Time, Truth, and Modality (short description)

1 Purpose of the project

The primary and most general purpose of the project is to undermine the alleged link between the notions of truth and historical necessity. We may say that an event is *historically* necessary (settled, fixed, decided, irreversible, etc.) if it is inevitable given the current state of affairs. The historical notion of necessity is used when someone says that in 1920 it was still *possible* to prevent the Second World War, but by August of 1939, the War was already a *necessity*. The link between truth and historical necessity was forged in philosophers' minds by Aristotle (*On Interpretation*, ch. 9). This project aims to sever this link, explain why truth *seems* connected to (historical) necessity, and stress the theoretical importance of contingently true propositions.

Although many modern semantic theories assume that truth excludes contingency (e.g., Łukasiewicz, 1970; Prior, 1967; Thomason, 1970; Todd, 2016), the view which I defend—that truth does not require historical necessity—is not isolated in the history of philosophy. This idea was widely accepted in the Middle Ages and revived in the 20th century by P. Øhrstrøm and P. Hasle (for references, see Øhrstrøm and Hasle, 2020). I intend to further support the view which admits true future contingents. My reasons in favor of this position originate in semantic, metaphysical, and pragmatic considerations outlined in the detailed project description below.

2 Significance

The project concerns some of the most fundamental philosophical concepts: time, necessity, truth, and the relations between them. The main thesis of the project is rather unorthodox: I intend to argue—against the mainstream of philosophical logic—that truth and historical modality are separable. Detaching these two opens space for true propositions regarding the contingent future. Thus, I hope to revive an idea that has been largely abandoned since the Middle Ages.

The project I submit is a natural extension of the research I have conducted for almost a decade. I have developed and defended a formal theory that admits true future contingents in an indeterministic setting (Malpass and Wawer, 2012; Wawer, 2014; Wawer and Malpass, 2020). In the project hereby submitted, I want to study the conceptual foundations of the debate related to future contingents and investigate some applications of the theory. Given that I have studied this subject extensively, I am convinced that I can achieve substantial results.

3 Work plan and specific tasks

3.1 The roots of logical determinism

Background and preliminary research

Logical determinism is a doctrine according to which some general, logical, metalogical, and semantic principles are sufficient for deterministic conclusions. The roots of logical determinism are traditionally traced back to Aristotle who displayed two independent arguments to support this conclusion. Firstly, he focused on the principle of bivalence which states that every proposition possesses exactly one out of two truth values. Propositions regarding the future are no exceptions to this general rule, and this is what Aristotle finds problematic (after all, if it is already true that the Lakers will win the next game, they cannot lose). The second of Aristotle's arguments takes a different direction. It utilizes what is

sometimes described as the principle of retrogradation, which states that if something is happening now, then it was always true that it was going to happen (and if it was always true, there was no way to avoid it).[1] In a recent reconstruction of the deterministic argument offered in the Stanford Encyclopedia of Philosophy, Øhrstrøm and Hasle (2020) use *both* these principles to reach the deterministic conclusion. I want to argue that those principles do not license the deterministic conclusion and they do not need to be abandoned.

Research objective

My strategy is to distill what I call "the simplest" argument for logical determinism. Here is its application:

(A) If a Democrat wins in 2024, it is true that a Democrat will win in 2024.

(B) If it is true that a Democrat will win in 2024, it is necessary that a Democrat will win in 2024.

(C) Ergo, if a Democrat wins in 2024, then it is necessary that a Democrat will win in 2024.

I intend to use the scheme underlying this argument to reconstruct Aristotle's original proposals (using the rule of the excluded middle and some basic principles of tense logic). This will show that my argument reveals the core of the conceptual structure which motivates logical determinism.

Since this argument has only two premises, there are only three possible reactions: (i) accept determinism; (ii) reject premise (A); (iii) reject premise (B). I plan to argue that the last option is preferable, even though it goes against many existing theories of future contingents (listed above). Firstly, there are good reasons to uphold (A) (like Tarski's T-schema). Secondly, the reasons behind premise (B) are not convincing. Premise (B) may be motivated by scope ambiguity (of the modal operator; the wide scope is intuitive, but the narrow scope is required for the argument). Another source of motivation, which I criticize below, is that truth is local.

3.2 Non-local notion of truth

Background and preliminary research

Tensed metaphysics in general, and presentism in particular, both face a serious challenge (Torrengo, 2013). Namely, if only the presently occurring facts exist, how can we ground any truths regarding the past and the future? The problem arises as a consequence of the following grounding principle:

(GP) All truths are grounded in what there is and how it is.

Principle (GP) suggests what I call a temporally local notion of truth. Under the local reading, what is true at a given moment should be grounded in what exists at that moment (in particular, what is true now should be grounded in what exists now). I believe that this assumption is not obligatory, even for presentists (those who believe that only present things exist).

Let us first observe that the local notion of truth allows three options when combined with (GP): (i) reject any truths about the past and future; (ii) identify truth with temporal necessity; (iii) enrich tensed metaphysics. None of these options is appealing.

Re (i) This conclusion sounds like the *reductio ad absurdum* of presentism.

Re (ii) Such identification is achieved if we try to use presently existing facts to ground truths about the future (for example, presently existing initial conditions and laws of nature). This strategy results in discouraging semantic consequences (cf. Peirceanism discussed in Prior, 1967), or rejection of bivalence (Thomason, 1970), or both (Łukasiewicz, 1970).

Re (iii) We can enrich presentism with so-called Lucretian properties (see Torrengo, 2013, for discussion). For example, presently existing ships that are stationed in a harbor have a contingent property of going to participate in a sea battle tomorrow. Such properties are rather extraordinary and they seem like *ad hoc* additions introduced solely to save truths about the future (and the past).

[1] This line of thought was explored and developed by another ancient philosopher, Diodorus Chronus, in his famous "Master Argument" (see Øhrstrøm and Hasle, 2020).

Research objective

I intend to argue that the aforementioned difficulties (both semantic and metaphysical) are not specific to tensed metaphysics (or presentism). They arise in equal degree within the scope of tenseless metaphysics as long as a *local* notion of truth is accepted (what is true at t depends uniquely on facts that concern t). Therefore, I want to argue that the success of tenseless, B-theoretic grounding results not from the assumptions within metaphysics of time but from the employment of a *non-local notion of truth* (what is true at time t may well depend on facts which concern times other than t).

Moreover, I intend to study the existing tensed theories which presuppose a non-local notion of truth (for bibliography, see Rosenkranz and Correia, 2018). Their success suggests that the metaphysical position within the philosophy of time does not enforce the abandonment of true future contingents. This result severs another apparent link between truth and temporal necessity.

3.3 Truth, necessity, and assertion

Background and preliminary research

In the next part of the project, I turn to a pragmatic argument in favor of true future contingents. I intend to build upon the core of the argument displayed by Besson and Hattiangadi (2014), which concludes that the best account of the assertion practice requires that some future contingents are true. The same conclusion is reached by Santelli (2020), whose arguments complement mine.

The issue with the pragmatics of future contingents may be stated in the form of the following trilemma:

(1) There are some contexts in which it is correct to assert a future contingent;

(2) It is correct to assert a sentence in a context only if the sentence is true in the context;

(3) There is no context in which a future contingent is true.

Since 2 and 3 jointly imply the negation of 1, these three statements cannot be jointly true. I want to argue that the third claim is the weakest link and that we should escape this contradiction by accepting some true future contingents.

3.3.1 Research Objective

My project has two independent dimensions: critical and constructive. In the critical path, I argue against those who reject either (1) or (2) above. My constructive aim is to support the idea that rejecting (3) is the least problematic solution. In effect, the idea of true future contingents acquires a pragmatic justification.

Critical path Rejection of (1) or (2) leaves us with four options, none of which is preferable:

- Accept a version of an error theory according to which ordinary people are systematically inaccurate in their judgment (regarding the correctness of future-oriented assertions).
- Claim that the intended meaning of future contingents differs from their literal meaning. For example, they should be understood probabilistically, conditionally, etc. Such re-constructions face the problem of retrospective accuracy assessment. Assume that it was unlikely that I would submit this application, and my friend told me that "You will not submit your application on time." If we reinterpret her claim probabilistically, we need to admit that my friend was correct, even if what she said was false. This conclusion seems problematic.[2]
- Replace the truth norm with an alternative, like (JN): it is correct to assert a sentence in a context only if it is well justified in the context that the sentence is true. Many arguments have been offered against this solution (see, e.g., Santelli 2020, sec. 6.2). Let me just mention that inaccurate retrospective assessments may be added to the list of arguments.

[2]Besson and Hattiangadi (2014, sec. 4.2) offer a different argument based on speech reports which shows that we *do not* ascribe non-literal meaning to assertions of future contingents.

- Accept relativism concerning truth (MacFarlane, 2014). I find this solution problematic since according to relativists, the only way to make a (retrospectively) correct assertion of a future contingent is by making an assertion which is, by a relativist's own standards, impermissible at the moment at which it is made. I want to follow García-Carpintero (2013) who argued that this is an unstable normative theory.

Constructive path In the constructive part of my project, I want to argue that rejecting thesis (3) is the optimal reaction to the assertion trilemma. First, true future contingents are useful when we try to explain retrospective inaccuracy judgments. Second, the assumption of true future contingents admits currently correct, future-oriented assertions. Nonetheless, I believe that truth needs to be augmented with an epistemic component (like justification or even knowledge) to give a more comprehensive picture of the assertion of future contingents.

To further support the rejection of (3) and to study the nuances of the normative theory of future-oriented assertions, I also plan to undermine selected arguments against my solution listed below.

Pragmatic contradictions It is highly peculiar to assert that "The summer will be hot, but it is possible that it will not be hot." I intend to argue that the oddity should be explained by a general pragmatic (rather than semantic) mechanism (cf. Williamson, 2000).

Problems with the justification of future contingents Observe that it is *in principle* impossible to absolutely guarantee that a future contingent is true. I want to argue in response that a foolproof justification is not a reasonable epistemic standard because it leads to almost universal skepticism. I suspect—but it should be further studied—that the context-dependent notion of justification (cf. Steup et al., 2008, ch. 3) best models the actual practice of asserting future contingents.

Knowledge cannot be contingent Arthur Prior (1968, chapter 4) suggested an argument, further developed by Belnap et al. (2001, pp. 55–58), that knowledge of future contingents is impossible. The argument is based on an assumption that one has the attitude of knowing, so to say, here and now. I want to undermine this assumption by an observation that knowledge is factive which implies that whether one *knows* (rather than merely believes) a future contingent cannot be settled by the present state of the world.

3.4 Truth and necessity in the philosophy of language and linguistics.

Background and preliminary research

The last line of research we intend to pursue is more open-ended and explorative ("I" is replaced with "we" in this section, since the research described here will be a collaborative effort). Philosophers are not the only ones investigating future tenses and their modal connotations. The other prominent field where this issue is discussed is linguistics. Interestingly enough, there are important parallels in both fields. Most importantly, just as philosophers are divided about the modal nature of future-related talk, so are linguists (for an extensive list of references, see Kissine, 2008; Del Prete, 2014).

Research objective

The purpose of this project is to dig into the linguistic literature by applying a philosopher's background. In particular, we want to study if some of the traditional problems of the modalized version of 'will' identified in the philosophical literature transfer into the linguistic setting (for a short sample of the problems, see Wawer, 2018). More generally, we want to see how the arguments developed in linguistics contribute to debates in the philosophy of time and philosophical logic (and *vice versa*).

My expertise in the field of philosophical logic and philosophy of time supports my hope that some valuable effects will be achieved, but it is difficult to spell them out in advance (especially given that the research will be conducted largely by a PhD candidate whose identity is yet unknown).

4 Methodology

My project is a part of a well-established field of research in philosophical logic, philosophy of language, and metaphysics, where the dominant method is conceptual analysis and conceptual engineering, augmented with formal methods characteristic of formal logic (modal logic in particular). My research will be no exception in this respect.

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