Reconstituting Ersatzer Presentism

Presentists claim that only presently existing objects exist. The grounding objection is a potentially lethal objection to this view. One version of presentism is ersatzer presentism, according to which times are a kind of abstract object. Such a view is appealing because it affords the presentist an answer to the grounding objection. While ersatzer presentism offers an answer to the grounding objection, available versions of the view suffer from a heretofore unappreciated shortcoming: they cannot account for the truth of certain counterfactual claims about the past. This paper offers a novel version of ersatzer presentism that appropriates the metaphysics of constitution in order to avoid this problem. In section one we show why one might endorse ersatzer presentism to begin with. Sections two and three argue that two views representative of ersatzer presentism—those of Thomas Crisp and Craig Bourne—cannot account for the truth of certain counterfactual claims about the past. In section four we defend a crucial assumption in our main arguments against Crisp and Bourne. Finally, we offer a new version of ersatzer presentism that avoids the difficulty that current ersatzer presentist views face.

1 Why Ersatzer Presentism?

Presentism is the thesis that only presently existing objects exist. However, presentism faces a formidable objection: the grounding objection. The grounding objection urges that presentism is not true, since it cannot provide adequate grounding for facts about the past. The objection is easily stated:

1. If presentism is true, facts about the past are not grounded.

2. Facts about the past must be grounded.

3. Therefore, presentism is false.

The ersatzer presentist argues that (1) is false: claims about the past are grounded in times, which are abstract objects. Thomas Crisp succinctly states the intuition behind the view: times are an "abstract representation of an instantaneous state of the world" ((Crisp 2007), 99). The view that times are abstract objects has had several voicings: see, for instance, (Bourne 2006a), (Bourne 2006b), (Chisholm 1979), (Crisp 2007), (Davidson 2003), (Davidson 2004), (Markosian 2004), (Prior and Fine 1977), and (Zalta 1987).

The ersatzer can say that abstract representations either include information about the past and/or future, or not. Different versions of ersatzer presentism use different kinds of abstract objects—Crisp and Bourne make use of propositions, while Chisholm uses states of affairs and Zalta employs situations. But any view must say that a representation either includes information about the past and/or future, or not.

Both Crisp and Bourne claim that times are identical to abstracta. We take Crisp's and Bourne's views as representative of the literature on ersatzer presentism because this identity claim is found in all available versions of ersatzer presentism. As we'll see, it is just this claim that times are identical to abstracta that creates the problem we advance. For it is natural to assume that times are the referent of terms like 'yesterday' since the ersatzer presentist employs times to answer the grounding objection. However, if times are identical to abstracta, times cannot account for the truth of certain counterfactual claims about the past. Thus, extant versions of ersatzer presentism are in trouble.

2 Crispy Times

Thomas Crisp offers the following account of times:

Crispy times x is a time $=_{df}$ For some class C of propositions such that C is *maximal* and *consistent*, $x = [\forall y(y \in C \supset y \text{ is true})]$,

where (i) C is maximal iff, for every proposition p, either p or $\neg p$ is a member of C; (ii) C is consistent iff, possibly, every member of C is true; and (iii) $\langle[\forall y(y \in C \supset y \text{ is true})]\rangle$ denotes a tenseless proposition ((Crisp 2007), 99–100). (i) entails that past- and future-tensed propositions are members of C; so each time provides a complete history of the world ((Crisp 2007), 100).

Crisp adds that there is an ersatz B-series: "a series of abstract times ordered by a primitive *earlier-than* relation" ((Crisp 2007), 102). While one could hold that there are many ersatz B-series that hold between all possible times, Crisp advises the presentist to claim that there is only one ersatz B-series and it is the one whose members are "only some of the abstract times—those that did, do or will represent the world" ((Crisp 2007), 104).

In what follows we will speak for simplicity's sake of Crispy times as maximal, consistent propositions. Strictly speaking, a Crispy time is a proposition *affirming* that each member of a maximal, consistent class of propositions is true. A time T says, for some maximal, consistent class $\{p, q, r, \ldots\}$, that p is true and q is true and r is true and $\ldots$. But, given that p is true iff p, a simplified version of Crisp's view says that a time just is a conjunction: T just is $p \wedge q \wedge r \wedge \ldots$.[1] Thus, speaking of Crispy times as conjunctions should not be objectionable.

We argue here that Crisp's view cannot accommodate the platitude of common sense that the past could have been different. We are not arguing that the past could not have been different given the present—that is an innocuous kind of necessity. Rather, we argue that the past could not have been different simpliciter. For example, suppose that Dan did not in fact cycle yesterday—though he could have. Crisp's view cannot accommodate the truth of the claim "Dan could have gone cycling yesterday". For, on Crisp's view, to refer to a time just is to refer to a conjunction of propositions. When we talk about yesterday,

[1] In correspondence, [NAME REMOVED] noted that this would be a simplified version of the view.

'yesterday' refers only to those propositions that were true yesterday. But now let T be the referent of 'yesterday' and c be the proposition $\langle$Dan is cycling$\rangle$. Since T is a maximal, consistent conjunction, either $\Diamond c$ is a conjunct of T or not. But on neither option can Crisp coherently account for the truth of "Dan could have gone cycling yesterday".

Suppose first that $\Diamond c$ is not a conjunct of T. Since T is maximal, $\neg\Diamond c$ is a conjunct of T. If that's the case, then $\langle$it's not possible that Dan is cycling$\rangle$ was true yesterday. Crisp is likely to hold that, for any proposition p and time t, p is true-at-t iff p is a conjunct of t. And if $\langle$it's not possible that Dan went cycling yesterday$\rangle$ was true yesterday, then $\langle$it's possible that Dan went cycling$\rangle$ was not true yesterday. And if that's the case, then "Dan could have gone cycling yesterday" is not true. So, contrary to our assumption, Crisp's view entails that Dan could not have cycled yesterday. Thus, on the first horn of our dilemma, Crisp cannot coherently account for the truth of "Dan could have gone cycling yesterday".

The Crispian should not be happy with the first horn of our dilemma. She should instead claim that $\Diamond c$ is a conjunct of T. This seems like a promising move—but it too will not allow Crisp to coherently account for the truth of "Dan could have gone cycling yesterday". For, again, Crisp will claim that for all proposition p and times t, p is true-at-t iff p is a conjunct of t. But then it follows that if $\Diamond c$ is a conjunct of T, then $\Diamond c$ is true-at-T. However, it is an attractive view that for all propositions p and times t, $\Diamond p$ is true-at-t iff there is some world w in which t is a time and p is true-at-t in w. Thus, if Crisp wants to claim that $\Diamond c$ is true-at-T, he must claim that there is some world w in which c is true-at-T. But Crisp cannot coherently claim that there is such a world. For, on Crisp's account, T is identical to the conjunction of propositions true yesterday. And, for any x and y, if $x = y$, then necessarily $x = y$. Thus, in every world in which T exists, T is the conjunction of propositions true yesterday. Hence, in any world in which T exists, a proposition p is true-at-T just in case that proposition is one of the conjuncts which compose the conjunction that was true yesterday. But c was not one of those conjuncts: Dan did not cycle yesterday. So, on Crisp's account, there is no world where c is true-at-T. Hence $\Diamond c$ cannot be a conjunct of T. This second

option, then, is not an option whereby Crisp can accommodate the truth of "Dan could have gone cycling yesterday".

Our argument makes three crucial assumptions. First, for any proposition p and time t, p is true-at-t iff p is a conjunct of t. Crisp is unlikely to object to this claim. It is clear on Crisp's view that propositions change their truth-values. But this is just to say that propositions are true at one time and not true at another time. So, Crisp needs an account of truth-at-a-time. The natural account suggested by his view is simply the one offered here. Second, if $x = y$, then necessarily $x = y$. This is simply the relatively innocent assumption that identity is necessary. Third, for any proposition p and time t, $\Diamond p$ is true-at-t iff there's some world w in which t is a time and p is true-at-t in w. ~~This last assumption is the most contentious of the three and is used again in our criticism of Bourne's view. Thus we will delay our defense of it until after pressing our objection against Bourne's view in the next section. What we have argued here, then, is that if we are allowed all three assumptions, then Crisp's view cannot account for the truth of certain counterfactual claims about the past.~~

3 Times and Dates

Crisp's view of times claims that times include information about the past and future, as well as the present. Craig Bourne has an alternate account on which times only represent the present. Bourne thinks of times as ordered pairs:

Bournian Times t is a time $=_{df}$ $t = \langle \mu, n \rangle$, where $n \in \mathbb{R}$ ((Bourne 2006a), 54).

μ is a maximally consistent set of u-propositions: present tensed propositions that contain neither a P nor an F operator ((Bourne 2006a), 53).[2] The second member of the pair is the date. Bourne says nothing more about dates than that they are numbers.

[2] u-propositions are distinguished from e-propositions: propositions that contain a P or F operator.

To complete the picture we need an earlier-than relation. Bourne calls the earlier-than relation the E-relation. The E-relation holds among times and is an ersatz earlier-than relation since it holds among abstract objects, not concrete ones.. So times are ordered pairs of the form $t = \langle \mu, n \rangle$ that are members of the set of sets of ordered pairs of the form $t = \langle \mu, n \rangle$ that are E-related ((Bourne 2006a), 54).

The addition of dates makes Bourne's view seem immediately better than Crisp's. For unlike Crisp's view, reference to a time is not just reference to a conjunction of propositions; it is instead reference to an ordered pair: a set of propositions and a date. This permits two approaches whereby an advocate of Bourne's view might attempt to accommodate the truth of the counterfactual claim "Dan could have gone cycling yesterday". According to both approaches, "Dan could have gone cycling yesterday" is true because the proposition c, $\langle$Dan is cycling$\rangle$, could have been true yesterday.

According the first approach, c could have been true yesterday because the proposition $\Diamond c$, $\langle$possibly, Dan is cycling$\rangle$, is a member of μ_y, the set of u-propositions true yesterday, and the referent of 'yesterday' is $T = \langle \mu_y, y \rangle$, where y is yesterday's date. This approach to explicating Bourne's view is subject to a similar objection as that raised against Crisp. For, suppose that $\Diamond c \in \mu_y$ and $T = \langle \mu_y, y \rangle$. Bourne holds that for all propositions p and times t such that $t = \langle \mu, d \rangle$, p is true-at-t iff $p \in \mu$ ((Bourne 2006a), 56). Hence $\Diamond c$ is true-at-T. But, again, it is an attractive view that for all propositions p and times t, $\Diamond p$ is true-at-t iff there is some world w in which t is a time and p is true-at-t in w. Thus if Bourne is to claim that $\Diamond c$ is true-at-T, he must claim that there is some world w in which c is true-at-T. But he cannot make such a claim. For, on Bourne's view, $T = \langle \mu_y, y \rangle$. Given that identity is necessary, in every world, $T = \langle \mu_y, y \rangle$. Accordingly, if c is true-at-T in a world w, then c must be a member of μ_y in w. But, it cannot be the case that $c \in \mu_y$ in any world. For, by definition, μ_y is consistent, and one of the members of μ_y is $\neg c$, since in fact Dan did not cycle yesterday.

A second approach for the Bournian claims that, even though it's actually the case that $T = \langle \mu_y, y \rangle$, c could have been true yesterday because there is some world w such that in w, $T = \langle \mu_x, y \rangle$, and $c \in \mu_x$ for some $\mu_x \neq \mu_y$. This approach does not claim, as the first did, that c must be a member of μ_y in some world. Unfortunately, this second proposal does not improve upon the first. In fact, it is internally incoherent. Given that identity is necessary and that in the actual world $T = \langle \mu_y, y \rangle$, it's impossible for there to be a possible world w where $T = \langle \mu_x, y \rangle$. In every world $T = \langle \mu_y, y \rangle$.

Neither of the foregoing approaches permit the Bournian to accommodate the truth of "Dan could have gone cycling yesterday" given three plausible assumptions paralleling those made in the previous section. ~~Here the first assumption is that~~ for all propositions p and times t such that $t = \langle \mu, d \rangle$, p is true-at-t iff $p \in \mu$. ~~The second and third assumptions are the same as in the previous section.~~ Furthermore, given these three assumptions, the two proposals above are the only ways whereby the Bournian might attempt to accommodate the truth of "Dan could have gone cycling yesterday". For "Dan could have gone cycling yesterday" is true only if $\Diamond c$ was true yesterday, where $c = \langle \text{Dan is cycling} \rangle$. But, given our three assumptions, it follows that $\Diamond c$ is true-at-T, yesterday, iff there is some world w and set of u-propositions μ_x where $c \in \mu_x$ such that $T = \langle \mu_x, y \rangle$. Either $\mu_x = \mu_y$ or not, where μ_y is the set of propositions true yesterday. If $\mu_x = \mu_y$, then the Bournian must claim that $\Diamond c$ is true-at-T iff there is some world w where $c \in \mu_y$. That was the first proposal above. And if $\mu_x \neq \mu_y$, then the Bournian must claim that $\Diamond c$ is true-at-T iff there is some world w where $c \in \mu_x$, $\mu_x \neq \mu_y$, and, in w, $T = \langle \mu_x, y \rangle$. This was the second proposal above. Thus, given our three assumptions, the Bournian cannot accommodate the truth of "Dan could have gone cycling yesterday".

4 ~~A Key Assumption~~

Our criticisms of Crisp's and Bourne's views made use of ~~a key assumption:~~

Modal Assumption For any proposition p, time t: $\Diamond p$ is true-at-t iff there's some world w in which t is a time and p is true-at-t in w.

The Modal Assumption is ~~the most contentious step of the main arguments advanced against Crisp and Bourne. While the Modal Assumption is more contentious than either of the other two assumptions used in our arguments, it is nonetheless~~ a very attractive assumption. This is because the Modal Assumption is a consequence of an intuitive semantics for time-indexed modal claims. If the ersatzer presentist wishes to maintain either Crisp's or Bourne's version of ersatzer presentism, she faces the difficult task of providing an alternative semantics, which is no less intuitive than the one we offer, for such claims.

The Modal Assumption combines tense and modality. One intuitive way to deal with such a combination is the $T \times W$ approach, the details of which can be found in (Thomason 1984). The basic idea behind this approach is that it adds a temporal dimension to possible worlds semantics. The easiest way to accomplish this is to start with a non-empty set T of times and a set W of worlds. The set T is linearly ordered by the earlier-than relation. A linear history, h, is a subset of T such that for all $t_1, t_2 \in h$, $t_1 < t_2$ or $t_2 < t_1$ or $t_1 = t_2$. Modality is brought into play by $\approx$, a three-place relation on $T \times W \times W$ such that (1) for all t, $\approx_t$ is an equivalence relation, and (2) for $w_1, w_2 \in W$ and $t^* \in T$, if $w_1 \approx_t w_2$ and $t^* < t$, then $w_1 \approx_{t^*} w_2$ ((Thomason 1984), 146). If the set of equivalence relations $\approx_t$ is non-empty, then there are worlds that have the same past and hence share times. If worlds share times, we can introduce semantics for modal propositions: for any proposition p and time t, $\Diamond p$ is true-at-t iff there is some world w in which t is a time and p is true-at-t in w. And this just is the Modal Assumption.[3]

[3]It is worth noting that even if time branches, one still needs something like the $T \times W$ approach to capture the full gambit of counterfactual claims. Consider, for instance, the claim "yesterday could have been the first day the world existed". Even if time branches, there is no past time in our world relative to which this claim might be true in the future. If it's true that yesterday could have been the first day the world existed, it can only be because there is some other temporal structure—something like a possible world—in which yesterday actually was the first day the world existed. So, one still needs something like

Given that the $T \times W$ approach offers an intuitive semantics for time-indexed modal claims and that the Modal Assumption fits naturally with this approach, if one wishes to advocate Crisp's or Bourne's ersatzer presentism in the face of the objections articulated in the previous two sections, one will need to resort to some alternative semantics for time-indexed modal claims and argue that this alternative i~~s no less intuitive than~~ the $T \times W$ approach. There are alternative semantics which might be worth considering for the ersatzer presentist. For example, the advocate of Crisp's or Bourne's view might wed her view to a version of Lewisian counterpart theory ((Lewis 1968)), proposing that for all propositions p and times t, $\Diamond p$ is true at t iff there is some world w in which p is true-at-t^* and t^* is a counterpart to t.[4] Such a view would depart from the standard Lewisian counterpart theory, however, because according to the standard Lewisian theory abstracta enjoy transworld identity.[5] Moreover, in order to advocate a view like this one, the ersatzer presentist will of course have to take on board the project of defending counterpart theory, and this may prove challenging.[6] Thus, we suggest cautiously that if there is an ersatzer presentist view which can escape the objections facing Crisp's and Bourne's views which does not require jettisoning the Modal Assumption, this view would be very attractive for presentists. In the next section, we develop such a view.

5 A Constitution View of Times

The main reason that Crisp's and Bourne's views could not account for counterfactual claims about the past without jettisoning the Modal Assumption was that both accounts say that a time is *identical to* an abstractum, either a conjunction of propositions or an ordered pair for

the $T \times W$ approach.

[4]Indeed, this is a second way one might interpret Bourne's view. The Bournian could claim that $\Diamond c$ is true-at-T iff there is some world w and time T^* in which c is true-at-T^* in w, where $T^* = \langle \mu^*, y \rangle$ and y is yesterday's date.

[5]See (Lewis 1986).

[6]She will need a response, e.g, to (Merricks 2003).

the views we considered. The claim that a time is *identical to* some abstractum is too rigid to deal with counterfactual claims about the past, given the modest assumptions proposed in the previous sections. This suggests an alternative to Crisp's and Bourne's views. Rather than claim that times are identical to abstracta, one might claims that some weaker relation obtains between them. We propose here that times are *constituted by* abstracta. This view allows the ersatzer presentist to account for the truth of counterfactual sentences without jettisoning the Modal Assumption.

Our proposal is a modification of Bourne's view. The proposed account says that a time t is constituted by a set of u-propositions and a date.[7] Dates are essential to times: if T is a time with date d, then T essentially has d as its date. Put together, we have:

Constitutional Times t is a time $=_{df}$ $\exists\mu\exists d[\langle\mu, d\rangle$ constitutes t, and $\Box\forall\mu^*\forall d^*(\langle\mu^*, d^*\rangle$ constitutes $t \leftrightarrow d = d^*)]$.

Constitutional times takes the constitution relation to be a fundamental relation distinct from the identity relation. The constitution relation, sometimes called the accidental sameness relation, is a relation which holds between accidental unities such as fists or statues on the one hand and their parent substances—hands and lumps of Bronze, respectively—on the other. According to the constitution theorist, fists, e.g, are not identical to hands, since fists and hands have different modal properties. But neither is it the case that a fist is one thing and a hand is another thing. There is only one material object—a hand which constitutes a fist. Similarly, an advocate of constitutional times will claim that $\langle\mu, d\rangle$ is not identical to T, since they have different modal properties. But neither is it the case that T is one thing and $\langle\mu, d\rangle$ another. There is just one abstract object—the ordered pair $\langle\mu, d\rangle$ which constitutes T.[8]

[7]Here we use sets of u-propositions. One could instead avail oneself of propositions that contain P or F operators, or could use some other kind of abstracta, perhaps Chisholmian states of affairs.

[8]For an exposition of the constitution view more generally, see (Rea 1998). For a unique application of the constitution view to non-material objects, see (Rea and Brower 2005).

Constitutional times avoid the problem that other ersatzer presentist views face. For, counterfactual sentences such as "Dan could have gone cycling yesterday" are true even given assumptions paralleling those above, including the Modal Assumption. To see this, consider that "Dan could have gone cycling yesterday" is true just in case $\Diamond c$ is true-at-T, where $c = \langle$Dan is cycling$\rangle$ and T is the referent of 'yesterday'. Thus, constitutional times can account for the truth of "Dan could have gone cycling yesterday" if $\Diamond c$ is true-at-T. And this they can do. For in accordance with the Modal Assumption, $\Diamond c$ is true-at-T just in case there is some world w in which c is true-at-T. Given that our view is a version of Bourne's approach, we are happy to adopt an assumption about truth-at-a-time much like the one discussed in section three. On our view, for all propositions p and times t, p is true-at-t iff $p \in \mu$ such that $\langle \mu, d \rangle$ constitutes t. Thus, there is a world w where c is true-at-T just in case there is some world w where $c \in \mu$ and where T is constituted by $\langle \mu, d \rangle$. Given the constitutional account of times, there is no problem in supposing that there are such worlds. For T, the referent of 'yesterday', can be constituted in the actual world by $\langle \mu_y, y \rangle$ where μ_y includes $\neg c$ and $\Diamond c$ but not c, and T can be constituted in another world w^* by $\langle \mu_x, y \rangle$ where μ_x includes c rather than $\neg c$. Where Crisp's and Bourne's views failed to permit there to be a world w where c is true-at-T, constitutional times succeed. Thus, the constitutional account of times can make sense of the truth of counterfactual claims such as "Dan could have gone cycling yesterday" even given assumptions paralleling those we made in our arguments against Crisp's and Bourne's views. Indeed, these assumptions help to show how the constitutional view of times can make sense of the truth of such claims.

There remains an important question for this account: how can we say that we're talking about the same T when the set of u-propositions that partly constitute a time varies across worlds? The answer can be stated simply. Let t and t^* be times, w and w^* worlds, μ_x and μ_y sets of u-propositions, and d a date. Then:

$(t \text{ in } w = t^* \text{ in } w^*)$ iff $(\langle \mu_x, d \rangle$ constitutes t in w and $\langle \mu_y, d \rangle$ constitutes t^* in $w^*)$.

This account of the transworld identity of times is what permits us to claim in the example

above that the time constituted by $\langle \mu_y, y \rangle$ in w and the time constituted by $\langle \mu_x, y \rangle$ in w^* are identical times—viz., yesterday. It is precisely because our account allows times to exist and be constituted one way in the actual world but be differently constituted in others that enables us to make sense of counterfactual claims about the past. The past could have been different because the very times which are part of the actual past are constituted differently in possible but non-actual worlds.

6 Conclusion

We have offered a novel version of ersatzer presentism. Our view holds that times are constituted by sets of propositions and dates. This view has an advantage over extant versions of ersatzer presentism: it can account for certain counterfactual claims about the past. The two other versions of ersatzer presentism considered—those suggested by Thomas Crisp and Craig Bourne—could not account for the truth of such claims. Given that Crisp's and Bourne's views are representative of the current ersatzer positions, our account contributes to the literature on ersatzer presentism by not only offering a way out of an important difficulty facing erstazer presentist views, but also by utilizing constitution metaphysics to give an account of times.

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