Fragmentalism and Tensed Truths

Abstraction: Fine’s discussion of McTaggart’s paradox and tense realism may be the most significant progress in the philosophy of time in recent years. Fine reformulates McTaggart’s paradox and develops a novel realist theory called fragmentalism. According to Fine, one major advantage of fragmentalism is its ability to account for the connection between reality and tensed truths. I will argue that fragmentalism cannot give an adequate account of this connection. The reason is that while external relations between fragments are required by this kind of account, these relations are not allowed in fragmentalism.

Key Words: Time; Mctaggart’s paradox; Fragmentalism; Truthmakers

1 Introduction

Mctaggart’s paradox has long been considered a key problem in the philosophy of time[[1]](#footnote-2). Fine reformulates this paradox as a contradiction derived from four principles: (Fine 2005, 270-272; 2006, 399-400).

REALISM: Reality is constituted (at least partly) by tensed facts.

NEUTRALITY: No time is privileged, tensed facts at all times constitute reality equally.

ABSOLUTISM: The constitution of reality is absolute rather than relative.

COHERENCE: Reality is not contradictory, i.e., it is not constituted by incompatible facts.

REALISM says that reality is constituted at least partly by tensed facts. Given that the world is sufficiently variegated, which should be accepted by all reasonable theories of time, facts at different times can be incompatible. It is possible that I am standing at one time, and sitting at another time. Given NEUTRALITY, all tensed facts at different times constitute reality. Given ABSOLUTISM, reality is absolutely constituted by those facts. But this means that reality is constituted by incompatible facts such as I am standing and I am sitting, which violates COHERENCE.

Fine’s discussion is under his specific view of reality (Fine 2005, 267-270). He differs between what merely is the case and what really is the case. Only the latter is what the metaphysicians should concern themselves with, and it is in this sense that realism and anti-realism are debating. Though Fine talks about facts constituting reality, his official terminology appeals to a sentential operator “in reality, it is the case that…”, which does not commit to facts. For convenience, I will neglect the difference between what merely is the case and what really is the case until further notice, and simply say a fact or an object obtains or exists if it does so in reality. Also, I will assume an ontology of facts and take facts to be structured entities. But the discussions below can be reformulated in a version assuming no such ontology. When something constitutes reality, I say it is a part of reality, and reality includes it.

To avoid this contradiction, at least one of the four principles should be dropped. Anti-realism simply denies REALISM. There are no tensed facts such as [I am standing] but only tenseless facts such as [I stand at t]. Standard realism denies Neutrality. There is indeed a metaphysically privileged present, and the only facts that constitute reality are those that obtain presently. External Relativism denies ABSOLUTISM and claims that the constitution of reality is relative to times and thus incompatible facts never constitute reality relative to the same time. Fragmentalism denies COHERENCE and claims that reality itself is incoherent. But reality is divided into different coherent fragments, and there are no incompatible facts in the same fragment. Among them, fragmentalism is thought by Fine as the better position. One major advantage of it is that it can provide a better account of how tensed truths are verified or made true by reality.

In this paper, I will focus on fragmentalism only and argue that fragmentalism cannot give a satisfying account of how tensed utterances are made true. The remainder of this paper proceeds as follows. In section 2, I will summarize Fine’s theory of how fragmentalism deals with the truthmaking problem. In section 3, I argue that tensed utterances are not made true by past and future-tensed facts in the fragment in which it is uttered, but by present-tensed facts in other fragments. In section 4, I argue that for present-tensed facts to make true tensed utterances, there should be external *earlier than* relations between fragments, which leads to the problem of cross-fragment relations. In section 5, I consider some possible responses to this problem, and argue that none of them works.

2 Fragmentalism and Its Account of Truths

There is a debate on how fragments are construed. In Fine’s theory, fragments are characterized in two ways. On one side, Fine seems to define fragments through coherence relation, as maximally coherent collections of facts. On the other side, Fine takes fragments to be one-one correspondence to times[[2]](#footnote-3). In this paper, I will leave aside this question, and simply assume that when we talk about fragments and times we are talking about the same things. They both are just collections of entities such as facts and objects, and fragments include whatever things that are included in the relative times. I will use “fragments” and “times” interchangeably[[3]](#footnote-4). This preliminary understanding suffices for us to understand how fragmentalism avoids the contradiction above. To say that the world is sufficiently variegated is just to say that there are incompatible facts at different times, not that there are incompatible facts at the same time. Because fragments are just times, there cannot be incompatible facts in the same fragment. Then there is no contradiction in any fragment.

As Fine asserts, any adequate theory of time should give an adequate account of how tensed truths and reality are connected, i.e., how tensed truths are verified or made true[[4]](#footnote-5). A major advantage of fragmentalism, according to Fine, is that it can give a more satisfying account of this sort. This does not necessarily mean a complete semantic theory of tensed sentences should be provided. In fact, a clear distinction is often made between semantics and truthmaking. The latter is “saying what would make it true”, while the former is “using a Tarskian metalanguage to say when it is true, which need tell us nothing about what, if anything, makes it true” (Mellor 2009, 279). It is possible that one knows perfectly when a sentence is true but completely ignorant of what makes it true. What should be provided here is a systematic way in which reality makes true certain kinds of utterances[[5]](#footnote-6).

Then how does reality account for tensed truths in the fragmentalist view? Fine’s answer arises out of the difficulty faced by tense realism to provide such an account (Fine 2005, 288-294)[[6]](#footnote-7). Fine formulates the truthmaking requirement as the principle below:

LINK: An utterance is true iff it is made true by certain facts.

Then Fine comes up with two intuitive principles concerning truths:

TRUTH-VALUE STABILITY: If an utterance is true/false at a certain time, then it is always true/false;

CONTENT STABILITY: If an utterance states that P at a certain time, then it always states that P.

Consider the sentence “I am sitting”. Suppose U1 is a true token of it produced at t1, and U2 was a false token of it produced at an earlier time t2. For tense realism, tensed truths like U1 and U2 must state some tensed proposition such as <I am sitting>, and be made true by some tensed fact such as [I am sitting]. Given that the utterances that state the same proposition are made true by the same thing, since U1 states <I am sitting> and is true at t1, then by TRUTH-VALUE STABILITY and CONTENT-STABILITY, U1 stated <I am sitting> and was true at t2. Then by LINK, there must be some tensed fact that makes true U1 at t2. Since U2 also stated <I am sitting> at t2, by LINK U2 was also true at t2. But it contradicts the supposition that U2 was false at t2.

Standard realism normally rejects TRUTH-VALUE STABILITY or the existence of past utterances to avoid this problem. Leaving this aside, what concerns here is how fragmentalism avoids it. In brief, LINK is replaced with the principle below:

RELEVANT LINK: an utterance is true iff it is made true by the facts that exist in the fragment in which the utterance is uttered (or by the facts that exist at the time of the utterance)[[7]](#footnote-8).

Then the difficulty is avoided for fragmentalism. Even if U2 states the same proposition as U1, because U2 is uttered at t2, it cannot be made true by the facts making true U1 which does not obtain at t2 but only at t1.

Then Fine continues to differ between two kinds of contents of an utterance, which behaves in a similar way to anti-realist character and content. The focal content of an utterance can be seen as a function from its context to its target it is about, which is the time or fragment in which the utterance is uttered. The factual content of an utterance is the proposition stated by it, which can be seen as a function from its target to its truth. It determines which facts in its target are relative to the truth of utterances.

This difficulty noticed by Fine is a general problem derived from the realist view of tense. In this view, there are different or even incompatible tensed facts at different times. On one side, if the truth values of utterances are determined by tensed facts in reality, and this determination is absolute, then the truth values of the utterances should be relative to when they are evaluated. But on the other side, there is strong evidence that our concept of truth is stable, which means that truth values should not be relative. The fragmentalist solution is to move the relative feature from truth-values to truthmaking relations. Whether there is a truthmaking relation between a certain truth and a certain fact is itself relative to when an utterance is uttered and what time this fact is located. A fact that makes true an utterance may fail to do so were this utterance uttered at a different time or were this fact existing in a different fragment. In this way, the stableness of truth-values of utterance is preserved.

This constitutes a radical departure from the traditional theory of truthmaking. In traditional theory, necessitation is thought by most theorists to be at least a necessary condition of truthmaking. But in Fine’s account, the existence of truthmakers does not necessitate truths. They only necessitate truths given the times at which the facts exist and at which the utterances are uttered.

3 Truthmakers as Mediators

RELEVANT LINK provides a simple and systematic account of how reality and tensed truths are connected. Its simplicity relies on a deep assumption about times and fragments: every time or every fragment includes not only present-tensed facts[[8]](#footnote-9), but also past and future-tensed facts.

Few doubt that there are past and future-tensed truths. According to RELEVANT LINK, they should be made true by the facts in the fragments in which those truths are uttered. In virtue of which specific facts are they true? A similar thought behind the familiar truthmaking problem emerges here. Intuitively the past and future are not determined by the present. The world could be exactly the same as it presently is even if the past and future had changed[[9]](#footnote-10). This means that what is now the case does not determine what was or will be the case, then two fragments may include the same present-tensed facts but differ on which past and future-tensed propositions are true according to them. In other words, past and future-tensed propositions cannot be made true solely by present-tensed facts in the fragments in which they are uttered. Their truth requires the existence of past and future-tensed facts in these fragments.

If there are past and future-tensed facts, then intuitively there should be some kind of consistency through time. If I can be described as *using to be a graduate student* from the perspective of a certain time, then I can certainly be described as *being a graduate student now* from the perspective of an earlier time. Necessarily, there are certain past-tensed and future-tensed facts in a fragment, iff there are certain present-tensed facts in the relevant fragments.

Why does this modal connection obtain? The reason seems to be that when I say that it is presently the case that Caesar was crossing the Rubicon and that it was the case that Caesar is presently crossing the Rubicon River, in some sense I am saying the same thing. This strongly suggests that the fact [Caesar was crossing the Rubicon River] in a certain fragment and [Caesar is crossing the Rubicon River] in an earlier fragment delineate the same portion of reality. Given that reality is non-redundant, the question is which fact is more fundamental, or in Fine’s preferred terminology, which fact is more real.

Suppose past and future-tensed facts are more fundamental, then the existence of them explains why present-tensed facts exist. In the case of past-tensed truths, this means that Caesar is crossing the river from the perspective of an earlier time because Caesar was crossing the river from the perspective of a later time. Earlier happenings are determined by later happenings. This seems highly unintuitive. Our past explains who we are and what we do now, not the other way around. This problem does not arise in the case of the future-tensed facts. In this case, it seems that the fact that Biden will be the president at an earlier time determines the fact that Biden is now the president at a later time. However, this is the wrong kind of determination normally thought to be held between the present and future ordinary happenings. Normally, the determination in this case is thought to be a causal one. If what happens earlier determines what happens later, this is through causal processes governed by scientific laws. But in this case, those two kinds of facts are not causally connected, and the determination between them seems to be a metaphysical one, just like the fact that a table exists is determined by the fact that there are particles arranged tablewise.

Also, if past and future-tensed facts are fundamental or real, then whichever time we are at, there is nothing going on presently in reality or in the fundamental level, but there is only what will be or used to be. For example, in reality, it is impossible that I am sitting, but only possible that I was or will be sitting. This is also a consequence that is hard to swallow.

Thus, the idea that past and future-tensed facts are more fundamental or more real than present-tensed facts is highly unattractive. The opposite idea is more attractive. Something was or will be the case in a fragment because it is the case in an earlier or a later fragment. Then in Fine’s simple truthmaking story, past-tensed and future-tensed facts play a mediating role. They are mediating between tensed truths and present-tensed facts. In fact, this seems to be their sole theoretical role. It has no role in explaining phenomena other than tensed truths[[10]](#footnote-11).

But it seems that these mediating facts are both unnecessary and unsuccessful in making tensed utterances true. The present-tensed facts, if they exist, certainly suffice to make past and future-tensed utterances true, then why do we need this mediating duplication at all? This strategy of duplicating past and future is similar to how traditional presentism avoids its truthmaking problem by appealing to ersatzer times and Lucretian properties[[11]](#footnote-12). The presentists are forced to introduce those duplications because they deny the existence of the past and the future. Those who admit the existence of past and future appeal directly to past and future facts. For fragmentalists, there are present-tensed facts in past and future times, so this mediation seems an unnecessary postulation.

Some may argue that the mediating facts make the truthmaking story simpler. If this mediation is admitted, then whenever utterances such as “it was the case that p” are uttered, isomorphic facts such as [it was the case that p] can be posited as truthmakers for them. The task of finding truthmakers becomes easy. But it is at the cost of inflating the complexity of the structure of reality. To see how metaphysically extravagating this theory is, consider an utterance concerning different times or fragments such as “John is sitting from t1 to tn”. Its truth seems to require examining more than one fragment and seeing whether these fragments overlap, i.e., whether the fact that John is sitting is included in all these fragments. Then it seems that fragments other than the one in which it is uttered are needed to guarantee the truth of it, which violates RELEVANT LINK. The only way to stick with RELEVANT LINK is to claim that there is a single fact [John is sitting from t1 to tn] or [[John is sitting] is included in fragments t1…tn] located in the fragment in which it is uttered. Since there could be utterances about any two or more fragments, and those utterances could be uttered in any fragment, for any fragments that overlap there should be a unique fact that is included in every fragment that overlaps. It forces us to commit to nearly infinite facts in every fragment.

The explanation in virtue of past and future-tensed facts is also not successful. In discussions of the presentists’ truthmaking problem, many philosophers point out that this explanation is misdirected. The truth of utterances is only relevant to the facts they are about. However, past and future-tensed truths are about past and future, not some present duplication of them.[[12]](#footnote-13) Baron (2013, 554) notices that this is evident when we consider how we examine the truth values of those utterances. Those utterances are verified (in the epistemological sense) in terms of relevant evidence. For example, to know whether “Caesar crossed the Rubicon” is true, we should examine the relevant evidence such as authoritative historical records or traces left behind by Caesar’s army. These can be evidence for this truth because they are causally connected to the relevant past present-tensed fact that Caesar is crossing the river, not to the present past-tensed fact. Thus, when we examine whether this utterance is true, we are examining whether the present-tensed fact existed, not whether the past-tensed fact exists. Supposing that the truth of an utterance can only be examined by examining what it is about, this strongly suggests that only past and future present-tensed facts are relevant to past and future-tensed truths.

In summary, present duplications are not necessary nor successful in accounting for the truths of tensed utterances. Since their sole theoretical role seems to be as truthmakers, this suggests that they should be deserted completely. This leaves us with a different fragmentalist view that each fragment only includes present-tensed facts. But then the simple RELEVANT LINK does not work anymore. Not all tensed utterances can be made true by present-tensed facts in the fragments in which they are uttered.

Some may resist this line of argument. Fine himself proposes a general principle: (Fine 2020, 404-405)

(PT) the proposition “S” is true, because S.

According to this principle, “John was sitting” is true, because John was sitting. Fine thinks that this principle is trivially true, and it seems to force us to accept that the fact making “John was sitting” true is a past-tensed fact that John was sitting. Also, Fine thinks that this explanation is the most immediate explanation, and all other explanations must go through this explanation. If the earlier present-tensed fact that John is sitting explains this truth at all, it does so because it explains the existence of the past-tensed fact, and the latter fact explains the truth. In conclusion, the explanation provided by the mediating past-tensed facts is not only successful but also necessary.

This line of thought relies on the principle (PT), which comes from a popular attitude held by the grounding theorists. This attitude may be best expressed by Schaffer. (PT) posits a unique isomorphic fact for every truth, which seems worrisome because it requires to be committed to infinite facts, which also seems to be extravagant. But Schaffer thinks that it may not be so, in so far as these facts are not all fundamental. He claims that nonfundamental entities, because they are grounded in and thus explained by the fundamental, are ontological free lunch, and do not carry any extra ontological burden. In so far as we keep the fundamental level sparse, positing a unique fact for every truth is not as problematic as it seems[[13]](#footnote-14).

Whether this attitude is sound is still under debate. But even if it is sound, and thus (PT) is a true principle concerning the explanations of truths, it should at least be admitted that every truth should be explained not only by nonfundamental things but also by fundamental things, because truthmaking is a metaphysical determination and explanation, and determination and explanation are transitive. Then we still need a principle other than RELEVANT LINK to account for the connection between tensed truths and the fundamental level. Furthermore, this attitude makes the explanation provided by nonfundamental things non-substantial and unimportant. The truthmaking story is supposed to provide a substantial explanation of how truths and our world are related. In Schaffer’s worldview, which nonfundamental things exist is regarded as an unimportant and trivial question. The real question is whether these things are fundamental, and if they are not, in virtue of which fundamental things they exist. Schaffer claims “While Quineans will show great concern with questions such as whether numbers exist, the neo-Aristotelians (i.e., the grounding theorists) will answer such questions with a dismissive *yes, of course*…the neo-Aristotelians will show great concern with questions such as whether numbers are fundamental or derivative” (Schaffer 2009, 353). In turn, the question about which nonfundamental facts make utterances true also becomes trivial and unimportant. The real question is which fundamental facts make them true. To be told that it is true that John was sitting because John was sitting is barely informative as an attempt to provide the link between truths and our world. Then even if RELEVANT LINK is a true description of how truths and our world are linked, it is an unimportant description. We should go on to posit another principle concerning how truths and the fundamental level are connected.

4 The Problem of Cross-Fragment Relations

A principle describing how tensed utterances are made true by present-tensed facts in fragments other than the ones they are uttered in is needed to replace RELEVANT LINK. It may take the form similar to RELEVANT LINK:

RELEVANT LINK’: an utterance is true iff it is made true by the entities in the target of the utterance.

The target here is not necessarily the fragment in which the utterance is uttered. It can be any fragment that is relevant to its truth. This leads to the possibility that more than one fragment is relative to the truth of an utterance. For example, “Caesar is taller than me” has both Caesar’s and my fragments as its targets. The fact that Caesar is 180 high in Caesar’s fragment and the fact that I am 175 high in my fragment together make this utterance true.

An immediate problem emerges. There are two kinds of relations, internal and external ones. A relation is internal if its holding is fixed or determined by the intrinsic properties of its terms, thus an internal relation is “no addition of being to the terms” (Armstrong 2004, 9). Even though we utter truly relational utterances such as “Biden is taller than me” while *being taller than* is an internal relation, it does not commit us to this relation, nor a fact that Biden is taller than me. It only commits us to two different facts [Biden is 180 high] and [I am 175 high]. Following Armstrong, necessitation is at least a necessary condition of being internal. A relation R is internal, only if for any x and y, R’s holding between x and y is necessitated by intrinsic features of x and y (*ibid*, 9). On the contrary, external relations are additions of being to their terms. Truly talking about external relations does commit us to facts that contain them.

Consider an utterance “Rab”, where a and b are two entities that exist in different fragments, and R is an external relation. If it is true, then there should be a fact [Rab] making it true. Because Fine takes a tensed fact to constitute reality iff it constitutes a fragment, then this relational fact must constitute some fragment as well (Fine 2005, 297). But which fragment is this fact in? Because this fact has a and b both as its parts, and parthood is transitive, any fragment that includes this fact as a part should also include a and b both as its parts. It seems that it can be in neither the fragment of a nor the fragment of b, and there should be a larger fragment that is constituted by what constitutes these two fragments, to make it possible for the entities in them to be cross-fragment related[[14]](#footnote-15). Given that reality is sufficiently variegated, there may be two facts that are in the fragment of a and the fragment of b respectively that are incompatible, so this larger fragment may include incompatible facts[[15]](#footnote-16).

On this point, one may deny that parthood or constitution is transitive. Even though the terms of a relation are parts of the relational fact, and this relational fact is part of a fragment, the terms may not be parts of this fragment. But this strategy leads to an absurd conclusion. If parthood is not transitive, then it is possible that [Rab] is part of a fragment but a and b are not part of that fragment. Given that the fragment corresponds to the time t, to be included in that fragment is just to exist at that time. This further implies that it is possible that Rab at t, while a or b does not exist at t. This is absurd, because if something does not exist at t, then at t it cannot be related to anything. For example, if Caesar does not exist at a certain time, he cannot be assassinated by Brutus at that time.

Of course, one may deny there being any cross-fragment external relations. He may try to argue that these relations that are seemingly external are in fact all internal. I will argue that there is at least one external relation between fragments that is required by the success of RELEVANT LINK’.

Consider “Caesar will be born” and “Caesar was born” uttered at the same time, they seem to have the same target: the fragment including the fact that Caesar is born. Call it fragment t. But surely, they cannot be both made true by facts in t, because they are incompatible. Then which of these two utterances is true? Clearly, it depends on how the fragment of uttering is related to t. If t is earlier than the uttering fragment, then “Caesar was born” is true, otherwise “Caesar will be born” is true. Then RELEVANT LINK’ should be refined as:

RELEVANT LINK’’: an utterance of the form “it is the case that p/it was the case that p/it will be the case that p” is true iff it is made true by facts in the target that is the same as/later than/earlier than the fragment in which it is uttered.

Thus, to make true tensed utterances, there should be cross-fragment relations such as *earlier than* or *later than* between fragments, in virtue of which the fragments are ordered. The facts such as [t1 is earlier than t2] should thus be admitted. But which fragment does it constitute?

It may constitute the original fragments. For example, for arbitrary fragments t1 and t2, [t1 is earlier than t2] constitutes both t1 and t2. Because constitution or parthood is transitive and t1 and t2 are just parts of that fact, to say that the fact is part of t1 and t2 implies both the fragments t1 and t2 are parts of t1 and t2, which further implies that t1 and t2 are constituted by exactly the same facts. Because t1 and t2 are arbitrary fragments, this implies that all fragments are constituted by exactly the same facts, which seems absurd. It does not help to say that [t1 is earlier than t2] constitutes only one of t1 and t2. There seems to be no objective reason why this fact constitutes t1 rather than t2, the choice seems to be arbitrary.

This fact may also be said to constitute neither t1 nor t2, but a larger fragment that includes t1 and t2. This strategy may avoid the problem above, but it threatens to allow there being incompatible facts in the same fragment, because the facts in t1 and the facts in t2 may be incompatible. What is worse, because this larger fragment should also be externally related to other fragments to be temporally ordered, it constitutes an even larger fragment with other fragments. Then there will eventually be a largest fragment that is just reality itself. Fragmentalism collapses to a version of tense realism that does not divide reality into fragments.

5 Possible Ways Out

There are several possible responses to this problem. None can help fragmentalism out of this problem.

The first response is that the *earlier than* relations are internal, and whether a fragment is earlier than another is fully determined by the intrinsic features of fragments. It does not commit us to a further fact such as [t1 is earlier than t2], and thus does not force us to admit a larger fragment.

But how can these relations between fragments be determined by the intrinsic features of fragments? Fragments are just collections of facts, so there must be some facts in a fragment determining the temporal location of it. In Fine’s original version, such facts may be found, because in this version, fragments include not only present-tensed facts but also past and future-tensed facts. For any fragment including certain present-tensed facts, fragments including past-tensed correspondents are later than it, and fragments including future-tensed correspondents are earlier than it. For example, suppose that a fragment includes [Biden is now the US president], then it is later than all fragments including [Biden will be US president], and earlier than all that include [Biden was US president]. However, since Biden has been and will be president for a long time, there are many fragments including all those three facts, and their temporal order cannot be determined in this way. For this strategy to succeed, the hope is that for every fragment there must be a unique present-tensed fact included in it. Or at least, it is required that for any two fragments, there will be a present-tensed fact that is included in only one of them. However, it is unclear whether these conditions are satisfied.

Torrengo and Iaquinto (2020, 365-369; 2022, 84-89) think that the source of this difficulty is that the tensed facts are not precise enough. Thus they claim that the tensed facts included in fragments are more precise metric facts. There are two kinds of metric facts, the precise ones such as [Jonathan was hungry five minutes ago], and the imprecise ones such as [Jonathan was hungry at least one minute ago]. If a fragment includes certain precise metrics facts, it also includes the relative imprecise ones, because the propositions expressing the formers entail the ones expressing the latter. Fragments overlap by including the same imprecise metric facts. This overlapping relation can be utilized to determine the *earlier than* relation while remaining internal.

For one thing, it is unclear whether there are any imprecise metric facts. It may be that the precise and imprecise metric propositions are all made true by the precise metric facts. Unless there are independent reasons supporting their existence, appealing to them seems ad hoc. Even if their existence is admitted, they are past and future-tensed facts, and it has already been argued that they should be denied.

One may assume for every fragment there is a fact about the temporal degree of it included in it. This degree is an internal property of fragments and determines which fragment is earlier than which[[16]](#footnote-17).

The problem is what this degree is. The natural thought is that this degree is the degree of pastness and futureness, determining how far away it is from the present. But this requires an objective present. For surely, unless there is an objectively privileged fragment that is present, there is no objective distance from the present. Only the fragment that is objectively present can include present-tensed facts. For example, if 49 BC is not present, then nothing is currently going on at that time. Then other fragments can include no present-tensed facts that I am sitting, but only past or future-tensed facts that I was or will be sitting. This makes the strategy of dividing reality into fragments useless because there are no incompatible facts like I am sitting and I am standing at different times in the first place. If these useless fragments are canceled, then the facts that constitute reality are just the facts that obtain from the perspective of the objective present, i.e., what is, was, or will be the case from the perspective of the present. This theory collapses into standard realism.

Some may think that the degrees are what determine how far a fragment is from the first time or fragment, and use numbers to represent this degree. For example, the fragment that has the degree labeled by 1 is earlier than all other fragments, and the fragment that has the degree labeled by 2 is later than it.

For one thing, it is open to debate whether our time has a start. If there is no starting point, then the strategy does not work. Even if there is a start, there may be no endpoint. Then it is possible that there are two fragments infinitely far away from the start point, such that their degree cannot be counted. We cannot even label them with any number. This means that it is impossible for them to be earlier or later than each other.

It is hard to list every possible intrinsic property that may be appealed to by this strategy, but there are two general considerations why this strategy does not work.

This strategy is going to work only if there are no two fragments that are exactly the same, i.e., that include the same entities, for the two exactly same fragments have the same intrinsic features, which makes it impossible to determine which fragment is earlier. Thus, this strategy further requires that it is impossible for nothing to change from one time to another. But intuitively it is possible. This possibility of nothing changing and of two fragments being the same reveals that the temporal relations between fragments have nothing to do with how fragments are constituted, and thus those relations should be external, rather than internal.

Also, this theory does not fit the way we get to know the temporal locations of things. If the temporal order of fragments is determined by intrinsic features, then in principle my knowledge of the former could be based on the knowledge of the latter. However, I cannot directly observe some intrinsic features of the time when Caesar was born and the time when I was born to decide which time is earlier. If I directly observe these two times, the only things that can be observed are such as the clothes and food of Caesar’s time and my time. If I have enough knowledge about food and clothes, then I may find out that the former is in ancient styles and the latter is in modern styles. But it is a circularity to base my knowledge of the temporal order of times on the knowledge of styles. To know a style is modern is just to know that the style is popular at our time, and to know a style is ancient is just to know it is much earlier than the modern style. It is because the style of Caesar’s time is earlier than mine that we named it “ancient”. There are no intrinsic features of styles in virtue of which we can come to know they are ancient. The knowledge of styles is based on the knowledge of the temporal order, we cannot base the latter on the former.

The second way out of the problem is to claim that, for every fragment, there is a fact about what time it is. For example, the fragment in which Biden becomes US president includes the fact that it is now January 20th, 2021. The facts of this sort determine the *earlier than* relations between fragments.

There are two possible ways this theory can be construed. In the first way, for every fragment, there is a fact such as [it is now t] or [t is present] (where t is a time) that is included in the fragment that determines its temporal location. This fact is regarded as an intrinsic fact, i.e., the time is part of the fragment, and which time is present is an intrinsic feature of that fragment. In the second way, it is the fact [A is located at t] (where A is a fragment) that determines the temporal location of A. It is an external fact, i.e., the times are not included in the fragment and this relation between them is an external one.

This theory must make a difference between fragments and times. If times are just fragments, then the fact that it is now t or the fact that this fragment is located at t is just equivalent to the trivial fact that it is now this fragment (this fragment is present) or this fragment is located at this fragment, which does not help determine whether it is earlier or later than some other fragment.

This seems to delay the problem only. Now the problem becomes how the times are arranged in a certain order. It cannot be that a time is later than another because the former is named September 20 and the latter is named September 19, because we can totally change the referents of these two names without changing the order of these two times. Rather it is the other way around. They are so named because the times are ordered in a certain manner.

But when times and fragments are two different kinds of things, it may be claimed that it is the times that have the *earlier than* or *later than* relation, and the times are ordered in virtue of these relations. Fragments themselves are not externally related with each other. They are temporally located in virtue of the external relations between times and how they are related to times. Then the proposal is that for some fragments A and B, A is earlier than B in virtue of (a) A includes the fact that t1 is present or there is the fact that A is located at t1; (b) B includes the fact that t2 is present or there is the fact that B is located at t2; (c) t1 is earlier than t2.

Consider the option that fragments are temporally related in virtue of the external facts like [this fragment is located at this time]. Then A is located at t1, and B is located at a later time t2. For the reasons above, it is implied that there should be a fragment $α$ that includes [A is located at t1] and thus also includes t1 and all facts in A, and a fragment $β$ that includes [B is located at t2] and thus also includes t2 and all facts in B. Then t1 and t2 belong to$α$ and$β$ respectively. For t1 to be earlier than t2, there should be a larger fragment that includes what constitutes$α$ and$β$,and thus A and B. Given that reality is sufficiently variegated temporally, the facts in A and B may be incompatible, and thus this larger fragment may contain incompatible facts. The problem rises again.

Consider the option that the fragments are related to times in virtue of the intrinsic facts like [t is present]. If [t1 is earlier than t2] is included in neither A nor B, then there should be a larger fragment to bridge A and B for this relational fact to exist, which should be avoided for the reasons above. If [t1 is earlier than t2] is taken to be included in both A and B, then the problem arises from the considerations of what times are. Times can be mainly regarded as two kinds of things: collections of facts or objects, or locations where facts or things are located. If times are collections of facts or objects, then times seem to be associated with fragments in such a close way that anything that is included in a certain time is included in a fragment in which this time is present, and vice versa. For example, if [Caesar is crossing the Rubicon] is included in the time 49 BC, then surely this fact should be included in the fragment in which 49 BC is present. Then the facts constituting A are just the facts constituting t1, and the facts constituting B are just the facts constituting t2. Since A includes [t1 is earlier than t2], it also includes all facts included in t1 and t2, and thus all facts included in A and B. The same goes for B. Then A and B include the same facts, which leads to the old problem.

If times are just locations, a similar association still holds between times and fragments such that the facts that are located at a time are just the facts that constitute the fragment in which that time is present. Then the facts located at t1 are just the same facts that constitute A, and the facts located at t2 are just the same facts that constitute B. The problem is that another principle also seems to be true. According to this principle, facts are located at a certain time, iff they are included in the fragment in which that time is included. For reality to include a location is just for this location to be a location in reality, and intuitively if anything is located at a location in reality, then it must exist in reality. The same goes for fragments, which are just parts of reality. It is hard to imagine how something can be located at a location in a fragment, while it is not part of that fragment. Surely if I am located in the year 2023, then I am part of the fragment in which the year 2023 is a location. Since A and B both include the fact that t1 is earlier than t2, they both include t1 and t2. If the principle above is sound, then A and B both include all facts that are located at t1 and t2. It means that A and B both include all facts that constitute A and B. Then A and B are constituted by just the same facts. Because A and B are arbitrary, this means that all fragments are exactly the same.

If this line of thought is correct, then it seems that the independent times cannot be ordered by the *earlier than* relation. But then how can they be ordered? It may be claimed that the order of times is just a primitive matter. But the way of ordering is not only supposed to determine the relative relations between times but also supposed to explain why the resulting temporal series of times has some distinct features it actually has, such as having a direction or being asymmetric. These features are what makes a series a temporal series, rather than a spatial series. To make the ordering a primitive matter does not explain any of these features.

Also, this theory should make no appeal to other kinds of external relations between things at different times. For example, one may appeal to causal relation to do the job and claim that the time t of an event e and the time t’ of another event e’ is ordered in such a way that t is earlier than t’ because e causes e’ and causation by its nature does not go “backward”. The problem is that, on the one hand, things at a certain time are things included in a fragment, and external relations between things in different fragments are problematic for the reasons above. On the other hand, if some external relation between them can determine the ordering of times, it should have determined the ordering of fragments in the first place. The ordering of times is not needed in this case to determine which fragment is earlier than which.

In summary, even if there are independent times, they cannot be ordered by *earlier than* relation or other external relations, nor can their order be regarded as primitive. But then it is hard to see how it can be ordered at all.

The third possible way is to claim that the facts such as [fragment A is earlier than fragment B] constitute reality simpliciter but do not constitute any fragment, so the problem above does not arise. They may strengthen this response by providing theoretical reasons supporting this strategy. Fragments themselves are made just for tensed facts, or the only facts that need to be divided into fragments are the tensed ones. After all, the incompatible facts that lead to Fine’s original contradiction are all tensed, thus there is no need to put tenseless facts into fragments to avoid the original contradiction. Also, for any fact f in a fragment t, it is natural to claim “f at t”. But for tenseless facts like [A is earlier than B], it sounds weird to claim “at t, A is earlier than B”. This is evidence for this fact’s being in no fragment. They may continue that it is pre-theoretical data that there are tenseless truths, such as mathematical or logical ones. Various tenseless facts, which can be reasonably seen as lying outside of any fragment, should be committed to after all to make them true. It does no harm to add some more to the collection of tenseless facts.

But it does some harm. According to this theory, there are two kinds of truths and two kinds of facts. The truth of a tensed utterance depends on when it is uttered. If this utterance were to be uttered at a different time, its truth value may change. However, the truth values of tenseless truths like mathematical truths do not depend on when it is uttered. They are true simpliciter in this sense. The difference between being relatively true and being true simpliciter comes from the difference between their truthmakers. Truthmakers for relative truths lie in fragments, and entities in fragments do not perform their truthmaking role unconditionally. On the contrary, truthmakers for truths simpliciter do not lie in fragments, and if they exist then they can unconditionally make utterances true.

Notice that “A is earlier than B” implies “A exists” and “B exists”. If “A is earlier than B” is true simpliciter in this sense, “A exists” and “B exists” are also true simpliciter. Since a fragment’s existence implies that all facts and objects in it exist, it further implies for any fact f in A or B, “it is a fact f” is true simpliciter. As discussed above, to be true simpliciter requires to be made true by facts outside of any fragment, then f must also be outside of any fragment. This seems to be a contradiction, since how a fact can be both inside and outside of a fragment? Even if we ignore this, this theory faces another problem. It implies that all facts of A and B exist simpliciter but do not constitute any fragment. Given reality is sufficiently variegated, there are incompatible facts constituting reality without being in any fragment.

Compare this case with the cases of other paradigm tenseless facts such as mathematical facts. The latter facts, if they exist, are totally abstract, and do not have tensed facts or temporal objects (exist at times) as their parts. This is why they do not face any similar problems even if they are out of any fragment. On the contrary, facts about cross-fragment relations have tensed facts or temporal objects as their part, which prevent them from existing outside of fragments.

6 Conclusion

The ability to give a better account of tensed truths is regarded by Fine as a major advantage of fragmentalism. I argue that this is an illusion. Fragmentalism cannot give an adequate account of tensed truths. Fine’s original account is that an utterance is made true by the facts in the fragment in which it is uttered. This theory is based on admitting the past and future-tensed duplications of present-tensed facts. I argue that tensed truths should not be made true by those duplications, but directly by present-tensed facts themselves. But then the truthmaking task requires fragments to be externally related. It in turn requires different fragments to form a larger one as a metaphysical bridge. However, the existence of this bridge contradicts the fragmentalist motivation to avoid Fine’s original contradiction by dividing reality into different fragments.

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1. For McTaggart’s original version of the paradox, see McTaggart 1908. [↑](#footnote-ref-2)
2. Fine (2005, 281) explicitly says “any fact is plausibly taken to belong to a fragment or maximally coherent collection of facts…these fragments will correspond to the external standpoints of the relativist (which are times)”. Notice that the coherence relation in Fine’s definition cannot be the same as the one that is normally used, nor the one which is talked about when Fine claims that reality is not “coherent” and each fragment is “coherent” in itself. As Correia and Rosenkranz (2012, 312) notice, if “coherence” is used in the above sense, then the fact that Socrates is furious and that Plato is anxious belong to the same fragment since they are not incompatible. But if fragments are just times, then there is no fragment that contains both because they do not obtain at the same time. For detailed discussions on this topic, see Lipman 2015. [↑](#footnote-ref-3)
3. In other words, I suggest that two entities belong to the same fragment iff they exist simultaneously. Correia and Rosenkranz (2012, 311-312) have made an objection to this idea. They claim that given absolutism, tensed facts constitute reality simpliciter. This means that they constitute reality at any time, which in turn means that all tensed facts are simultaneous. It leads to the conclusion that there is only one fragment. I think their mistake lies in the misunderstanding of absolutism and constitution simpliciter. They understand absolutism as claiming that the constitution is not a temporary matter, or that the constitution does not vary through time. They take this to mean that what constitutes reality should exist at every time (*ibid*, 309). Here they ignore an ambiguity about “times”. In one sense, “times” refers to different parts of a single reality. In another sense, it refers to the external standpoints that the constitution is relative to. Whether constitution is a temporary matter has nothing to do with the former sense. After all, why constitution of reality being temporary or not has something to do with how parts of reality are constituted? Absolutism only requires reality not to be relative to any time, i.e., not to vary through times in the latter sense. It is completely adequate to say that a fact that exists only at a certain time constitutes reality simpliciter, and this does not violate absolutism. [↑](#footnote-ref-4)
4. Fine (2012, 43-46) prefers “verifying” rather than “truthmaking”. This is perhaps because of his suspicion of the so-called metaphysical truthmaking theory. But as Asay (2017) notices, his suspicion is based on a specific version of truthmaking theory, which is not held by many truthmaking theorists. [↑](#footnote-ref-5)
5. This is also the motivation of the new B-theory. It denies that B-theory should translate every A-sentences to B-sentences to avoid commitments to A-facts and A-properties. Instead, they claim that it is enough to give pure B-theoretic truth-conditions of A-sentences. The term “truth-conditions” is not quite adequate here, because sometimes to give the meaning of a sentence is just to give its truth conditions. Later many new B-theorists turn to use “truthmakers” instead of “truth-conditions”. Fine himself seems also to be suspicious of this supposed close connection between semantics and metaphysics. This is why he proposes grounding theory as a new way of doing metaphysics and ontology. [↑](#footnote-ref-6)
6. Fine regard verifying or truthmaking as a relation between entities and the content of utterances. For simplicity, I will regard it as a relation between entities and utterances themselves. [↑](#footnote-ref-7)
7. Notice that this only means that an utterance U uttered at t is true iff it is made true by the facts at t, not that U uttered at t is true at t iff it is made true by the facts at t. The latter implies that the truth value of an utterance may change through time, which violates the stable conception of truth. For the philosophers who understands RELEVANT LINK as the latter, see (Correia and Rosenkranz 2012, 312). [↑](#footnote-ref-8)
8. Strictly speaking, in Prior’s tense logic, past-tensed propositions such as “It was the case that Socrates is a philosopher” can always be reformulated as present-tensed ones such as “it is the case that it was the case that Socrates is a philosopher”. Here I take present-tensed truths to mean unembedded propositions or u-propositions in Bourne’s sense (Bourne 2006, 53), i.e., propositions that include no tense operators such as “it was the case that…” or “it will be the case that…”. In turn, present-tensed facts are the facts that can be expressed by present-tensed propositions. [↑](#footnote-ref-9)
9. See Caplan and Sanson 2011, 197. They call it the Independence principle. [↑](#footnote-ref-10)
10. Torrengo and Iaquinto (2019, 191) claim that they have another theoretical role. Tensed facts of this sort constitute genuine flow, because they constitute reality in such a way that there is a past or future-tensed fact in a fragment because there is a relative present-tensed fact in an earlier or later fragment. Then there are strong metaphysical reasons to accept these facts anyway, at least for those who are willing to embrace passage. I think even if they exist, they do not imply passage. Imagine a possible world in which all times exist and time does not flow. It is not obvious why there cannot be duplications of the past and the future in the present in this world. Later Torrengo and Iaquinto (2022, 36-60) acknowledge this problem but still insist that the correlation above is needed to explain passage. The new picture is that while the primitive tensed notions capture the temporal passage, the correlation is nevertheless needed to provide an explanation for the notions by showing how they behave. The suspicion is that explanations are supposed to point out how the explicandum behaves differently from the others. For example, if someone adds a new primitive “#” in propositional logic. He explains it only by showing that it behaves in the same way as “$\rightarrow $”, then it is not clear whether this counts as an explanation about what “#” is. In the temporal case, the dynamic and the static fragmentalism can both utilize tensed notions, and the possibility above shows that the notions in these two theories behave in the same way as regards to the correlation. Then it is suspicious that whether the correlation counts as an explanation for the tensed notion in dynamic fragmentalism. [↑](#footnote-ref-11)
11. For those who propose Lucretian properties, See Bigelow 1996 for example. For those who propose ersazter times, see Bourne 2006.  [↑](#footnote-ref-12)
12. See Caplan and Sanson 2011, 202. [↑](#footnote-ref-13)
13. See Schaffer 2009, 353-354. Fine also expresses this attitude by claiming that the grounded “consists in nothing more than” the ground. See Fine 2001, 15. [↑](#footnote-ref-14)
14. Torrengo and Iaquinto (2019, 197; 2022, 53-55; 84-89; 97-115) have discussed the problem of the *earler than* relation and other cross-temporal relations, especially the causal relation. Divers (2014, 577-575) notice a similar problem in the modal case. He notices that in modal realism, if different worlds are genuinely separate, then there cannot be genuine external relations between things in different worlds, which prevents modal realism from accounting for intuitive cross-world truths. [↑](#footnote-ref-15)
15. This argument can be reformulated without assuming an ontology of facts. Following Fine, we can propose sentential operators “in reality, it is the case that…” and “in fragment t, it is the case that…”. Suppose in reality, it is the case that Rab, and for two different fragments t1 and t2, in fragment t1 it is the case that a exists but b does not exist, in fragment t2, b exists but a does not exist. Let fragment t be such that for all x, in fragment t it is the case that Fx, if in fragment t1 it is the case that Fx or in fragement t2 it is the case that Fx. Then either in t1 it is the case that Rab, or in t2 it is the case that Rab, or in t it is the case that Rab. Given that the obtaining of a relation implies the existence of its terms, it cannot be that in t1 Rab, because it implies that in t1 b exist, and it cannot be that in t2 Rab because it implies that in t2 a exists. The only possibility is that in t Rab. But given reality is sufficiently variegated, it is possible that (in t1, Fc)&(in t2,$¬$Fc). This implie that in t, Fc&$¬$Fc. [↑](#footnote-ref-16)
16. This response is transformed from Michels’ response to Divers’ similar objection to Modal realism. See Michels, 2018. [↑](#footnote-ref-17)