency of all objects, Armstrong deduces the possibility of an empty world. Either the empty world is a world without truths, or there can be truths without truthmakers. If we accept a world without truth, there are problematic implications. Using the concept of an active truthmaking ingredient, I argue that if necessary truths have no truthmakers in the empty world, they have no truthmakers in the actual world. The thesis of this paper is that it makes sense to suppose that necessary truths lack truthmakers.

Keywords: Truthmakers, knowledgemakers, necessary truths, empty world, naturalism, realism.

O. Introduction

For the purposes of this paper, 'naturalism' is defined as the doctrine that nothing exists apart from spatio-temporal objects, and that all spatio-temporal objects are contingent. An object is contingent if and only if the non-existence of that object is possible. What does it mean to say that spatio-temporal objects exist? Idealism states that spatio-temporal objects exist insofar as they are perceived. Realism denies this: although some objects in the spatio-temporal realm may depend on minds for their existence (after all, if naturalism is correct, minds themselves are part of the spatio-temporal realm), this is not true of all of them. Realism states that at least some spatio-temporal objects are such that they could exist without minds. That is how the term 'realism' is defined for the purposes of this paper.

It seems to me that any plausible ontology should include spatio-temporal objects, but it is not immediately obvious that they are all that exists. For example, in order to account for truths such as ' $2+2=4$ ', it might be necessary to postulate the existence of platonic objects – objects that are not spatio-temporal and are necessary. However, in order to demonstrate that it is necessary to postulate platonic objects – or to make any other additions to the bare ontology of spatio-temporal particulars – it would be necessary to show that spatio-temporal particulars cannot account for the truth of ' $2+2=4$ ', (or for some other class of true propositions). Even those who reject realism admit that it has common-sense on its side (Dummett, 1978, p.374), so it therefore makes sense to treat it too, as a starting point. Realism, like naturalism, should be abandoned only if it is found to lead to insuperable problems. So, the combination of realism and naturalism is of interest because it is a good starting point for metaphysical inquiry. It is not that rival theories are unworthy of consideration, but a rival theory needs to show that it can succeed where the combination of naturalism and realism has failed, and that means showing that the combination of naturalism and realism fails despite the best possible efforts to defend such theories. In this paper, the goal is to consider the best possible response that can be made to account for the possibility of an empty universe while remaining in the boundaries of realism and naturalism. Proposals that undermine either naturalism or realism are set aside, not because naturalism and realism are established truths, nor because I consider alternatives to naturalism and realism to be a waste of time, but because the goal of this paper is to establish whether realism and naturalism themselves need to be set aside, or whether the problems of the empty world can be solved within the naturalist-realist paradigm.

David Armstrong was a naturalist by the definition used in this paper (2010, p.1). He was also a realist. Following Isaac Newton, he held that there exists a great ocean of as yet undiscovered truths, including unspoken propositions that would express truths if anyone uttered them (2005, p.271). Armstrong was also a truthmaker maximalist – that is he held that for every truth, there is a truthmaker, an entity in virtue of which that truth is true – and he regarded this as a form of realism:

To demand truthmakers for particular truths is to accept a realist theory for these truths. There is something that exists in reality, independent of the proposition in question, which makes the truths true. (Armstrong, 2004, p.5)

In this paper, I will argue that realism and naturalism are incompatible with truthmaker maximalism. (That is, if we want realism in the sense of an ocean of undiscovered truths, we might have to abandon realism in the sense of truthmaker maximalism). The basic idea is simple. If everything that exists is contingent, then it seems that nothing might have existed. If nothing existed, would anything be true? Would it have been true that nothing existed, and would necessary truths be true? It will be argued that once we admit the possibility of an empty universe, we must accept the possibility of truths without truthmakers or truth-bearers.

Armstrong, as we will see, accepted the possibility of an empty universe, but with misgivings, and faced with an incompatibility between truthmaker maximalism and the possibility of the empty universe, he could have rejected the possibility of the empty universe. However, it will be argued that this is wrong. It is possible to hang on to naturalism, realism, and the possibility of the empty universe by subscribing to a position that I call knowledgemaker maximalism. Briefly put, the idea is as follows. Knowledgemaker maximalism is the thesis that knowledge always involves a causal chain connecting a spatio-temporal knower to objects in the spatio-temporal world, therefore if there is knowledge, there must be objects in virtue of which that knowledge exists. We can then subtract – that is consider what would be true if parts of that causal chain did not exist. We can thus see that there could be truths that would not be known – not least in cases when the knower is removed from the equation. In some cases, we could subtract all objects, and yet the truth that was known would still be true. Such a truth – a truth that depends on nothing – would be a necessary truth. In this way, we account for the truth of necessary truths while using only contingent objects. This paper is not intended as a decisive argument in favour of knowledgemaker maximalism. At best, it might persuade readers that this is a plausible theory,

worthy of further consideration, especially any readers who favour the combination of realism and naturalism.

1. The Empty World

Here is what Armstrong has to say about the possibility of an empty world:

It must obviously be conceded that, for each contingent being, it might not have existed. But it may be suggested it does not follow, and is not true, that the totality of contingent things could not have existed. I do not find very attractive this idea that one can, as it were, subtract anything from the world yet it is impossible to subtract everything. (See, in particular, arguments advanced against it by Rodriguez-Pereyra, 1997). There is, however, a consideration from truthmaker theory, pointed out to me by Brian Christensen. Given a total absence of beings, he suggested, there would be 'in that world' no truthmaker for the truth <there is nothing at all>. This made me wonder whether the empty world is really a possibility. On further consideration, however, I think this argument is to be rejected. It may have value in certain cases to consider what would be the truthmakers 'in another world'. The real truthmakers, though, are in this world. In this world, it would seem, we have truthmakers for <at least one contingent being exists>, and this truth is at least plausibly a contingent truth. The argument of 7.2 is that a truthmaker for a contingent truth is also truthmaker for the modal truth that it is possible that the contingent truth is not true. So why should we not maintain as a modal truth that it is possible that <there might *not* have been any contingent being>? This, together with the rejection of necessary being (something to be argued in the next chapter), gives us the possibility of the empty world. (Armstrong, 2004, p.91)

So, Armstrong accepts that truthmaker maximalism is a contingent truth: in the actual world, there is a truthmaker for every truth, including the truth about the possibility of an empty world in which there would be no truthmaker for the truth that the world was empty and thus (in that world) truthmaker maximalism would be false. Once this is admitted, it follows that there is no general principle that says that for every truth there must be a truthmaker, and having admitted that, what guarantee do we have that there are no exceptions to this principle in the actual world? So, although it is impossible that any of us should find ourselves in an empty world, it is worthwhile asking about the status

of the truth that the world is empty, because that helps clarify principles that apply to truths, truthmakers and truth-bearers in the actual world.

The issue of truth-bearers is particularly important when considering the empty world. If the empty world really is empty, then there is nothing in it that could be a truth-bearer. Can we then contemplate a truth without a truthbearer?

One possibility is to distinguish between what is true *of* a world and what is true *in* a world. I can truly say that I cannot talk while swallowing water, but I cannot say 'I cannot talk' while I am swallowing water. So too, perhaps we can truly say that there could be a world in which nothing exists, but a world in which nothing exists would not be a world in which it was true that nothing exists.

Eleonora Orlando has a proposal about truth-bearers that would enable us to make sense of the distinction between being true of a world and true about a world (2007). Orlando was responding to a problem posed by Javier Castro Albano (2007). Given that Hesperus is Phosphorus, 'Hesperus is Phosphorus' is surely a necessary truth, and therefore true in every possible world. But Hesperus is a contingent object, so what could be the truthmaker for 'Hesperus is Phosphorus' in a world in which Hesperus does not exist? Orlando utilizes the distinction, introduced by Strawson (1950), between a sentence type (words of a certain language in a certain order) and a token utterance of that sentence type (those words spoken at a particular time and place). What is true or false, suggests Orlando, is a token utterance of a sentence. When I say on the 2nd April 2021, 'Hesperus is Phosphorus', what I have said is true. What is necessary is a sentence type – a sentence type is necessarily true if any token utterance of it is guaranteed to be true. (A sentence is uttered not when someone simply makes certain sounds, but when they make those sounds while speaking a particular language). But, in a world without Hesperus, it is not possible to say 'Hesperus is Phosphorus' or 'Hesperus is not Phosphorus' or 'Hesperus exists', because (as Kripke proposed) 'Hesperus' and 'Phosphorus' are rigid designators, words that are introduced by an initial act of baptism, and refer thereafter to the object that was so baptized. In a world without Hesperus, one cannot introduce the rigid designator 'Hesperus.' So there is no world that can be a counter-example to 'Hesperus is Phosphorus', so 'Hesperus is Phosphorus' is never false, but in worlds without Hesperus, 'Hesperus is Phosphorus' is not true, because there is no truthmaker for it at that world, and no truthbearer either (Orlando, 2007, p.12). When we say 'There is a possible world, w , at which Hesperus does not exist', we have said something true about w that inhabitants of w could never say, and therefore, we have said something that is true *of* w but not true *in* w .

Let us suppose that the empty world is the only possible counterexample to truthmaker maximalism. In that case, using Orlando's distinction, we could say that in every world in which there is a truth-bearer for 'For every truth, there is an entity in virtue of which that truth is true', any token utterance of that sentence type is true. There is a possible world, the empty world, in which 'For every truth, there is an entity in virtue of which that truth is true' is not true, but that is because no sentence can be uttered in that world and so – although there are truths *about* such a world, there are no truths *in* such a world. Indeed, since no sentence could be uttered in the empty world, no sentence is true in the empty world – no necessary truth would be true in the empty world. In that case, truthmaker maximalism would be in a good position. It would not be true in every possible world, and of course one could insist on a definition of 'necessary truth' according to which a truth is only necessary if it is true in every possible world. But, given Orlando's thesis that a truth is only true in a world if a sentence expressing that truth could be uttered in that world, and given that we are considering the hypothesis that the empty world is a possible world, the concept of a truth that is true in every possible world would be vacuous. Truthmaker maximalism would come as close to being a necessary truth as Orlando's restrictions on truth-bearers allow.

But Orlando's theory seems to be a form of idealism. According to her theory, a necessary truth is only true at worlds where there are people capable of speaking a particular language. Orlando states the point as follows:

Una oración-tipo del castellano como 'Héspero es Fósforo' es necesaria porque todas sus instancias, esto es, todos los enunciados que se pueden formular mediante esa oración, tanto en el mundo actual como en otros mundos posibles, son verdaderos. ... a sentence type of Spanish such as 'Héspero es Fósforo' is necessary because all its instances, that is, all the utterances that one can make using this sentence, whether in the actual world or in other possible worlds, are true. (Orlando, 2007, p.9)

This means that 'Héspero es Fósforo' would not be true in a world where there were no Spanish speakers, although 'Hesperus is Phosphorus' might be true at such a world – yet it seems wrong that one of these could be true and not the other. This is not a careless error on Orlando's part, it is because she is trying to offer an account of truth-bearers that avoids abstract entities such as propositions. Still, it might be possible to find a way to avoid this problem – if we had a suitable account of translation, we could say that 'Héspero es Fósforo' is true at any world in which some sentence that correctly translates 'Héspero es Fósforo' is true when uttered in an appropriate language. However, the point remains that if we apply Orlando's restrictions on truth-bearers, the possibility of

truths about Hesperus depends not just on the existence of Hesperus, but on the existence of people who can express truths about Hesperus.

In fact, it might be possible to acquit Orlando of the charge of idealism. Consider the following example.

An evil scientist has created a device that will, when activated, destroy every vestige of life in the universe. After the device is activated, what will exist will be a universe devoid of life. Will it then be true that the universe is devoid of life? There will be no being capable of forming the thought 'The universe is now devoid of life', and, since all vestiges of life have been destroyed, there will not be, for example, a piece of paper with the words 'The universe is now devoid of life' that will express a truth to a universe that is unable to read. If we accept that there is a distinction between things that are true of a possible world and things that are true in that possible world, then we might apply that same distinction to what we say of the future universe devoid of life: it is true that the universe will be devoid of life, but it will not be true that the universe is devoid of life, because the lifeless universe will be a truthless universe. So the evil scientist says 'When I press this switch, my dreams of destroying all vestiges of life will have come true', and the philosopher responds, 'No: when you press the switch, it will be the case that all vestiges of life have been destroyed – reality will be a lifeless universe – but precisely because the universe will be lifeless, there will be no way to assert that it is lifeless, and therefore it will be impossible for there to be a true assertion that the universe is lifeless and so it will not be true that the universe is lifeless.' Here we have distinguished between what will be real and what will be true. Truths require minds to express them, but reality does not. Orlando could argue that since there can be reality without minds, this is not a form of idealism.

The difficulty is that when we assert that some proposition will be true, we do not usually take ourselves to be asserting that someone will be able to assert that the proposition is true. The hypothetical philosopher responds to the evil scientist by distinguishing between 'It will be true that there is no vestige of life' and 'It will be the case that there is no vestige of life', but this distinction simply plays no role in the way we usually use the concept of truth when making assertions about what was or will be the case in the distant past or future. If we do introduce a distinction between 'It will be true that' and 'It will be the case that', then we need to say much more about this new property of 'being-the-case-that' and how it differs from truth. We will need to ask all the same questions that we now ask about truth and justify two different sets of answers. As with the proposal that there are abstract objects, I suggest that it is better not to introduce this new property unless we find we cannot manage without it, and we will not know that we cannot manage without it unless we make the attempt.

Having considered and tentatively dismissed Orlando's theory of truth-bearers, we should consider Armstrong's own views. One reason for presenting Orlando's theory of truth-bearers first is that her views are stated more clearly. Armstrong's position on truth-bearers is, unusually for him, a little hard to decipher:

Do truthmakers necessitate propositions, or merely the truth of propositions? Mumford raises this question. I'd say the latter: truthmakers necessitate the truth of propositions. What I said on p.16 (last sentence of 2.6) [of Armstrong, 2005] was a nasty little slip. I should have said, adding three words at the end to what I actually said, that 'propositions taken as possible intentional objects are the only things that truthmakers can actually necessitate the truth of.' (Armstrong, 2006, p.275)¹

What is unclear about this? Armstrong thinks a truth-bearer is a possible intentional object. Given Armstrong's naturalism, an actual intentional object must be a spatio-temporal contingent particular – a token utterance, for example. Clearly, when I say that something was or will be true, I do not imply that someone did, or will make a true assertion, only that things were or will be such that if an assertion had been or will be made, it would have been or will be true. However, we are now considering situations in which not only are we not asserting that someone did make an assertion, we are asserting that it would have been impossible for anyone to make an assertion. Orlando's position is that if an assertion could not have been made, it was not true. That might be what Armstrong meant by 'possible intentional act', in which case Orlando was drawing out implications of his position that he never made explicit. But there is an alternative – perhaps Armstrong would, on reflection, have included impossible intentional objects as truth-bearers.

In exactly one hundred years' time it will be true that I, the author of this article, was typing these words. I doubt that anyone will mention the fact. What will be true is a non-actual but hypothetical utterance that someone could make. If the scientist presses the life-destroying switch, it will be true in one hundred years' time that no life exists. Nobody will mention the fact – and in this case, there is no room for doubt. What will be true is a non-actual but hypothetical utterance that nobody could possibly make. A hypothetical utterance that someone could make deserves to be called a possible intentional object, but a hypothetical

¹ The underlined words, 'the truth of', are the words that Armstrong thinks should be added to his original text.

utterance that nobody could make is an impossible intentional object. If Armstrong had intended to exclude impossible intentional objects in that sense from acting as truth-bearers, then he would surely have drawn the conclusion that there are no truth-bearers in the empty world and therefore the question of truths there does not arise. Since he did not draw that conclusion, I conclude that it is most likely that when he wrote of 'possible intentional objects' he had in mind hypothetical speech acts, even in situations where it is impossible that there be speech acts at all. If nothing exists, nobody can say 'Nothing exists', but if nothing existed then, if someone did say 'Nothing exists', (even though nobody could do that) it would be true. This, as far as I can tell, is Armstrong's position on truth-bearers in the empty world (and, indeed, in any situation where there are no truth-tellers). So, Armstrong's route to truth takes us through a consideration of impossible situations.

If we accept that all objects are contingent, and based on that we accept that an empty world is possible, then the strategies followed by Orlando and Armstrong seem to exhaust our options when talking about truth in the empty world. Either we say, with Orlando, that there is no truth in the empty world (although there are truths about it) because the empty world contains no truth-bearers, or we say with Armstrong (as I read him) that there can be truths even in worlds or situations where no truth-bearer could exist. Of the two, Armstrong's strategy seems to have stronger intuitive support: when I assert that something will be true in one hundred years' time, I am certainly not asserting that someone will say it one hundred years from now, and why should we suppose that I am asserting that it will be possible for someone to say it?

However, if we admit that in the empty world it is true that nothing exists, even though there are no truth-bearers, then this raises another issue. Are necessary truths, such as '2+2=4' true in the empty world? It is one thing to say that the only possible exception to truthmaker maximalism is that 'Nothing exists' could be true without a truthmaker. To say that is basically to say that if there were no truthmakers, it would be true that there were no truthmakers. That could be seen as the limiting case of truthmaker maximalism. It is another thing to say that '2+2=4' could be true without any truthmakers. If it does not need truthmakers in the empty world, why does it need truthmakers in this world? Or, alternatively, if it is not true in the empty world, why should it be considered a necessary truth? Armstrong, as we have seen, thinks that we should focus on what truthmakers are for truths in the actual world, not on what they would be in another world. However, I do not think those two questions can be separated, for reasons that will be explained in the next section.

2. Active truthmaking ingredients

The standard definition of a truthmaker is that it is that in virtue of which a sentence or a proposition is true (see for example Mulligan, Simons and Smith, 1984, p. 287). But what do we mean by 'in virtue of'? I have a proposal to answer this (frequently neglected) question.

First, I will introduce the concept of an Active Truthmaking Ingredient by a stipulative definition:

x is an active ingredient for a truthmaker for a truth, T , if and only if the non-existence of x entails the falsity of T in the absence of any object of the same kind to act as replacement for x .

My car is an active truthmaking ingredient for 'I own a car', and my copy of *Truth and Truthmakers* is an active truthmaking ingredient for 'I own at least one book.' If the car were destroyed, it would cease to be true that 'I own a car' because, alas, no substitute car with the right property (that of being owned by me) exists. If my copy of *Truth and Truthmakers* were destroyed, it would still be true that I own at least one book, because there are plenty of other books that could serve as truthmakers.

With that definition in place, I propose the following principle:

P: If α is a truthmaker for T , α must include at least one entity, x , that is an active truthmaking ingredient for T .

The reasoning behind the definition and the principle are as follows. If we ask what is truthmaker for 'There is a canal in Panama', it is clear that the answer is not Parque Omar. If Parque Omar were built over, that would not in any way threaten the existence of the Panama Canal. Of course, the whole of Latin America, including all geographical features, people, and treaties and agreements between people does constitute a truthmaker for 'There is a canal in Panama' but, from a philosophical perspective, this is not a very interesting observation. It is not an interesting observation because the whole of Latin America includes many things that, like Parque Omar, are irrelevant to the truth of 'There is a canal in Panama.' This is why Armstrong introduces the concept of a minimal truthmaker. If α is a minimal truthmaker for T , then α is a truthmaker for T and, if we subtract anything from α , it would no longer be a truthmaker for T . Parque Omar is part of a truthmaker for 'There is a canal in Panama', but is clearly not part of the minimal truthmaker. What interests Armstrong is the quest to discover the minimal truthmakers for any truth (Armstrong, 2004, p.20).

The difficulty that Armstrong then faces is that for some truths there seems to be no minimal truthmaker. Let us suppose that there are an infinite number of electrons. The totality of electrons is a truthmaker for that statement, and we could imagine the totality of electrons lined up alongside the series of natural numbers in a one-one relationship. But of course, we could keep every third electron and eliminate all others, and simply move every electron along a couple of places. We would still have an infinite number of electrons. We could repeat this process indefinitely. So, concludes Armstrong, we will never get to a minimal truthmaker for 'There is an infinite number of electrons' (Armstrong, 2004, p.21).

That is correct. However, it does seem certain that any given electron is part of the truthmaker for 'There exist an infinite number of electrons' in a way that a neutron does not, just as the Miraflores Locks are obviously part of the truthmaker for 'There is a canal in Panama' in a way that Parque Omar is not. If we eliminate just one electron or just one neutron from existence, it would still be true that an infinite number of electrons exist, but there is a difference. If we eliminate a neutron, then the electrons are still lined up alongside the natural numbers as before. If we eliminate an electron from the line-up then it is still true that we have infinite electrons precisely because we have another electron ready to take the place of the one we lost.

Parque Omar is obviously not a truthmaker for 'There is a canal in Panama', whereas the whole of Latin America obviously is. The whole of Latin America includes many things like Parque Omar, whose non-existence would not affect the truth of 'There is a canal in Panama', but it also includes things (notably the Panama Canal) whose existence clearly does make a difference to the truth of 'There is a canal in Panama.' If someone proposes that some entity is a truthmaker for some truth, but there is no part of that entity that is playing the role of an active truthmaking ingredient, I cannot see what it would mean to say that the truth was true in virtue of the existence of that entity. So, I regard P as a principle that is implicit in the very definition of a truthmaker.

But if we accept P, we cannot separate the question of truthmakers for necessary truths in this world from the question of their truthmakers in the empty world. If we say of some entity, *e*, that it is a truthmaker for '2+2=4', then it must contain an active truthmaking ingredient, *i*, such that '2+2=4' would not be true unless either *i* or some substitute for *i* exists. However, in the empty world, neither *i* nor any substitute for *i* exists. This leaves us with several options. We could reject the possibility of an empty world, we could reject the idea that '2+2=4' is a necessary truth, we could redefine 'necessary truth' to mean 'true at all worlds except the empty world', or we could reject truthmaker maximalism. It is not

possible to consider all of these options in detail, so in the next section I will consider the advantages of the last option. Why not say that whereas contingent truths depend on truthmakers to be true, necessary truths are necessary precisely because they do not depend on anything to be true?

3. Knowledgemakers

We have already conceded the possibility of truths without truth-bearers, so why not truths without truthmakers? Armstrong would reply that truthmaker maximalism is born out of an understandable distrust of ungrounded truths (Armstrong, 2004, pp. 2-3). My response is that if I claim that some proposition is necessarily true, then I am claiming to know something and knowledge must be grounded. Given the framework of naturalism and realism, the explanation of my knowledge must involve reference to a group of contingent objects – knowledgemakers, as we may call them. The crucial thing is to recognize that the objects that are necessary for me to achieve knowledge may be like a ladder that can be thrown away when used. I can learn to do arithmetic using wooden blocks, but once I know how to count, what I have learned will remain trustworthy after the blocks have been destroyed.

I hold two wooden blocks in my left hand and two wooden blocks in my right hand. I count, and realize that in total I have four wooden blocks. This is a contingent truth, and I discovered it by responding to contingent objects. I then realize that if each wooden block were a lemon, I would have two lemons in my left hand and two in my right hand, giving me a total of four. I realize that if the lemons were oranges, and rather than two in each hand I had two dangling from each ear, I would have four. I realize that I can substitute any countable objects in any distinct locations, and two in one location and two in another location will be a total of four. The four wooden blocks have taught me how to reason in a certain way, a kind of reasoning that will be applicable in many situations, a lesson that is summarized with the statement ' $2+2=4$ ': to understand the statement is to know how to apply it. From those four wooden blocks I learned this necessary truth, and nothing more was necessary to learn that truth. Are those four wooden blocks a truthmaker for ' $2+2=4$ '? At first, this claim sounds odd, because we are confident that the truth of ' $2+2=4$ ' will outlast those wooden blocks. Could those wooden blocks, in their brief span of existence, emit some kind of truthmaking effect so powerful that it lasts forever and emanates to other possible worlds? Principle P helps us here. The wooden blocks count as truthmakers for ' $2+2=4$ ' if, in their absence, ' $2+2=4$ ' would cease to be true unless we had substitute objects of the same kind. We have seen what examples of

substitute objects could be – lemons, or oranges, or indeed any objects that are countable (discrete objects for which we have identity conditions). If we hold that '2+2=4' is true only in worlds with countable objects, then there is no threat to truthmaker maximalism. If however we hold that the empty world is possible, and that '2+2=4' is true in the empty world then the wooden blocks, while they served as knowledgemakers, cannot serve as truthmakers.

There are a number of factors we might consider when weighing up this issue that are, I think, not sufficient to settle the matter. On the one hand, Armstrong argues that truthmaker maximalism has the virtue of simplicity. If we accept truthmakers for some truths, what theory of truth will we introduce for truths that lack truthmakers? (Armstrong, 2010, p.63) On the other hand, it is surely not surprising to find that we need a different theory for necessary and contingent truths, and it is simpler to adopt a theory in which necessary truths are true in every possible world. We could deny the possibility of the empty universe, but, as Armstrong notes, this seems arbitrary. Why, if just one object is left in existence, does that object become necessary? Since it is not possible to pursue all these lines of enquiry, I will focus on the factor that seems most significant to me. We should reconsider the subtraction argument that led Armstrong to accept the possibility of the empty world in the first place.

I suggest that subtraction is what makes realism seem such a plausible position in the first place. When we study the nature of truth, we start by looking at things we know are true (it is because we know certain things are truths that truth is a topic of discussion). According to naturalism, when an individual knows something, that knowledge can only be the result of a series of events that connect a group of spatio-temporal objects. In many cases, we can see that the first part of the chain does not require the latter part, and it is in the latter part of the chain that the human mind enters the picture. I know it is raining because drops of water have fallen from the sky and hit my skin, initiating a series of events in my nervous system. If you remove me from the picture, the rain would still be falling, although nobody would know it. In this case, the drops of water falling from the sky are a subset of the knowledgemakers for 'I know it is raining', and they are also the truthmakers, enabling the truth to be true even if it is unknown. Galileo knew that there were satellites orbiting Jupiter because of his telescope. So, the knowledgemakers included the satellites themselves, the telescope, and Galileo's own nervous system. We can see that if we remove the telescope, the satellites of Jupiter would have remained unknown, but would still have been there. In the case of my knowledge of '2+2=4', you can subtract me and leave the wooden blocks, and the truth would remain. But you can also subtract the wooden blocks themselves and the truth would still remain. There is nothing whose subtraction from the situation would render the truth untrue – nothing

that plays the role that the satellites of Jupiter play in the story of Galileo. The wooden blocks, it turns out, were analogous to the telescope rather than to the satellites. We arrive at the idea that there are truthmakers, and truths that are independent of human minds, by considering cases of knowledge, subtracting the mind and telescope and other such instruments from the picture, and concluding that what was known would still be true. If there is nothing whose elimination would undermine the truth that was known, then we conclude that it is a necessary truth, and that it would remain true even if all objects in the universe were eliminated, leaving us with the empty universe. If we deny that this strategy of subtraction is a legitimate strategy for discovering truthmakers, then there is a danger that we will undermine the basic idea of realism – the idea that there can be truths even without knowers. If we accept that the strategy of subtraction is legitimate, then we will be led to the conclusion that certain truths do not need truthmakers, and that these are necessary truths, true even in the empty universe. This does involve a difference between two kinds of truth – those that do and those that do not depend upon truthmakers. However, we do not need two theories of truth: in both cases, truth is what remains when we start with knowledge and subtract that which is inessential. Of course, although I am suggesting that this process of subtraction justifies the concept of truths that are independent of us, and that when we engage in the process, the truthmakers (if there are any) are among the knowledgemakers, the idea is not that all truthmakers are knowledgemakers. Once we realize that many things we do know could have been true if we had not existed, we may deduce that there are truths we do not know, including truths that are true in virtue of objects that have not yet entered our field of knowledge.

4. Conclusion

Armstrong's work is of great interest to anyone who wants to combine naturalism and realism. However, when we recognize the importance of principle P, (which I have argued is implicit in the idea that a truthmaker is that in virtue of which a truth is true), we see that it is inconsistent to maintain that the empty universe is possible and that there are necessary truths that are true in every possible world. Some revision of Armstrong's views is necessary.

Some proposals for revising Armstrong's views were considered and found to be problematic. If we argue that the empty world is also a truthless world, distinguishing what is true in a world from what is true of that world, we have to explain a distinction between what is true and what is the case, and we have, in any case, made a concession to idealism. We might reject the possibility of the

empty world, but that is problematic too, because the argument for the possibility of the empty world rests on a strategy of subtraction, a strategy that is, I have argued, integral to the defense of realism. Abandoning truthmaker maximalism avoids these problems. There are some propositions that we know to be true, and although there are entities whose existence enables us to know these propositions, those knowledgemakers are not required to ensure the truth of these propositions, which can thus be classed as necessary truths. The arguments offered here in favour of this theory are not conclusive, and it is hardly to be expected that readers will be persuaded that the theory is correct. However, it might be hoped that some readers will regard it as sufficiently interesting to be worthy of further consideration, and perhaps to become a target of criticism.

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