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No-Futurism and Metaphysical Contingentism

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Abstract According to no-futurism, past and present entities are real, but future ones are not. This view faces a skeptical challenge (Bourne in Australas J Philos 80(3):359–371 2002; A future for presentism, Clarendon Press, Oxford 2006; Braddon-Mitchell in Analysis 64(283):199–203 2004): if no-futurism is true, how do you know you are present? I shall propose a new skeptical argument based on the physical possibility of Gödelian worlds (Albert Einstein: philosopher-scientist, Open Court, La Salle, pp. 555–562, 1949). This argument shows that a no-futurist has to endorse a metaphysical contingentist reading of no-futurism, the view that no-futurism is contingently true. But then, the no-futurist has to face a new skeptical challenge: how do you know that you are in a no-futurist world?

Keywords Metaphysics · No-futurism · Growing block · Metaphysical contingentism · Skepticism · Time travel

1 Introduction

One of the main debates in the metaphysics of time deals with the existence of past and future entities. According to presentists, present entities possess the ontological privilege of existence whereas past and future ones do not (see Bigelow 1996; Bourne 2006; Markosian 2004; Merricks 1999; Zimmerman 1998). On the contrary, eternalists (see Lewis and David 1986; Quine and Willard 1960; Sider 2001) claim that past and future entities exist to the same extent. Here is an intermediate position: no-futurism (also called the growing block view). According to this theory, past and present entities exist whereas future entities do not (see Broad 1923; Tooley 1997; Button 2006, 2007). This theory seems attractive because it allows for

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the truth-making of past-tensed statements while accounting for the openness of the future, given that there are no truth-makers for future-tensed statements.

Eternalism and presentism have symmetrical advantages and drawbacks. The first can easily give an account of what are the truth-makers of past statements. Truth-makers of these statements are just some parts of eternity understood as space–time. For example, if I say "Yesterday it was raining", this statement is true because there is a temporal part of reality (reality as it was yesterday) that makes it true.

But an eternalist has some worries when she has to account of our intuition that future contingent facts are unsettled, because she holds that future objects exist as well as present ones. For instance, if I say "tomorrow it is going to rain", this statement seems to have a truth value now, because the fact making it true exists as a part of space–time. It exists *simpliciter* independently of the temporal location of the speaker asserting that "tomorrow it is going to rain".

The presentist has to deal with opposite problems: if she can explain that contingent future facts are unsettled (because the future does not exist), it is difficult for her to find truth-makers for past statements when she assesses that the past does not exist. She can explain that the statement "tomorrow it is going to rain" does not have a truth value because it does not have a truthmaker: there is not a part of reality (the future at the date of tomorrow) that exists. If you are a presentist there is nothing making this statement true or false. But by refusing the existence of the world at the date of yesterday, there is no truthmaker for a statement like "yesterday it was raining". So presentism and eternalism have both to deal with symmetrical difficulties.

For these reasons, no-futurism seems attractive. By postulating that past and present things exist, but that future ones do not, it is supposed to have the advantages of both eternalism and presentism without their drawbacks. This view offers the possibility to both account for truth making of past statements and to explain the openness of the future, by saying that contingent future facts are not settled. It is true that yesterday it was raining because the part of the world at the date of yesterday exists, whereas it is not true (and neither false) that tomorrow it is going to rain because the part of the world at the date of tomorrow does not exist. Unfortunately, no-futurism suffers from serious difficulties.

2 The Presents

Another debate about time concerns the existence or not of a passage of time (or in time). According to the A-theory, things are passing in time, independently of our perceptions, by the dynamic power of A-properties: the properties of being past, present and future (see for instance Zimmerman 2008). Things are first future, then they are present, and after that they are past. This implies a metaphysical distinction between past, present and future. The property of being present would be moving in space–time by applying successively to different slices of this space–time. An object is present if it is located in the only slice that owns the transitory property of being present. No-futurism implies the A-theory because it stipulates a transitory

property of being present: the property of being at the edge of the four dimensional space–time composed by the past and the present. For the sake of clarity, let us name the conjunction of the A-theory and no-futurism the growing block theory.

The growing block theory seems to imply another sense, indexical this time, of what it is for an object to be present. When past and present facts have obtained, they exist. So the people in the past can assert that they are present from their own point of view. A thing could be said to be present for a speaker if it is simultaneous with a speaker who refers to it. To be present for a fact is just to be simultaneous with the statement that expresses it. The adjective "present" is just an indexical term that picks up a relation of simultaneity between two facts: a physical fact (for instance the fact that it is raining today) and a speech act (for instance the statement "it is raining today").

A first argument against no-futurism is that, to the contrary of presentism (the fact of being present is an objective fact) and eternalism (the fact of being present is merely an indexical fact), this theory has to postulate two extremely different ways of being present. Hence, it does not respect the principle of ontological parsimony. Of the three theories only two of them (presentism and eternalism) can describe in an indexical way or in an objective way what it is to be present. Here is why.

Eternalists and presentists can use the two concepts of being present, but these two concepts apply to one and only one time (the objective time of the presentist, or the indexical time of the eternalist). Let us start with the presentist. If the present is objective for the presentist, it is possible for her to do an indexical analysis of what it is to be present. But this analysis can be realized only in the present, because present is the only time that exists. So, assuming presentism, if something is indexically present it is necessarily objectively present too. In presentism, indexical and objective definitions of the present pick up the very same time.

For an eternalist the present is an indexical notion that expresses a relation of simultaneity. There is no other sense of what it is to be present. So, assuming eternalism, to be objectively present is precisely to be indexically present. Hence, both presentism and eternalism have only one way to be present, even if it is possible to describe this present both in an indexical way and in an objective way. On the contrary, for the growing block theorist, the two concepts do not target the same slices of space–time. Times picked up by the concept of "objective present" are just a subset of the times picked up by the concept of "indexical present". One could object that the growing block theorist could just abandon the indexical present sense. But then, how is she going to describe the fact that past people believe to be present? They are real and so are their beliefs. They surely (and wrongly) believe to be present objectively because they are indexically present. Here one could object that it is a misleading way to describe what is going on here. It is not true that past people *believe* to be present. They *believed* to be present. However, unless one wants to postulate a special property applying to the past, there is no metaphysical difference between the past and the present. Hence, from our present point of view, there is nothing wrong to say that over there in the past, people *believe* to be present. This is just to say that there is an instant t from when people believe(d) to be present. Using past tense will not save our problem here. Hence, the growing block

theorist cannot drop this indexical sense of being present. It follows that the ontological price of no-futurism is high in comparison of presentism and eternalism.

In the growing block theory the problem is not that there are two ways to *describe* the present, the problem is that there are two radically different ways of *being* present. For example it is possible of being both past and present. It is possible to be present in the indexical sense by being located at a time t of the block while being past in the objective sense because this time t is not at the edge of the past-present block, at the edge of the growing space–time. However, ontological parsimony will not convince everybody. But the more serious worry for a no-futurist is not the two presents in themselves, but a skeptical challenge it leads to.

3 A First Skeptical Challenge

The challenge was raised by Bourne (2002, 2006) and Braddon-Mitchell (2004). It proceeds by asking to the growing block defender: "how do you know that now (in the indexical sense) is now (in the objective sense)? In other words how do you know that you are present in the objective sense and not only in the indexical sense?". Indeed you have to justify that you are objectively present if you want to justify the openness of the future.

As Craig Bourne (2006) emphasizes, if Socrates is in the past of the block past-present, he has of course the same intuition as we have about the openness of the future. Hence, a belief in the openness of the future is not able to root the real openness of the future. So it is impossible for us to know whether our belief that we are objectively present is true or false, and whether the present expressed in an indexical way corresponds to the objective present. Maybe are we in the same epistemic situation as Socrates, believing that we are objectively present when we are not. How do you know that you are not lost in a distant past?

You have to remind the interest of the growing block theory: it is supposed to have both the advantages of eternalism to account for truth values of past statements, and the advantages of a presentist theory in accounting for the openness of the future. But because we do not know whether our future is open, what is the interest to secure an openness of an objective future? It seems to be useless for the metaphysician to show that the objective future is open, if it is impossible to show that our *own* future is open, in other words if it is impossible to show that our future matches the objective future. One of the main interests of no-futurism is to account for an asymmetry of openness between the past and the future, and to secure a specificity of the present. So if the skeptic objection is right, no-futurism is not able to do what it was developed for.

One could ask why exactly we should care about a match between our own future and the real future. Why not just bite the bullet: we do not know whether we are living in the past. This move is indeed available to the no-futurist but it comes with a serious price. It implies to abandon a common knowledge: we are living in the present. This is a common fact. If no-futurism is true, then it is only a belief, not a knowledge. In comparison, presentism and eternalism do not threaten this basic knowledge. Presentism ensures a match between indexical and objective presents

(an indexical analyse can merely be made in the objective present), and eternalism defines the objective present as the indexical present. But again, one could ask why exactly we should care about common facts. Is this not commonplace to doubt about common facts in metaphysics? Surely, but there are rules to do that.

The growing block view aims at explaining some facts: the settled past, and the open future. "Tomorrow it is going to rain" is not true or false, because there do not exist a part of space–time that makes it true. But this is precisely what shows the skeptical challenge: we do not know whether there exists a part of space–time that makes this statement true. Hence, the growing block view might explain the truth values of past statements, but it cannot explain the lack of truth values for future statements except by claiming that they lack truth values because we do not know the future. But absolutely everybody agrees on the fact that we do not know the future. The presentist agrees. The eternalist agrees. The dispute is not about the epistemic openness of the future. It is about the metaphysical openness of the future. And what we call *the* future is *our* future. The term "future" refers to what is located after where we are located in time. And the no-futurist cannot ensure that this future, our future, is unreal. She fails to explain what she was supposed to explain, the openness of our future. Hence, the no-futurist cannot escape the skeptical challenge.

Some philosophers have tried to answer it. I will examine two of these answers, one from Peter Forrest and another one from Tim Button. Forrest (2004) says that only the speakers objectively present are conscious and alive, and that this is that consciousness that let us know we are objectively present. So to the skeptical question "how do you know you are objectively present?" Forrest answers "because you know you are conscious and alive". He calls this the Past is Dead hypothesis.

Heathwood (2005) has proposed an objection to the Past is Dead hypothesis but has been answered by Forrest (2006) and I will chose a different path to argue against it. The Past is Dead hypothesis implies that there is something wrong with the past. It is a no-futurist hypothesis that the past exist. Hence, the inhabitants of the past exist while not being conscious.[1] Speakers localized in the past would be zombies in the philosophical sense of David Chalmers (1996). It implies not only

[1] I focus here on consciousness instead of life. Indeed, I believe that the concept of life cannot be of any help here. The usual concept of death only involves that we are located *after* the life of the organism. Past inhabitants are (in a tenseless way) zombies, and *are* (in a tensed way) dead, for the very reason that the present is fixed on a time located after the instant of their death. If one disagrees with that definition of death (something is dead if and only if we are located after the last instant of life of the organism), it means that one has to admit organisms that are dead during extended times, and, at the same time, indistinguishable from living ones. Socrates over there in the past, is dead during his whole life, with respect to the present. First, this is not the usual concept of death. Second, the skeptical challenge would then be: how do you know that you are alive? After all, if you have this very particular way of understanding life and death (the view that there is no way to distinguish between a living and a dead organism), you cannot be sure that you are alive. Hence, regarding this problem, I cannot see how life could be a progress with respect to consciousness. The challenge would have to be met in the same way. To put it differently, in claiming that past entities are not alive, one can mean by that either that life is not what we think it is, and has nothing to do with biological activity (after all, Socrates over there in the past has a biological activity in the usual sense of biochemical activity), or more rightly I think, that with respect to the present, past entities are not alive anymore.

that zombies are metaphysically possible, but that they exist in the actual world. Actually, most of the inhabitants of space–time would be zombies: this hypothesis seems very expansive and a bit unlikely.

More of that, the skeptical challenge would only be moved because "how do you know you are not a zombie?". Indeed, Dretske (2003) showed that if you admit the metaphysical possibility of zombies you meet some difficulties to justify the belief that we are not zombies. I will not develop this here, but roughly the idea is that a zombie has the belief that she is not a zombie, just as we have. So believing not to be a zombie is not sufficient to justify and so, to know you are not a zombie. If you answer to the question "how do you know you are present?" by the answer "because I am not a zombie", the challenge is only moved because "how do you know you are not a zombie?". As Dretske writes:

> I'm not asking *whether* you know you are not a zombie. Of course you do. I'm asking *how* you know it. The answer to that question is not so obvious. Indeed, it is hard to see how you *can* know it (2003, 1).

Here the situation is quite similar. The skeptic does not ask whether you know you are objectively present. Of course you do. The skeptic is asking *how* you know you are objectively present if you accept no-futurism. And indeed, it is hard to see how you can know it. For these reasons Forrest's answer to the skeptical argument seems to be flawed.

Another answer to the skeptical argument was provided by Tim Button (2006, 2007). In short, Button says that we have to take the relation of real-as-of a time, as not being symmetrical. For example, yesterday is real from our present perspective, when today is not real from the past perspective of yesterday. In short, the idea is that Socrates is real for us, but for him, we are unreal. If we were in our past, we would be "there" by being objectively present at the edge of reality and our current present would be unreal. More technically Button clarifies the question "is this time objectively present?" by showing that there are two readings of the term "is", a tensed and a tenseless one. According to him, Bourne and Braddon-Mitchell raise the skeptical objection by reading it in a tenseless way. The right question is "*is* this moment objectively present?" with a tensed reading of "is". This is the right question because it avoids the skeptical objection: at each time, necessarily, you *are* (in a tensed way) objectively present. The skeptical objection would be raised only by understanding "IS this moment objectively present" with a tenseless reading of "is".

Now I am not very convinced by the answer and I think we can defeat this theory by using a time travel hypothesis. Braddon-Mitchell (2004, 5) underlines that there seems to be two kind of logically possible backward time travels in the growing block view, a duality quite strange. I want to develop this idea by showing that in each case there is something wrong.[2]

[2] Jonathan Tallant (2011) shows that Button's view is not satisfying in a different way. I will not enter in this technical debate. What I want to do is to show in another way that there is something wrong with Button's view.

Admit that we start our travel from a time called *t*, and that we arrive in the past at a time called *p*, by some kind of discontinuous teleportation. First possibility: when we go back to time *p*, the objective present stays fixed to the date *t*. In that case we are objectively past. And again, all the skeptical objections against the growing block theory have to be faced: the future is not open anymore. Or more precisely, *our* future is not open anymore. Times after *t* are objectively future and remains opened. Knowing that we are indexically present is not enough to know that we are objectively present. Button would probably not accept that reality behaves like that because of this tensed reading of "*is* this moment present?". So let us have a look to the second possibility.

When we arrive in the past, the objective present is now fixed to *p*. In that case *t* does not exist. Here it corresponds to the tensed view of the growing block, because if the reality behaves like that, you just have to answer yes to the question "*is* this moment objectively present?" with a tensed reading of "is". Independently of in which region of space–time we are, necessarily, we are objectively present. In this tensed view, knowing that we are indexically present is sufficient to know that we are objectively present, and we do not have to face the skeptical objections. This is that view that Button would endorse to prevent skeptical objections.

But in this tensed view, time *t* has to exist because this objective future is a part of your proper past. If you accept special relativity and the concept of proper time, something I do, the no-futurist has to defend that proper past and proper present exist, when proper future does not.

In the situation I just described, let us imagine I meet me when I was younger. How is it possible that Young Me and Old Me just talk together? For Young Me, Old Me cannot exist, because Old me is supposed to come from his proper future. A proper future that does not exist *simpliciter* according to the no-futurist hypothesis. In a tensed no-futurist background such a talk should be logically impossible. But the time travel makes it logically possible. So, tensed no-futurism is not coherent. Or at least, tensed no-futurism is incompatible with the logical possibility of time travels.

In both cases, the no-futurist is in trouble. One way to reject this analysis would be to defend that this kind of time travels is logically impossible if tensed no-futurism is true. Actually I do not see why it would be so. I agree that teleportations from a space–time slice to another slice are probably physically impossible. But they definitely seem logically possible. If different slices of space–time exist *simpliciter*, something like a teleportation from one region of the past-present block to another region of the past-present block has to be logically possible.

Now I will advance a new skeptic argument against no-futurism by focusing on its modal status.

4 The Contingency of No-futurism

The time travel I have supposed to block the argument of Button was a Wellsian kind of time travel (Wellsian refers to the Well's novel *The Time Machine* written in 1895), with a teleportation from one region of space–time to another region. But one

can find another kind of time travel, quite interesting: Gödelian time travels. I take the distinction between Wellsian and Gödelian time travels from John Earman:

> In what I will call the *Welsian type* the time travel takes place in a garden variety space–time—say, Newtonian space–time of classical physics or Minkowski space–time of special relativistic physics. So the funny business in this kind of time travel does not enter in term of spatiotemporal structure but in two other places: the structure of the world lines of the time travelers and the causal relations among the events on these world lines. […]
> [The Gödelian type] does not involve any funny business with discontinuous world lines or world lines that are 'bent backward' on themselves. Rather the funny business all derives from the structure of space–time which, of course, cannot be Newtonian or Minkowskian. The funny space–time contains continuous and even infinitely differentiable timelike curves such that if one traces along such a curve, always moving in the future direction as defined by the globally defined external time orientation, one eventually returns to the very same space–time location from whence one began (1995, 271–272).

I am not a physicist, and I will not pretend to be one. I will just make clear on what assumptions I will rely to build an argument against no-futurism. Space–time is described by General Relativity. General Relativity is based on mathematical equations and aims at describing gravitational fields as a result of the interaction between space–time and matter. The equations are compatible with different possible worlds. These worlds share the same equations but differ with respect to distribution of matter and energy. In short, we have to look empirically at the world to know where the matter is and, hence, have a clue about in which one of the possible worlds we are.

Kurt Gödel (1949, 2000) has proposed a solution to the Einstein equations of General Relativity. Gödel's solution describes a rotating universe with particular features. Some regions of such a universe contain Closed Timelike Curves (CTCs), temporal loops (this is the funny business Earman refers to).[3] For someone traveling in one of these closed timelike curves, the future would be the past: it would be like walking on a uni-directional circle. As Gödel writes:

> By making a round trip on a rocket ship in a sufficiently wide curve, it is possible in these worlds to travel into any region of the past, present, and future, and back again, exactly as it is possible in other worlds to travel to distant parts of space (1949, 560).
> But the velocities which would be necessary in order to complete the voyage in a reasonable length of time are far beyond everything that can be expected ever to become a practical possibility. Therefore it cannot be excluded a priori,

[3] One could ask how it is possible to have a time orientation if there is no absolute time. As I understand the point, the fact that there is no absolute time means that there is no *unique* time. Any foliation of space–time depends on a particular frame of reference. However, it is possible to *average* the whole of "relative times" to cash out an average time. I believe this is what Earman means by "the globally defined time orientation".

> on the ground of the argument given, that the space–time structure of the real world is of the type described (1949, 561).

I take for granted here that Gödel is right that, first there are CTCs in these worlds,[4] and second, these worlds are physically possible.[5] Originally, Gödel's argument (1949) was designed to target the existence of an absolute time (and I believe he succeeds, but this is another matter).[6] But, what interests me here is that, if the possibility of Gödelian time travel is admitted, the no-futurist has to deal with another problem: indeed, in such a world, the future that does not exist is *identified* with the past that does exist. If Gödelian time travel is physically possible, then it seems that no-futurism is incoherent. Unlike our previous argument based on a logical time travel possibility, this one is based on a physical possibility. Gödelian time travel is taken to be physically possible because a Gödelian Universe is a universe with the same laws of nature as in ours, in particular with the same laws of General Relativity. The only difference between our universe and a Gödel universe lies in the distribution of matter. The distribution of matter in space–time is a contingent fact: it could have been the case that matter was distributed in another way. But whether or not the future exists should not depend on a contingent fact such as the distribution of matter. Gödel expresses this point as follows:

> It might, however, be asked: Of what use is it if such conditions prevail in certain *possible* worlds? Does that mean anything for the question interesting us whether in *our* world there exists an objective lapse of time? I think it does. For (I) Our world, it is true, can hardly be represented by the particular kind of rotating solutions referred to above (because these solutions are static and, therefore, yield no red-shift for distant objects); there exist however also expanding rotating solutions. In such universes an absolute time also might fail to exist, and it is not impossible that our world is a universe of this kind (1949, 561–562).

In his argument, Gödel is focusing on the reality of A-properties (in its vocabulary, an "objective lapse of time"). Gödel expresses here the view that we might well be living in a Gödel universe in which there are no A-properties. Hence, such a universe is an *epistemic possibility*. He then goes on:

[4] According to Earman (1995), this model is vicious, but "since the pioneering work of Gödel over forty years ago, it has been found that CTCs can appear in a wide variety of circumstances described by classical GTR and semi-classical quantum gravity" (1995, 280).

[5] Hence, importantly, Gödel makes clear that such time travels are not *practically* possible, but merely *physically* possible. Indeed, the required acceleration involves a tremendous and unreachable amount of energy, along a curve as large as the whole universe.

[6] An anonymous referee rightly pointed to me that Gödel's worlds are already threatening A-theories, and that, for this reason, the challenge I raise against no-futurism is not relevant. I disagree here for one can imagine that one day, it will be accepted that there is a special foliation of space–time after all, with a special slice of space–time having the privilege of being the objective present (it seems unlikely to me, but it is not incoherent at first glance). But the challenge I raise is wholly distinct from the question of foliation and has to do with the identity of the past and the future, with respect to the globally defined time.

> The mere compatibility with the laws of nature of worlds in which there is no distinguished absolute time, and, therefore, no objective lapse of time can exist, throws some light on the meaning of time also in those worlds in which an absolute time *can* be defined. For, if someone asserts that this absolute time is lapsing, he accepts as a consequence that, whether or not an objective lapse of time exists (i.e., whether or not a time in the ordinary sense of the word exists), depends on the particular way in which matter its motion are arranged in the world. This is not a straightforward contradiction; nevertheless, a philosophical view leading to such consequences can hardly be considered as satisfactory (1949, 562).

Here, Gödel appeals to an intuition, the intuition that ontology should not depend on a contingent fact. Before questioning this intuition, let us see how I take the possibility of Gödelian time travels to lead to an argument against the two kinds of no-futurism:

1. Gödelian time travels are physically possible.
2. No-futurism is incompatible with Gödelian time travels.
3. There are physically possible worlds in which no-futurism is false.
4. No-futurism is not true in our actual world.

I take the passage from 3 to 4 as the main problem of the argument.[7] It is grounded in the implicit assumption that if no-futurism is true, then, it is *necessarily* true. This necessitarianist claim gains support from Gödel's intuition that the existence of the future should not depend on the distribution of matter. But is this intuition enough to draw a conclusion? After all, we might have the opposite intuition: the actual world might well be a no-futurist one, even if some other physically possible worlds are eternalist or presentist ones. So why should we believe that if no-futurism is true, it is necessarily so? Why should we believe in *this* particular necessity?

Classically, metaphysical claims are supposed to be necessarily true (necessarily false), if true (false) at all. But recently, Rosen (2006) and Miller (2009, 2010) have argued that a class of metaphysical claims are contingently true (false). It is of importance to examine whether no-futurism could be a candidate for metaphysical contingency. As I will show, no-futurism is indeed a good candidate for being contingently false (or true). However, I will also show that a contingentist reading of no-futurism leads to some trouble, and hence, that it is not a way out regarding my modified version of Gödel's argument.

Let us first have a look to some examples. Kristie Miller distinguishes between three kinds of pluralism of concretes entities: first, nihilistic pluralism is true in a possible world *w*, if and only if "every occupied region in *w* can be decomposed into a plurality of simple fundamental particulars, and those simple particulars do

[7] 1, 2 and 3 seem to me to be quite uncontroversial. Maybe one might be tempted to deny that Gödelian universes are a genuine physical possibility (after all, it might be a mere mathematical possibility, a model compatible with mathematical equations). However, I fail to see what would be a physical possibility if not a situation compatible with the laws of nature. After all, a Gödel universe merely differs of the actual world by the distribution of matter.

not compose any composite objects" (Miller 2009). Second, "*[u]niversalist pluralism* is true in *w* just in case every occupied region in *w* can be decomposed into a plurality of fundamental particulars, such that for any arbitrary set of those particulars, there is a non-fundamental particular that those particulars compose". And third, "*restrictivist pluralism* is true in *w* just in case every occupied region in *w* can be decomposed into a plurality of fundamental particulars, such that for some and only some of those particulars, there is a non-fundamental particular that those particulars compose".

Miller deals with more positions (three kinds of monism) but it will be enough to take the three kinds of pluralism as en example of contingentism. The three kinds of pluralism are contingent claims, or so argues Miller. A reason to endorse this view is that both of the claims are correctly conceivable. According to Rosen and Miller, a proposition *P* is correctly conceivable if and only if *P* does not entail a logical inconsistency when combined with a full specification of the information about the kinds it concerns. The three pluralist claims are correctly conceivable in this sense, or at least, we have reasons to think that they are. Then, if one believes that correct conceivability leads directly to genuine metaphysical possibility, one has to admit a contingentist reading of the three pluralist claims. We might be living a nihilistic pluralist world, still, other worlds would be restrictivist pluralist and universalist pluralist.

Let us take a second example from Rosen (2006): he argues in favour of *property contingentism*, the view that the metaphysical nature of properties is contingent. He means by that that it is contingent whether properties are tropes, universals or something else. If we are living in a world of universals, then, all the red cars (having the very same shade of red) share the very same property of redness. On the contrary, if we are inhabiting a world of tropes, then, all the cars having the very same shade of redness are instantiating different properties of redness, properties that hold a relation of exact resemblance (see Armstrong 1989). According to property contingentism, some possible worlds are inhabited by tropes, some others by universals. All the examples of metaphysical statements susceptible to contingency are existential ones. It is agreed that conditional metaphysical statements cannot be contingent (Rosen 2006).

Now, no-futurism is a view about *existence*: existence in time. Hence, it is a plausible candidate to be contingently true or false. There would be possible worlds in which no-futurism is true, while in other worlds eternalism is true. In others again, it would be presentism that correctly describes the ontology of these worlds. Or maybe, presentism is incoherent, and there are only no-futurist and eternalist worlds. Or maybe again, there are only no-futurist and presentist worlds. In any case, even if there are eternalist worlds, it does not imply that the actual world is eternalist too. So, the physical possibility of Gödelian time travels is not, *prima facie*, problematic with respect to the possibility that we are living in a no-futurist world, it merely shows that some physically possible worlds are not no-futurist. At this step, one might think that endorsing a contingentist reading of no-futurism provides us with a way to escape the argument. However, as I will show, metaphysical contingentism is a very particular view regarding epistemology. Allow

me to say a bit more about metaphysical contingentism about properties, in order to say why it is not a convincing way to escape my argument against no-futurism.

One main aspect of the dispute about properties is that this is a wholly a priori matter. There is no ground to be found in natural sciences or in any kind of empirical knowledge for these claims. Indeed, this is above the reach of any empirical test (it seems) to find out whether the two red cars in my street share the very same property of redness. Hence, property contingentism relies on the assumption that it is possible to make room for a new kind of a priori contingency. More cautiously, to the extent that it is possible to gain knowledge of the nature of properties, this knowledge has to rest on an a priori justification of a contingent fact.

This raises substantial issues with respect to the methodology and epistemology of metaphysics: indeed, metaphysical claims are supposed to acquire their justification on an a priori ground. If one wants to know whether one of the pluralist views is true, one has to discover it a priori; if one wants to know whether properties are tropes, one has to find it out a priori. It is not physics, psychology, or any other empirical science that will help us to get a confirmation of one of the views. Hence, for a contingentist, some metaphysical statements are both contingent and a priori. If, at first glance, a priori contingency is not an illegitimate notion because of Kripke's famous work (1980), it is worth noticing that the a priori contingency notion needed by the contingentist is a lot more substantial than Kripke's one.

Kripke takes the example of the standard meter. He imagines using the length of a particular stick (S) to fix the reference of the expression "one meter" at a time t. Importantly enough, when the expression "one meter" was coined, S might have been longer or shorter: S could have been heated or cooled. Hence, the identity statement "One meter = the length of S at t" is true in the actual world but is false in some possible worlds—in short, the statement is contingent. Yet, the length of S at t defines "one meter". The definition is available a priori by the definer. Hence, the definer can have an a priori access to a contingent statement. But Kripke's a priori contingency rests crucially on the act of definition.

Definitional a priori contingency is the only (contentious) case of a priori contingency now available on the philosophical market. But metaphysical contingentism requires a stronger notion of a priori contingency disconnected from definitional matters. The dispute over the nature of properties is not supposed to be (only) a matter of definitions, in the same way that the debate about pluralism is not (supposedly) only a matter of definitions. So, metaphysical contingentism requires that some metaphysical statements have to satisfy the three following constraints: (1) being discovered a priori, (2) being contingently true and (3) not being definitional. Here comes a worry for the realist: it seems to imply that these statements lack accessible truth values. Indeed, how is it possible to get an a priori justification for a contingent fact? Definitional cases apart, discovering contingent facts implies to look at the world. Such a look is not available in case of property contingentism, pluralism and metaphysical contingentism in general. It seems to imply that there is no way to ground the truth of contingent metaphysical claims.

A skeptical challenge appears again. How could we know in which of the possible worlds we are located? By claiming that metaphysical statements are a

priori, it is supposed that there is nothing in the empirical world that can help us to know them. It implies that different ontologies are possible, and that we have no way to know what is the ontology of the actual world. These worlds are indistinguishable. Hence, property contingentism leads to some skepticism: the view seems to involve that it is impossible to know whether properties are tropes or universals (provided that there are properties at all) in the actual world. It is important to notice here that the skeptical challenge crucially depends on the way we are supposed to get access to the truth of these statements: a priori. But is it true that metaphysical contingent claims *always* need to be known a priori? It might seem at first glance that no-futurism, contrary the various views about properties and composition, could be an ontological claim both contingently true and knowable *empirically*.[8]

Hence, at first glance, there are two ways to understand contingent no-futurism: the view has to be known either a priori or *empirically*, whether it is to be known at all. If it is to be known a priori, it means that no-futurism, eternalism and presentism do not make empirical difference at all. On the contrary, if it is to be known empirically, it means that the views, in a way or another, make an empirical difference. Let us call the first view A priori Contingent No-Futurism (ACNF hereafter), and the second view Empirically Contingent No-Futurism (ECNF). Let us consider first ACNF. It should be clear that ACNF has to deal with a skeptical challenge exactly in the same way that property contingentism does. If the view is contingently true, and has to be argued for on a priori ground, one could ask how we might know that we are located in one of the no-futurist worlds. A priori justification would be the very same in both no-futurist and alternative possible worlds since the justification has nothing to do with the world in which the agent is.

Here, it might help to compare the situation with the first skeptical argument. According to the initial skeptical argument against no-futurism, if no-futurism is true, then we cannot know whether we are located in the genuine present. But the goal of no-futurism is precisely to secure this fact: we are living in the present, not in the past. In a similar way, according to ACNF, we cannot know whether we are living in a no-futurist world. But the main goal of no-futurism is precisely to secure this fact: we *are* living in a world in which the future is unreal. Hence, this is not enough to show that no-futurism can be true. To secure our present location, truth-making for past statements and the open future, it has to be shown that we are living in a no-futurist world, or to put it differently, in one of the no-futurist possible worlds. We saw that there is a dispute over the possibility to offer such a justification in case of the initial skeptical argument. Unfortunately, such a justification is also out of reach in case of the contingentist skeptical challenge (being granted ACNF), because of the possibility of Gödelian time travel.

What about ECNF? At first glance, it seems that ECNF allows us to escape the skeptical argument. If there is an empirical access to metaphysical facts, then, we might well be able to discover a posteriori whether we live in a no-futurist world or not. The view is quite appealing since, after all, eternalism and the B-theory are

[8] I want to thank an anonymous referee for making me think about the possibility of metaphysical statements being both contingent and a posteriori.

supposed to take some support from special and general relativity. And indeed, it seems that these metaphysical views about time have to do with scientific enquiry. However, I believe there is something tricky here. It is not because these views have to do with science that they have to be *justified* by science only. For instance, special relativity is taken to be incompatible with special relativity, at least, with the historical version of it. But it remains possible to add a special foliation within space–time, and to endorse the view that the special foliation defines an objective present. This is an *ad hoc* move, of course, but not an incoherent one. Scientific theories are always compatible with several ontologies, and, in order to choose between them, other theoretical virtues (like ontological parsimony, theoretical economy for instance) have to be taken into account. We do not have experience of the existence of the future, or of the unreality of the future. We have experience of more and more particular physicals facts, thanks to scientific enquiry. But we never access to the metaphysical realm itself. It seems quite difficult to understand how we could empirically get access to the truth of presentism, no-futurism or eternalism. We can never get full-blown justification of metaphysical statements from scientific enquiry only. Hence, I believe it is quite hard to understand what empirical facts could count as a proof of a metaphysical view like no-futurism. Scientific facts are at best *clues* or *evidence* in favor of metaphysical claims, never *proofs* of them. Now, being granted that metaphysical claims cannot be justified merely on empirical ground, let us ask ourselves how ECNF can answer to the skeptical worry.

According to ECNF, no-futurism is true in some possible worlds (including the actual one), and false in other ones. There are eternalist possible worlds, but we might have *evidence* that we are not in one of these eternalist worlds. However, first, as I said above, evidence is not proof, and we cannot be certain at all that we are in one of these worlds. Second, it is epistemically possible that no-futurism, presentism and eternalism are both compatible with the same set of accessible physical facts. Hence, it is never possible (in neither ACNF nor ECNF) to know whether we live in a no-futurist world. In both versions of contingentist no-futurism, it is simply impossible to know whether we are located in the objective present of a no-futurist world.

At this step, one might be tempted to argue that I am asking too much to metaphysical theories: why should we expect them to entail their own *knowability*? Why should we expect a view to give us ways to know whether this is an adequate description of the world? Here, I have to say that I do not defend that a metaphysical view *always has to* entail its knowability. Maybe in some cases, we can judge a view to be good for various reasons (say its ontological simplicity, or its power of explanation), and that, even if it is impossible to know whether the view is correct or not. What I claim here is that no-futurism is not one of these views. We expect more from it, because it is supposed to be the more intuitive view. And it is supposed to be intuitive because it explains why *our* future is open (it is unreal), and why *our* past is fixed (it is real). Hence, when a view gets its motivation mainly from intuitions, that is, pre-theoretical beliefs, such a view necessarily has to entail its own knowability. But as I showed, metaphysical contingentism about no-futurism cuts the road to the knowability of the view.

To sum up, a no-futurist has only two moves available. A first option is to deny that a Gödelian universe is possible, in order to stick with a necessitarianist

interpretation of no-futurism. But then, she has to offer an explanation of why a Gödelian world is not possible. The other way to go is to accept metaphysical contingentism about no-futurism and that we have no way to know whether we are inhabiting a no-futurist world. And then, no-futurism is not able to show that the future, with respect to the present (classical skeptical challenge), and with respect to the actual world (contingentist skeptical challenge) is open. But once again, the view was developed to secure an open future with respect to both the present and the actual world.

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