Future Contingents, Open Futurism, and Ontic Indeterminacy

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Abstract

This paper critically discusses Patrick Todd's book, *The Open Future: Why Future Contingents Are All False* (Oxford: Oxford University Press, 2021).

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It is February 2022. Russia has not yet invaded Ukraine, but (let us assume) the invasion is not inevitable. You and I disagree on whether it will take place. You claim:

(1) Russia will invade Ukraine in days.

In support of (1), you cite respectable intelligence sources. I strongly reject your claim:

(2) Russia will not invade Ukraine anytime soon.

A few days later, Russia begins its full invasion of Ukraine. At this point, we can say in retrospect that your prediction, (1), was true and mine, (2), false. Can we?

According to Patrick Todd's *The Open Future*, we cannot. In fact, both predictions were false from the very start. And of course, the problem is not limited to these claims of ours. Any *future contingent* (any prediction of future events that are neither inevitable nor impossible at speech time) is bound to be false:

Open future view (OF). All future contingents are false.

Of course, (OF) sounds crazy. But in his book, Todd makes an excellent case for the conclusion that, if we take two reasonably popular philosophical doctrines seriously enough, then (OF) becomes attractive. These are *causal indeterminism* (roughly, the view that the totality of present events and the laws of nature do not determine a unique future) and *no-futurism* (the A-theoretical view that no future thing exists). More specifically, Todd assumes *presentism* (the view that only present things exist).

The book is divided into an introduction and eight chapters. Here, I will mainly cover some key aspects of the introduction and chapters 1-3, in which the bulk of Todd's view is presented, and I will briefly discuss the content of chapters

4, 6, and 8, which deal with specific problems of the view. I will ignore chapters 5 (*Omniscience and the Future*) and 7 (*Future Contingents and the Logic of Temporal Omniscience*), as they concern theological issues on which I have little to say.

At the heart of the book lies the so-called *problem of future contingents*, which Todd briefly discusses in the introduction. A *prima facie* strong argument, reported by Aristotle in the *De Interpretatione*, seems to directly lead us from the principle of bivalence (the view that every statement is either true or false) to fatalism (the strongly counterintuitive view that everything is forced upon us as a matter of logico-semantical principles). Consider the following claim, assuming it is uttered today:

(3) There will be a sea-battle tomorrow.

By bivalence, (3) is either true or false now. Suppose it is true now. If so, then its truth is inevitable (it is always too late to change what holds *now*). Similarly, if (3) is false now, then its falsity is inevitable. Thus, (3) is now either necessarily true or necessarily false. But there is nothing special in (3). Therefore, everything future is forced upon us: fatalism is true.

Before introducing Todd's solution to the problem, let me lay out my cards. My favorite solution posits an ambiguity between two readings of time-relative truth ascriptions such as:

(4) Statement (3) is true now.

In the first reading, what we mean is that the statement is true if interpreted/evaluated relative to that time (the expression "interpreted/evalued" actually hides another ambiguity, which for our current purposes can be ignored). In the second reading, what we mean is that the statement is *historically necessary* at the relevant time. This reading is easily recognizable because it allows us to add aspectual clarifications that are often misplaced in other readings. For instance, we can restate (4), in this second reading, by saying that (3) is *already* true (now). In this sense, a claim like "It is *now* true that the Giants will win the finals" conveys the same thought we can express by saying [before the finals] "The Giants have *already won* the finals". Either way, we are saying or at least strongly implicating that the Giants' win is already inevitable at speech time. This is the reason why there is no Moorean infelicity in the following claim:

(5) It is not *now* true that the Giants will win the finals, but I believe they will win the finals.

If I am right, the problem with Aristotle's argument for fatalism is that it subtly equivocates between these two readings of (4).[1]

When a B-theoretical, tenseless conception of truth and reality is adopted, this solution allows to keep the principle of bivalence without endorsing fatalism. These are considerable advantages. Todd's favorite solution shares the same advantages, but assumes an A-theoretical, tensed conception of truth and reality. The price is a rather radical departure from a variety of common intuitions concerning future-tensed statements and their truth conditions. As already mentioned, Todd subscribes to (OF): all future contingents, including (3), are false.

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[1] See Tooley 1997 and Spolaore and Del Prete 2019. This solution to the problem of future contingents can be laid down either in a B-theoretical frame, by appeal to a fundamentally tenseless notion of truth (this is my favourite approach) or in a more A-theoretically friendly way, e.g., by appeal to MacFarlane's (2003) distinction between context of utterance and context of assessment.

Thus, their negations are true, and both the principles of bivalence and excluded middle are preserved. Fatalism is avoided by adopting a non-standard, but pretty natural conception of indeterminacy, which I will introduce in due course.

Chapter 1 (*Grounding the Open Future*) concerns the relations between presentism and (OF). Presentists adopt a symmetrical stance towards the past and the future: neither of them exists in any sense (there are no past/future things, facts, events). As a result, some key arguments for the openness of the future, if stated in a presentist framework, also support the symmetrical view that the *past* is open—let us call it (OP). To exemplify, Todd considers an argument for (OF) based on the principle that *truth supervenes on reality* (TSR):

> 1. If there are true future contingents, the truth of these future contingents would not supervene on present reality [present events and the laws of nature].
> 2. But all truth supervenes on present reality.
> So, 3. There are no true future contingents (12).

This argument for (OF) sounds plausible, but it equally supports (OP). For if present events and the laws of nature are compatible with more than one possible future, then they are equally compatible with more than one possible past (physical laws are time reversible). Thus, presentists cannot adopt (OF) based on the argument from TSR, unless they are also prepared to accept (OP). In Todd's mind, however, (OP) is unpalatable. A key aim of this chapter is to reject the argument from TSR and, in its place, provide an argument for (OF) that does not support (OP). Against TSR, Todd observes that the following counterfactual claim is plausible.

> (SBP) If it is true that there was a sea-battle in 2019, it would still be true that there was a sea-battle in 2019, even if everything went out of existence, and there came to be nothing at all (15).

As a clarification about (SBP), he adds:

> What I mean is that if everything on which the truth of this proposition could plausibly be thought to supervene went out of existence, the claim
>   [(6) There was a sea-battle in 2019]
> would still be true (16).

But if truths about the past do not depend on their (present) supervenience base, Todd argues, then TSR is not generally valid. Some truths, most noticeably, truths about the past, are *brute*: they remain unaffected if we remove their supervenience base. In contrast, Todd notes, the future-directed analogue of (SBP) sounds implausible:

> (SBF) If it is true that there will be a sea-battle in 2219, it would still be true that there will be a sea-battle in 2219, even if everything went out of existence, and there came to be nothing at all (20).

Todd concludes that truths about the future *do* depend on their supervenience base. Thus, the argument from TSR is only correct when applied to truths about

the future. Truths about the past are brute, they do not depend on their supervenience base. Therefore, the argument from TSR brings no support to (OP).

Todd's reasoning is ingenious, but I am not sure it is convincing. Let us start by considering (SBP). I agree that, plausibly enough, (6) would still be true if its *present* supervenience base (if any) were wiped off. But I definitely *do not* believe that (6) would still be true if "*everything on which the truth of this proposition could plausibly be thought to supervene*" were wiped off. For it is very plausible to suppose that (6)'s truth supervenes on *the past* (on past events, say).[2] In my mind, this is the reason why the following counterfactual sounds implausible—or at least, much less plausible than (SBP):

(SBP*) If it is true that there was a sea-battle in 2019, it would still be true that there was a sea-battle in 2019, even if the past were annihilated, to the effect that any sea-battle-related event were erased from reality.

Some reader will be puzzled by the idea that *past events* can be erased. If so, try engaging in a suitable time travel fantasy, or assume that God can bring about changes in the past. But if you are a strict presentist like Todd, you need not do so. For in your mind, this is what always happens: past events (e.g., the moon landing, or Jack Kennedy's killing) are literally erased from reality as soon as they cease to be present and become past. Symmetrical considerations apply to (SBF). A counterfactual like (SBF) sounds implausible because we take for granted that the truth of future contingents supervene on the *future* (on future events, say), and that dramatic changes in present reality would causally affect such (future) supervenience base. This is the reason why the following, modified analogue of (SBF) sounds plausible:

(SBF*) If it is true that there will be a sea-battle in 2219, it would still be true that there will be a sea-battle in 2219, even if everything [on which the presentist might want to base the truth of this proposition] went out of existence, as long as this does not affect any sea-battle-related future event.

To clarify, let me express my disagreement with Todd's reasoning in a slightly different way. I agree with Todd that, based on our intuitions, we are inclined to accept (SBP) and reject (SBF). But I think that, before drawing any definite conclusion, one should first pause and ask *why* we have these intuitions. In my mind, (SBP) sounds plausible because we take factual truths about the past to supervene on *the past*, and given that the past is not causally dependent on the present, we are led to think that past-directed truths do not supervene on anything *present*. But this conclusion is different from the one Todd wants to draw, namely, that past-directed truths do not supervene on anything *at all*, even if I understand why a presentist may be tempted to equate these conclusions. In a nutshell, in my mind, (SBP) sounds plausible not because we take past-directed truths to be brute but because we implicitly assume that the past is part of reality. Parallel considerations hold for (SBF), taking into consideration that the present *does* causally affect the future, and so it *is* plausible to hold that future truths partly supervene on present reality. Be that as it may, I would like to point out that even if I find Todd's arguments about TSR unconvincing, this does not detract from the interest of Todd's main views, which are introduced and defended in the remainder of the book and are largely independent of the content of this chapter.

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[2] See also Ingram 2023 for a similar complaint.

Chapter 2 (*Three Models of the Undetermined Future*) includes some of the most insightful parts of the book. Todd introduces three models of the future and makes it clear why his model of choice supports (OF). In describing these models, Todd presupposes the so-called *branching-time* (BT) conception of reality. In the BT conception, our tense-modal universe is represented as a tree-like structure of possible worlds (also known as *histories*). Worlds/histories are sequences of successive *moments*, where a moment represents a temporally instantaneous and spatially maximal event (a spatially complete temporal 'slice').[3] Any two worlds/histories in the structure *overlap* (i.e., share their moments with each other) up to a certain moment and then they *divide* or *branch*. Figure 1 depicts a very small BT universe, that only spans for three units of time, where *now* is the actual present moment.
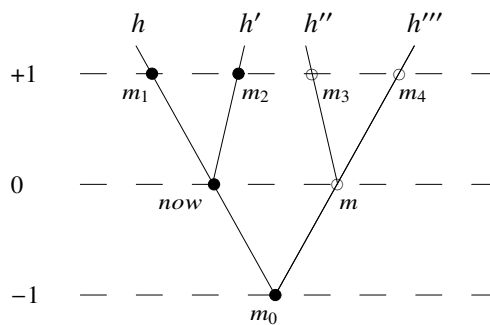

Figure 1: A tree-time-unit universe, where h–h''' are alternative histories, m_0 is the only past moment, *now* is the actual present moment, m is an alternative present moment, and m_1–m_4 are possible future moments. White circles represent moments that are *now* causally impossible.

Within the BT conception, causal indeterminism translates as the view that different histories are now *causally possible*, that is, their future stretch is a possible causal outcome of the present moment. The three models Todd discusses are all indeterministic in this sense, and they differ as to what *primitive future directed facts* (i.e., contingent facts about the future) are taken to be part of (present) reality.

Model (I) (Ockhamism) There is only one causally possible history consistent with the (primitive) future directed facts, and it is determinate which history this is.

Model (II) (Supervaluationism) There is only one causally possible history consistent with the future directed facts, but it is indeterminate which history this is.

Model (III) (Todd's view) There are many causally possible histories consistent with the future directed facts, because there are no future directed facts.

Todd complains that Model (I) and Model (II) are often conflated with one another, and I agree. I also perfectly agree with Todd that indeterminist presentists would do better to avoid Model (I). (As a matter of fact, Model (I) is, under some

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[3] The existence of all-encompassing instantaneous events is incompatible with special relativity. The problem can be solved by resorting to branching *space*-time structures (see Belnap et al. 2022) but, arguably, this solution is not available to presentists.

description, the standard model of choice for B-theorists, just like Model (II) is for A-theorists.)

As for Model (II), it is based on a very natural thought. Suppose you flip an indeterministic coin. There are two possible future outcomes for your toss (heads or tails). However, intuitively, just one of them will be *actual*, even though it is now indeterminate which. The same holds for future outcomes in general: for at least some future time t (e.g., 12 PM CET 01.01.2043), several alternative moments are still possible but, by necessity, exactly one will obtain at t, although it is now indeterminate which.

The key idea behind Model (III) is that there are no (primitive) facts directed towards the future. (As we shall see, in the context of Todd's general framework, this idea results in a stronger tenet, namely, that there are no truths directed towards *later moments*.) Model (III) shares an important feature with (a B-theoretical understanding of) Model (I): both models allow for no ontic indeterminacy at the fundamental level. In Model (I), there is no indeterminacy as to what events are fundamentally (i.e., tenselessly) part of actuality (to be sure, the future is indeterminate *as of now*, but this is just a local, perspectival form of indeterminacy). Similarly, in Model (III), there is no ontic indeterminacy as to what facts hold (e.g., it is not indeterminate whether it is a fact today that there will be a sea-battle tomorrow; rather, it is not a fact that there will be a sea-battle tomorrow and it is not a fact that there will not be). The proponents of Models (I) and (III) agree that we can correctly describe an indeterministic universe without positing fundamentally indeterminate facts or events. (B-theorists hold the same view also toward *change*: they think we can correctly represent a changing universe without positing changes at the fundamental level.) Todd argues at length against attempts to show that Model (III) is ultimately incoherent. In my mind, he succeeds in this.

In Chapter 3 (*The Open Future, Classical Style*), Todd introduces and discusses his favorite semantics for future-tensed statements. In the philosophical debate on future tense, Todd's iconic view (OF) ("All future contingents are false") is generally associated with a semantic approach known as *Peirceanism*. Todd's overall semantic package agrees with Peirceanism on the truth-conditions of future tensed sentences, but there is an important difference between Todd's semantics and Peirceanism. Highlighting this difference helps make Todd's overall views clearer. Todd summarizes Peirceanism as the following semantic claim about future-tensed statements:

> (APF) It will be in n units of time that p iff in all of the causally possible futures, in n units of time, p (36).

Accordingly, a prediction like (1) turns out to be semantically equivalent to:

> (1*) Russia will invade Ukraine in days as a matter of causal necessity.

This is very implausible. If you assert (1) based on intelligence reports, you do not mean that the invasion is causally inevitable. (No intelligence report can ensure you of *that*!) Todd's semantics is based instead on the following principle:

> (AAF) It will be in n units of time that p iff in all of the available futures, in n units of time, p (30),

where the futures that are *available* at a moment m are the causally possible futures consistent with the primitive future-directed facts that obtain at m, if any such fact exists. In Todd's mind, (AAF) provides a *neutral* semantics for sentences of form "It will be in n units of time that p" ($F_n p$ in symbols).[4] To get to the specific truth conditions of $F_n p$, we need to specify the underlying notion of *availability*, that is, take stance on what future-directed facts obtain. In other words, the truth-conditions we pre-theoretically assign to future contingents are not just a matter of semantics. They also depend on our metaphysics, namely, on the model of reality we pre-theoretically agree upon. According to Todd, we all take for granted that (there are future-directed facts to the effect that) there is exactly one available future: the actual future. In other words, we all presuppose that either Model (I) or Model (II) is correct. When this common presupposition is in place, (AAF) becomes equivalent to:

> (UAF) It will be in n units of time that p iff in the unique actual future, in n units of time, p (31).

In contrast, Todd adopts Model (III), according to which there are no future-directed facts. Therefore, availability collapses on causal possibility. But even if Todd agrees with Peirceans on the truth-conditions of a sentence of form $F_n p$, he denies that (AAF) is a purely semantical ('analytical') truth. Therefore, Todd agrees with Peirceans that (1) is equivalent to (1*) in the context of a certain metaphysical conception of the future (Model (III)), but he denies that they are semantically equivalent, that is, synonyms. So, Todd's view is not as implausible as Peirceanism.

To summarize, the main advantage of Todd's proposal over Peirceanism is that it comes equipped with a strategy to explain why (OF) and other key open futurist principles sound implausible. Let us call it the *metaphysical presupposition strategy*: many of the views Todd subscribes to sound implausible because we pre-theoretically presuppose that future-directed facts exist, to the effect that there is exactly one actual history. If, as Todd is prepared to do, we entirely give up this presupposition ("The actual world is an ontological or metaphysical posit that can be dispensed with" [78]), then Todd's view becomes plausible or at least, less crazy than it might appear at first sight.

In the book, Todd uses the metaphysical presupposition strategy to account for other counterintuitive consequences of (APF). Here are two examples.

Scopelessness. *Will* is apparently scopeless with respect to negation (and arguably, other operators as well): there is no perceived difference in meaning between sentences of the forms $F_n \neg p$ and $\neg F_n p$. But (APF) entails that there is a deep semantic difference between these forms (e.g., future contingent statements of form $F_n \neg p$ are all false, while the corresponding statements of form $\neg F_n p$ are all true). Thus, (APF) is empirically inadequate.

Wrong propositions. If you fear, based on evidence, that tomorrow you will be tortured, and you follow Todd in believing that all future contingent propositions are false, then your fear should be irrational. But this does not sound

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[4] As a matter of fact, I do not think that (AAF) is neutral. At most, it may sound neutral if you ignore B-theorists, who do not need to resort to future-directed facts (neither in general nor) in specifying the truth conditions of future-tensed claims.

quite right. Similar problems can be restated with reference to other propositional attitudes: it appears that, by adopting (APF), we end up systematically pairing off future contingent that-clauses with the wrong propositions.

It should be clear how the metaphysical presupposition strategy works in these cases. As for *Scopelessness*, Todd replies that we regard $F_n\neg p$ and $\neg F_n p$ as semantically equivalent because, in assessing them, we presuppose that there is only one available future—and indeed, $F_n\neg p$ and $\neg F_n p$ are equivalent under this presupposition. And here is Todd's reply to *Wrong propositions*:

> I am inclined to say that the problem here simply reveals how deeply our bias is towards the view that there is a unique actual world. If there is a unique actual world, then when we learn that it is false that we will be tortured tomorrow, we learn that we won't be tortured tomorrow—and so there is nothing left to fear. But if there just is no such thing as the unique actual world, then even if we learn that it is false that we will be tortured tomorrow, that doesn't tell us that we won't be tortured tomorrow—we certainly could end up being tortured tomorrow, and so there is indeed something left to fear. I suppose this amounts to me simply biting [the] bullet (95).

Thus far, I have only focused on (UAF) and (APF). But these are not the only semantics in town. A key alternative to (AAF) are proposals based on *postsemantic* clauses, such as Thomason's (1970) *supervaluationism* and MacFarlane's (2003) *relativism*. In the chapter, Todd compares his proposal with supervaluationism, but virtually all he says extends to other postsemantic proposals. The key advantage Todd claims for his proposal over postsemantic proposals is its full consistency with classical logic.

Fully classical. (APF) results in a temporal logic that is fully classical, as it posits no truth-value gap and treats Boolean connectives as truth-functional operators.

What I said above about Todd's metaphysics also holds for Todd's semantics: (APF) is an A-theoretical proposal that shares many features (and benefits) of B-theoretical approaches. And I agree with Todd that there is something puzzling about supervaluationism when it comes to the behaviour of connectives—e.g., it is not clear how a disjunction can possibly be true when neither of its disjuncts are.

From a metaphysical viewpoint, Todd contends that supervaluationism, being based on Model (II), crucially differs from his own proposal in that it assumes that a unique actual future exists ("[t]he crucial posit of the supervaluationist is thus that *there is an actual world*" [77]). As I have argued elsewhere (Spolaore and Gallina 2020), I agree with Todd that supervaluationism *is consistent* with the assumption of a unique actual future, but I do not think it requires that assumption, and the same holds for other postsemantic proposals. Thus, I do not think that the key diference between (APF) and postsemantic proposals concerns the existence of the actual future. (And neither it concerns (OF), for there are postsemantic proposals in which (OF) is true; see Iacona and Iaquinto 2023.) Rather, to employ Todd's notion of *availability*, I think that the key difference between Todd's view and postsemantic proposals lies in the *semantic role* they assign to availability. Let me explain, focusing on supervaluationism for simplicity.

Supervaluationism and (APF) agree in equating availability with causal possibility. The crucial difference between them is that, in supervaluationism,

availability is fixed by the context, while in (APF) it is moment-relative, and so it is shiftable by tense operators. To illustrate, consider again Figure 1, and suppose that the present-tensed sentence p is true at the present moment *now*, and false at any other moment. Moreover, suppose that *now* you utter a sentence of form:

(7) $P_1 F_1 p$

It is easy to check that this utterance comes out true or false depending on whether availability is understood as context-dependent or moment-relative. If availability is context-dependent, as in supervaluationism, then the available moments are all and only those that are causally possible *relative to the moment of the context* (i.e., *now*). Thus, in the model depicted in Figure 1, the only histories (contextually) available are h and h'. Given this context-dependent notion of availability, (7) comes out true, for 1 unit of time before *now* (at m), on all available future (on both h and h'), in 1 unit of time (*now*), p. If availability is moment-relative, as Todd assumes, then (7) comes out false as uttered *now*, for 1 unit of time before *now*, at m, on some histories that *were* causally possible at m (namely, on h'' and h'''), in 1 unit of time (at m), it is not the case that p.

Todd's view presupposes a moment-relative, shiftable notion of availability, while postsemantic proposals presuppose a context-dependent notion of availability. This is, in my mind, the key difference between them and, it seems to me, it is semantic and not metaphysical in nature (see also MacFarlane forthcoming for a similar point). This difference has immediate impact on the retrospective evaluation of future contingents. For instance, supervaluationism validates the following principle:

> **Retrospection.** If p is true in context c relative to the moment of the context, then $F_n p$ is true in context c relative to a moment m (if any) that precedes by n units of time the moment of the context.

For instance, if we know that today there is a sea-battle, then today we are in a position to assess "Tomorrow there will be a sea-battle" as true relative to yesterday.

Let us note that Todd cannot reply that, if one regards "Tomorrow there will be a sea-battle" as true relative to yesterday, one is committed to the metaphysical view that yesterday it 'was already a fact' that there would be a sea-battle in one day. For this consequence only follows if we assume (APF). In supervaluationism, the truth of "Tomorrow there will be a sea-battle" relative to yesterday requires only that *at the moment of the context* (viz., *today*) it is a fact (or a truth) that, yesterday, there would be a sea-battle in one day. For similar reasons, even if supervaluationists subscribe to the *retroclosure principle* ($p \rightarrow P_n F_n p$), this does not mean that they are committed to the view that, n units of time ago, some (then) future-directed fact 'already obtained'. And the same goes, for similar reasons, for the principle Todd calls *will excluded middle* (WEM, $F_n p \lor F_n \neg p$)—at least to the extent that supervaluationists endorse it.[5]

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[5] Actually, as Todd recognizes, WEM is not supervaluationistically valid. A valid principle in the surroundings is $F_n(p \lor \neg p) \rightarrow (F_n p \lor F_n \neg p)$, which says that WEM is valid provided either p or $\neg p$ will be true in n units of time. The key supervaluationist argument for this principle runs as follows. Let us focus on Figure 1 and on the instance $F_1(p \lor \neg p) \rightarrow (F_1 p \lor F_1 \neg p)$ of the principle, supposing it is uttered *now*. Thanks to the antecedent, we know that in 1 time unit, a moment m^* will be present, in which either p or $\neg p$ is true. Now *let us pretend that* 1 *unit of time have elapsed*, and m^* is present (is the time of the context). Thus,

What I think Todd can contend is that, if no-futurists adopt (APF) over post-semantic proposals, they get a language that is *more transparent* with respect to their underlying metaphysical commitments. For at each step in the recursive evaluation of a sentence, (APF) requires to evaluate as true at a moment m only those (sub-)sentences that are based on facts (or truths) that obtain at m. In contrast, supervaluationism allows a certain degree of metaphysical irresponsibility: whether a statement is true relative to a moment or in a certain context does not strictly depend on facts that obtain at that moment/context. My personal impression is that supervalutionism is much more plausible as a theory concerning the *assertibility* conditions of future-tensed statements than as a theory concerning their truth conditions, especially if we are interested in the metaphysical conditions grounding their truth. Be that as it may, I think that Todd could argue that his semantics is best suited for *philosophical discussions* within the no-futurist camp, even at the price of some clashes with ordinary semantic intuitions. If I am right, this is a real advantage of Todd's proposal, which he alludes to somewhat in the book, but without emphasizing it much.

In Chapter 4 (*The Would-Will Connection*), Todd highlights a few semantic analogies between future contingents, as he understands them, and counterfactual conditionals. Todd assumes a standard, Lewis-Stalnaker semantics for counterfactuals conditional, in which a counterfactual of the form "If it were the case that p, then it would be the case that q" ($p \Rightarrow q$ for short) is true when q is true in all antecedent-worlds[6] most similar to the actual world. According to Todd, WEM ($F_n p \lor F_n \neg p$) is analogous to the so-called *conditional excluded middle* (CEM, $(p \Rightarrow q) \lor (p \Rightarrow \neg q)$). The analogy ultimately consists in that both principles call into question a view Todd calls *the grounding claim*: future contingents and counterfactuals must both be grounded in actuality. According to Todd, accepting WEM as valid (as both the advocates of Ockhamism and of postsemantic proposals do) amounts to denying that future-tensed truths just depend on how actual (i.e., present) things are,[7] just like accepting CEM as valid amounts to denying that counterfactual truths just depend on how actual things are like. The analogy also helps Todd deal with *Scopelessness*. Many philosophers reject CEM as invalid and, as a consequence, they deny that *would* is scopeless as it occurs in counterfactuals. Given the analogy between *will* and *would*, Todd argues, these philosophers should at least be open to the view that *will* is not scopeless, either.

Chapters 6 (*Betting on the Open Future*) mostly deals with a problem for open futurists that we can call the *bet problem*.[8] Consider the bet that a certain horse, Phar Lap, will win a certain race.

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either p or $\neg p$. If p, then (by retrospection) $F_1 p$ is true relative to *now* in context m^*, otherwise $F_1 \neg p$ is. Either way, we are sure that $F_n p \lor F_n \neg p$ is true relative to *now*, no matter what moment will be present in 1 time unit. Thus, we can assert it in the actual present context (*now*), even though neither the truth of $F_1 p$ nor the truth of $F_1 \neg p$ is grounded in present facts.

[6] An antecedent-world is a world where the antecedent of the conditional (here, p) is true.

[7] As mentioned above, I am not much in agreement with Todd that, to the extent that they subscribe to WEM, supervaluationists are committed towards future-directed facts.

[8] The chapter also discusses how open futurist should deal with probabilistic talk about the future—a topic that I cannot cover here due to space limitations.

[The problem is that, since] on the open future view, the proposition "Phar Lap will win the race" was not true at the time of the given bet, it follows that anyone who had bet that Phar Lap would win the race would fail to win the bet—even from the perspective of a time at which Phar Lap has in fact won (120).

In other words, it appears that open futurists have a problem in making sense of our practice of betting, for it makes little sense to bet on the truth of a future contingent proposition if all such propositions are bound to be false. This sounds like an instance of the *Wrong propositions* problem, and Todd *could* address it by resorting to the metaphysical presupposition strategy. But he believes that a stronger reply is possible in this specific case.

In Todd's mind, there is a hidden assumption behind the bet problem, namely, that a bet that *p* is a bet on the truth of the proposition that *p*. And Todd's approach to the problem consists precisely in denying this assumption. According to Todd, the practice of betting has to do with our conditional behavioural commitments, and not (necessarily) with propositional truth.

My suggestion is that when one bets on Phar Lap to win, one is not betting (or at least *need not* be betting) on the current truth of the proposition "Phar Lap will win". Rather, one is directly *bringing it about* that any future in which Phar Lap wins the race is *thereby* a future in which one wins the bet [...]. In other words: One *bets* that it will be that *p* iff one does something that brings it about that any *p* future is a future in which one is owed the [contextually specified] betting response (121).

In the end, according to Todd, "when it comes to betting on future events which have not yet transpired, *current truth* is irrelevant" (121).

I shall limit myself to discussing one of the arguments Todd provides for this conclusion. Todd asks us to consider the following dialogue, where both A and B are open futurists.

A: It is not now true that there will be rain tomorrow, and not now true that there will be no rain tomorrow. It is open. But let's agree: if it does rain tomorrow, you owe me £5, and if it does not rain tomorrow, I owe you £5. Agreed?
B: Agreed (124).

Clearly, A's discourse is perfectly felicitous. But, Todd argues, it should sound confusing (if not outright incoherent), assuming A is betting on whether the proposition that it will rain tomorrow *is* true.

As I said towards the beginning of this paper, I think that time-relative truth ascriptions are ambiguous. When we say that a proposition *is now* (or *currently*) true, we often implicate that the proposition is *historically necessary*. Thus, I agree with Todd that we generally do not bet on the *current truth* of propositions in this sense, because current truth in this sense just means historical necessity. As for Todd's dialogue, my impression is that A's discourse sounds felicitous for essentially the same reason that my above example (5) does: because to bet/assert that the proposition *p* is *now* true—in at least one important reading of "now true"—is not equivalent to bet/assert that *p*.

The eighth and last chapter (*The Assertion Problem*) deals with the so-called *assertion problem* for open futurists, which is really a bunch of different problems.

Here I shall limit myself to discussing two of them. First, there is a problem close to *Wrong propositions*: if future contingents are all false, why do we assert them all the time? Todd's basic response consists, again, in the metaphysical presupposition strategy: people happily assert predictions about future contingent events because they presuppose the existence of a unique actual future. The second problem has to do with the open futurists' own behavior. Open futurists happily assert and accept future contingents all the time. But, so one could object, they should not, given that they supposedly *know* they are false. They should refrain from asserting them, and possibly even correct people who assert them. Todd eloquently argues against these normative conclusions by appeal to the analogy between (OF) and Trenton Merricks's eliminativism towards ordinary objects.

> [T]he eliminativist believes that there are no tables and chairs—really, there are only atoms arranged tablewise, and atoms arranged chairwise, and so on. Now consider. What follows concerning what the eliminativist should and should not assert, and what follows concerning what assertions (from others) the eliminativist should and should not attempt to correct? On latter issue first [...]. It is perfectly obvious that Merricks is under no obligation, given his acceptance of eliminativism, to attempt to correct any such ordinary person speaking in the midst of life. To suggest that this [is] what Merricks *should* do, given that he accepts the relevant theory, is to suggest that Merricks should, *inter alia*, consistently waste his own time, and annoy and confuse a host of innocent bystanders in the process. [...] Thus: even if he believes eliminativism, and even if eliminativism is true, it is not the case that Merricks *should* (attempt to) correct people in the imagined way in *ordinary life*. And, I suggest, the same is true of himself: it is not the case that Merricks should (attempt to) monitor *himself* in ordinary life, making sure, for instance, always to talk in terms of atoms arranged table wise, and never in terms of tables. That would be a terrific waste of mental energy, and more else besides. It just doesn't matter (185-86).

For similar reasons, Todd concludes, it would be absurd to require open futurists to change their ordinary way of speaking and behaving because of their arcane metaphysical views.

Finally, Todd contends that future contingents, even if all false, can serve valuable communicative purposes. The reason is basically that, in many cases, when we make a future-tensed claim, in addition to asserting a (false) proposition about the future, we convey or suggest valuable information about plans, intentions, and tendencies. Here is an example.

> "Look. It will rain all weekend".
> Falsehood asserted: It will rain all weekend.
> Truth conveyed/suggested replacement talk: The world is tending toward rain all weekend.
> If things don't change, it will rain all weekend (195).

The book concludes with the following words.

> I hope we can now take seriously—or more seriously—the position that future contingents are systematically false (202).

And I am happy to grant that the hope is well grounded: after Todd's book, we should definitely take (OF) more seriously.

Before wrapping up, let me point out two key problems of Todd's view, which in my mind he does not adequately discuss in the book. First, Todd tends to deflect the contention that his views are counterintuitive by appeal to a *good company* argument: all kinds of philosophers have held counterintuitive views. As the most prominent example, Todd mentions Merricks's eliminativism about ordinary objects. I think, however, that there are key dialectical differences between Todd's open futurism and Merricks' eliminativism. We now *know*, based on strong scientific evidence, that our commonsense picture of ordinary objects as solid, well-separated sources of causal influence is false. Thus, some piece of that picture must be given up, and Merricks's eliminativism is just an especially radical way of revising the picture. But there is no comparable scientific pressure on our common understanding of future contingents. The pressure only comes from *presentism* (or *no futurism*), a view entirely based on metaphysical principles and reasonings—i.e., on refined common sense. Thus, there is something self-defeating in Todd's proposal which is not in Merricks's. We already knew that presentism is (at best) at odds with scientific theories and practice, and we now know (thanks to Todd) that, if worked out in a perfectly coherent and "classical" fashion, it has severely counter-intuitive consequences. In light of this, it sounds like the best thing to do is to give up presentism, does not it?

The second key problem has to do with the *Wrong propositions* problem and its relationships with the BT conception. Consider again (APF):

(APF) $F_n p$ iff in all of the causally possible futures, in n units of time, p.

Let us abbreviate the phrase "in n units of time, p" as $f_n p$ (with small f). Clearly, (APF) presupposes that, at any moment m, a sentence of form $f_n p$ has a specific truth-value relative to any history passing through m. But this means that each instance of $f_n p$ expresses an (unstructured) proposition, that is, the class of worlds where it is true. Todd cannot deny this, for otherwise his entire proposal ((APF), and also (AAF)) would be unintelligible. It is very plausible to suppose that $f_n p$ translates as a future-tensed sentence in English—just like $F_n p$. To avoid ambiguities, let us use an italicized "*will*" in translating $f_n p$. Now consider an example of the *Wrong propositions* problem. At a moment m, you sincerely assert:

(8) I fear that there will be a sea-battle tomorrow.

Clearly, your fear is not directed toward the (necessarily false) proposition that, according to (APF), the sentence of form $F_n p$ "there will be a sea-battle tomorrow" expresses at m. But what about the proposition expressed at m by the sentence of form $f_n p$ "there *will* be a sea-battle tomorrow"? This proposition corresponds to the class of histories compatible with m where a sea-battle obtains tomorrow, it is a contingent proposition, and it fits perfectly well the role of your object of fear. The obvious conclusion is that, in (8), "there will be a sea-battle tomorrow" is to be translated as a statement of form $f_n p$ ("there *will* be a sea-battle tomorrow") and not as a statement of form $F_n p$. I cannot see how Todd can possibly reject this obvious conclusion, for he cannot deny that statements of form $f_n p$ express perfectly intelligible propositions, and there is no reason to suppose they have no English counterpart. But for some reason, Todd is clearly not prepared to accept it. We can call this problem *Right propositions*: if (APF) is

intelligible and meaningful at all, then history-relative future-tense claims of form $f_n p$ must express propositions, and these are precisely the contingent propositions speakers intend to express by uttering future contingents, at least when they occur within propositional attitude ascriptions; but then, uncontroversial interpretative principles force us to translate those utterances as sentences of form $f_n p$. But this is a conclusion that Todd, rightly or wrongly, is clearly not prepared to accept.

Let me conclude this critical discussion with some general remarks on the value of Todd's book. As I said at the beginning, despite my general philosophical inclinations being very different from Todd's, I really enjoyed *The Open Future*. It is an excellent book. It is engaging, thought provoking, and the breadth of topics it covers is impressive. Todd's arguments and observations are mostly precise, subtle, and original. The views he defends are very counterintuitive at first sight but are surprisingly resilient to refutation. Moreover, and more importantly, I think that presentists should definitely take Todd's semantic proposals seriously, especially if they are interested in adopting a logic whose validities closely mirror their metaphysical assumptions. Which doesn't hurt, the book is excellently written, with a charming and lively style. I wholeheartedly recommend it to all philosophers interested in the interplay between metaphysics and philosophy of logic, and it is obviously a must-read for anyone working on future contingents, divine foreknowledge, and the semantics of future tense.

References

Belnap, N., Müller, T., and Placek, T. 2022, *Branching Space-Times: Theory and Applications*, Oxford: Oxford University Press.

Iacona, A. and Iaquinto, S. 2023, "Postsemantic Peirceanism", *American Philosophical Quarterly*, 60, 3, 249-56.

Ingram, D. 2023, "Review of Patrick Todd, *The Open Future*", *Metaphilosophy*, 54, 364-67.

MacFarlane, J. 2003, "Future Contingents and Relative Truth", *Philosophical Quarterly*, 53, 212, 321-36.

MacFarlane, J. forthcoming, "Why Future Contingents Are Not All False", *Analytic Philosophy*.

Spolaore, G. and Del Prete, F. 2019, "Now There Will Be Trouble", in Hasle, P., Blackburn, P., and Øhrstrøm, P. (eds.), *Logic and Philosophy of Time: Further Themes from Prior*, Aalborg: Aalborg University Press.

Spolaore, G. and Gallina, F. 2020, "The Actual Future Is Open", *Erkenntnis*, 85, 1, 99-119.

Thomason, R.H. 1970, "Indeterminist Time and Truth-value Gaps", *Theoria*, 36, 3, 264-81.

Tooley, M. 1997, *Time, Tense, and Causation*, Oxford: Oxford University Press.