

## ABSTRACT

In his 2022 paper, “Five New Arguments for the Dynamic Theory of Time,” Ned Markosian presents the Sentimental Argument for what he calls the *dynamic theory* of time. According to this argument, there are certain, so-called “poignant” truths about the way the world is. According to Markosian, it follows from these poignant truths that the dynamic theory of time is true. In this thesis, I explain Markosian’s sentimental argument for accepting the dynamic theory of time. I will then point out an objection to his argument by positing some alternative views besides the dynamic theory that could play the same role in Markosian’s argument.

I find myself rather persuaded by Markosian’s argument, in the sense that I think we ought to pay attention to what he identifies as these poignant truths when deciding what metaphysical theory of time to adopt. And if our only options are Markosian’s static and dynamic theories of time, then I agree that we ought to choose the dynamic theory on the basis of his sentimental argument. My view is that there are in fact other options. And once we recognize the other options, even if we are paying attention to the poignant truths, they do not entail what Markosian thinks they do.

**On the Sentimental Argument**

Mount Holyoke College  
Department of Philosophy  
Undergraduate Thesis

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2024

## Acknowledgments

*The writing of this thesis would not have been possible without the support of the philosophy department and my advisor Professor Nina Emery. Nina, thank you for providing the scaffolding to explore metaphysics in a new way throughout my time at Mount Holyoke. Your discernment and clarity have been immensely helpful in deepening my ideas and philosophical voice. I also want to thank Ned Markosian, on whose initial argument I base this work. Ned, thank you for extending many kind and helpful conversations with me. The thinking behind my work would not be as clear and grounded without contributions from Meg Wallace, Midge Hartshorn, Grace Thompson, Sofia Savid, Elijah Jacobs-Marques, and my wonderful cast of dancers. Thank you all for being great sounding boards for my ideas in development. Additionally, I would like to thank the Scarlet Lady for both providing a fertile place to write and the financial means that afforded me to be able to focus on my studies during the semester. As always, I want to thank my loving partner and best friend, Jennifer Thornquest, without whom this project would never have been feasible as she provided the stability for this work to live.*

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## 0. INTRODUCTION

In his 2022 paper, “Five New Arguments for the Dynamic Theory of Time,” Ned Markosian presents the Sentimental Argument for what he calls the *dynamic theory* of time.<sup>1</sup> According to this argument, there are certain, so-called “poignant” truths about the way the world is. Examples of poignant truths include the feeling of nostalgia that we have for things that are in the past, and the way in which the passage of time enables us to move beyond difficult or tragic events. According to Markosian, it follows from these poignant truths that the dynamic theory of time is true.

In this thesis, I will explain Markosian’s sentimental argument for accepting the dynamic theory of time. I will then point out an objection to his argument by positing some alternative views besides the dynamic theory that could play the same role in Markosian’s argument. Markosian’s definitions of the dynamic theory, and the main competitor to the dynamic theory, the *static theory*, are complex. I will discuss them in

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<sup>1</sup> Markosian, “Five new arguments...,” 33

detail in chapter 1. For now, in very broad strokes, the dynamic theory of time says that there is an important difference between the past, present, and future, that time is very different from space, and that the sense that we have that time is passing is accurate.

The static theory of time says that there is no important difference between past, present, and future, that time and space form a unified entity, spacetime, and the sense that we have that time is passing is in some important sense illusory.

Markosian's sentimental argument begins with the identification of a series of "important yet poignant truths." As an example, one of the truths is titled *Lost and Gone Forever*. It captures the phenomenon that what is past is inaccessible to us; "Loved ones we once cherished, but who have passed away, no longer exist. This is tragic."<sup>2</sup> This statement seems especially poignant and truthful to me. For example, it is true that my grandmother once was alive, and now she isn't. I'm really sad about this tragic fact. I'm sure we have all felt this sentiment in some capacity.

Another example Markosian uses is titled *Time the Conqueror* and it simply says "all things come to an end."<sup>3</sup> It does seem true that events come to an end. My childhood has come to an end. Also my most recent caribbean performance contract came to an

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<sup>2</sup> Markosian, "Five new arguments...", 34

<sup>3</sup> Markosian, "Five new arguments...", 34

end in February. This sentiment captures the way that the passage of time ensures that events and objects are temporarily a part of our experiences, but they don't last forever.

I find myself rather persuaded by Markosian's argument, in the sense that I think we ought to pay attention to what he identifies as these poignant truths when deciding what metaphysical theory of time to adopt. And if our only options are Markosian's static and dynamic theories of time, then I agree that we ought to choose the dynamic theory on the basis of his sentimental argument. But this leads me to question— are the dynamic and the static theories—as Markosian defines them—really the only options? My view is that there are in fact other options. And once we recognize the other options, even if we are paying attention to the poignant truths, they do not entail what Markosian thinks they do.

Two of the other options I will define and expound in this paper are intermediary views already defended in the literature between Markosian's static and dynamic theories. The first is a slightly less dynamic view of time that says there is only somewhat of a difference between past present and future, unlike Markosian's dynamic view, and our sense of time passing is accurate, but not ontologically grounded. The second is an even less dynamic theory that says there is not a fundamental difference between past, present, and future, but still our sense of time passing is accurate. I will

also posit a third view that is new to the literature. This view will say that there is not a fundamental difference between past, present, and future, and our sense of time passing is an emergent phenomena of the more fundamental structure of spacetime. My claim will be that these views do not drastically alter the way we view Markosian's poignant truths, yet they provide enough of a foothold to call into question Markosian's argument for the dynamic theory.

In chapter 1, I will give an overview of the technical background needed to understand Markosian's static and dynamic theories. I will then go on to define the static and dynamic theories in more detail as Markosian does. In chapter 2, I will present Markosian's sentimental argument and analyze it. I will also give background and precedent for this kind of argument in metaphysics. After that, I will use these views to object to Markosian's argument. In chapter 3, I go into detail on the intermediary views described above.



## 1. ASPECTS OF TIME IN THE STATIC AND DYNAMIC THEORIES

Markosian's formulation of the dynamic and static theories relies heavily on the potential analogy between time and space. This analogy can be as simple as the basic idea that we can spatialize events using a timeline just like we can draw locations on a map.<sup>4</sup> Some philosophers (and physicists) take a stronger stance and say that space and time are similar enough to each other that they create a four-dimensional entity called *spacetime*.<sup>5</sup> Spacetime is a unified entity that gives rise to the three dimensions of space in addition to the one dimension of time.<sup>6</sup> This idea is central to the *Static Theory*, and as you will see in the next section there are many different aspects of time that can be analogous to space. These aspects take us from the disanalogous space and time of the dynamic theory, to the opposite—spacetime.

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<sup>4</sup> Sider, *Four Dimensionalism*, 241

<sup>5</sup> Lawrence Sklar *Space, Time, and Spacetime*, 202-9

<sup>6</sup> Williams, "The Myth of Passage," 457

### 1.1 *The four (relevant) aspects*

In order to distinguish the static and dynamic theories of time, I will focus on four aspects of our metaphysics of time.<sup>7</sup> They are:

- (1) how physical objects persist through time,
- (2) the status of A-properties
- (3) the nature of tense, and
- (4) whether the correct ontology changes over time.

#### 1.11 *Perdurantist or endurantist?*

The first aspect I consider starts with the problem of persistence. How, if at all, do we explain an object's identity across different times? For example, it seems like the laptop I am using to write this thesis existed eleven months ago when I started this project, and it still exists as I type this today. It seems that it is the *same* laptop, but that it exists at two different locations in time. The laptop persists through time, if it does at all, because it occupies multiple temporal locations; eleven months ago, right now, and presumably later tonight. But how can laptops and other objects have the same identity

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<sup>7</sup> In Markosian's formulation of the dynamic and static theories he uses six aspects of time. I have not included aspect (1)—whether time and space can form a unified entity known as a manifold— as my argument does not directly deal with this aspect. I have also condensed aspects (3) and (4) into one for clarity. For the purposes of this paper, the A-property distinctions don't play a role in the sentimental argument.

across time, and what kind of identity is this? To help address this I will look at two major views: (1) perdurantism and (2) endurantism. Some theorists say that objects persist through time by having different parts in time in the same way that objects have different parts in space, known as the *perdurantist* view. *Endurantism* is an alternative view that states that an object persists through time in virtue of being wholly present at each moment it exists.<sup>8</sup>

One way to understand the perdurantist view is to think about how your body has parts. I have a hand, a leg, a heart, and a pelvis, etc. All of these parts of me exist at slightly different spatial locations. My leg is closer to the floor than my heart and so on. We can also think of our body as a temporal object, meaning it is extended through time in the same way it is in space. That means it has parts located at different points in time. For example, I have a 5 year old part of me, a 33 year old part of me, and (hopefully) a 48 year old part of me, but those three parts compose the same object—me. To have parts in time is called having *temporal parts*.<sup>9</sup>

According to endurantism, objects do not have temporal parts. Instead an object is *wholly present* in each moment that it exists. An object is wholly present at a

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<sup>8</sup> Lewis *On the Plurality of Worlds*, 202-10

<sup>9</sup> Sider, *Four Dimensionalism*, 242

time when all of that object's parts exist at that time.<sup>10</sup> The endurantist view is usually taken to be closer to common sense and the more intuitive view. When I look at my laptop sitting in front of me, the entire laptop looks like it is present here and now. My experience of the laptop is that nothing seems to be missing from the laptop in a way that it would change the identity of the laptop, it still seems like it is the same complete laptop.

Let's look at another example; consider that I have the property of sitting in a chair, but also I have the property of being in a handstand. I cannot have both of these properties because they are contradictory. The property of being in a handstand excludes the property of sitting in a chair necessarily.<sup>11</sup> Perdurantism says that only a part of me, a temporal part, is sitting in a chair when I am writing this thesis, and another temporal part is being in a handstand during my circus practice at another temporal location. I am sitting right now in virtue of the fact that my current temporal part is sitting.<sup>12</sup> For a bit more clarity perdurantists think that me sitting is not my whole self, it's only a small part of me. This small part comprises a series of parts that is

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<sup>10</sup> Markosian, "Five new arguments...", 7

<sup>11</sup> Example modified from Lewis' problem of temporary intrinsics See Lewis *On the Plurality of Worlds*, 202-4

<sup>12</sup> Although I may prefer to currently be the temporal part that is in a handstand, unfortunately I cannot have this property while working on my thesis.

the whole me. I like to think of this like the relationship of a slice of bread compared to the whole loaf. One slice is still bread, but it is not the whole thing. You need multiple slices next to each other to comprise the loaf. When endorsing this view it may be a downside to say I don't exist fully right now. I am extended in a temporal way, like I am in a spatial way, and my identity is composed of all of my temporal parts across my lifetime.

If we use endurantism to explain how I can be sitting and also in a handstand you would say that I am sitting in a chair now, and all the parts of me are sitting in a chair. I am not extended in a temporal way like I am in a spatial way. So at time  $t$ ,  $x$  has all the parts that it has at  $t$ .<sup>13</sup> There are no other parts of me to do other things. I'm not in a handstand, because I am sitting in a chair. But then later, at another time when I am in a handstand I want to be able to say I'm the same person as the one sitting down right now. This seems unclear to me, and a problem for the endurantist. It seems that change like this makes me different from myself, and therefore I'm not the same me. The endurantist should reply here that there are different types of identity, and this is a qualitative difference (not being perfectly identical) instead of a numerical difference (being two instead of one).<sup>14</sup>

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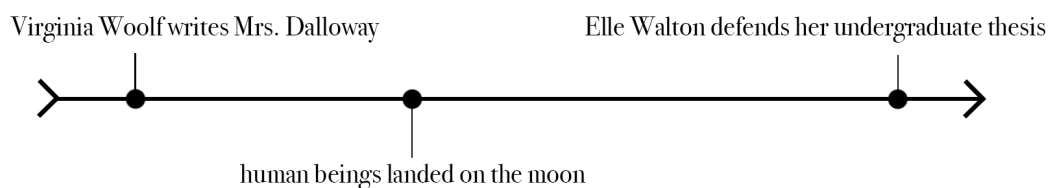
<sup>13</sup> Sider *Four Dimensionalism*, 208-13

<sup>14</sup> Noonan, H. and Curtis, "Identity"

### 1.12 A-properties

The second aspect Markosian uses to formulate the static and dynamic theories relates to the status of A-properties. Following McTaggart's definitions from his 1908 paper, *The Unreality of Time*, we can separate the way we think about time into two overarching categories; the A-series and the B-series. McTaggart says the A-series contains "positions running from the far past through the near past to the present, and then from the present to the near future and the far future."<sup>15</sup> The B-series, on the other hand, contains "positions which runs from earlier to later."<sup>16</sup>

I like to think of this distinction by how much structural information we get on a timeline. You could think of one timeline of events that looks like this:

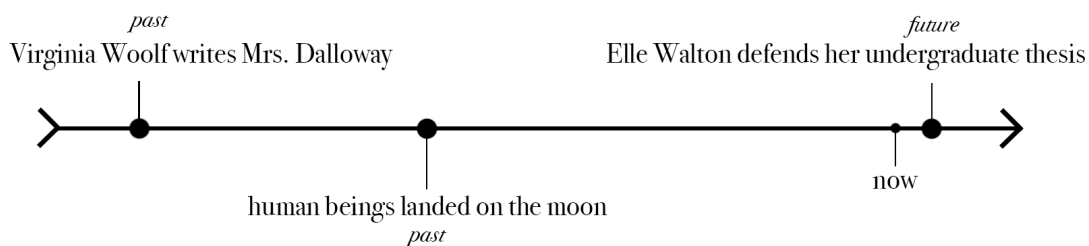


<sup>15</sup> McTaggart, *The Unreality of Time*, 458.

<sup>16</sup> McTaggart, *The Unreality of Time*, 458.

On this timeline we can see that the event *Virginia Woolf writes Mrs. Dalloway* is before *human beings landed on the moon*, and that is before *Elle Walton defends her undergraduate thesis*. In addition to these facts about what comes before what, we can know facts about what comes after what. So *Elle Walton defends her undergraduate thesis*, is after *human beings landed on the moon*, which is after *Virginia Woolf writes Mrs. Dalloway*. These series distinctions are what we would call the B-series; an ordered series of events whose relation can be defined in terms of earlier than, and later-than. These earlier-than and later-than relations are static.

But perhaps you are thinking that the timeline above might be missing a key fact. We have the facts about when events happen on the timeline, but we don't have a fact about what moment is happening right now. If we were to include this fact the same timeline would look like this:



Note that we can see where *now* is located. The timeline, with events all in chronological order, and an additional fact about which moment is now, comprise the

A-series. This makes it so we can define where things are located in relation to now. So both the events *Virginia Woolf writes Mrs. Dalloway* and *human beings landed on the moon* are in the past. *You reading Elle Walton's thesis* takes place now. And the future contains *Elle Walton defends her undergraduate thesis*. We can now order the timeline based on the possession of properties like the day after tomorrow, and four weeks ago. This constitutes the A-series.

You now see we can simply view the A-series as containing one more fact about the world—what moment is *now*. The B-series does not contain this fact. And because of that you cannot tell where the past, present, or future might be located on a timeline with only the B-series. If you can't tell where the A-properties are, then you can only order events in relation to each other, instead of to 'now.' The A-series requires additional structure over and beyond what we get with the B-series.

If time is robustly analogous to space, there are no facts on our timeline of where 'now' is. Just like on a general map of the Mount Holyoke College campus there is not a big red arrow that points to a definite 'here'. After all, the philosophy lounge that I am currently sitting in seems to be 'here' for me, but it doesn't seem like the only place that exists. I don't throw out all the other places that are not 'here' from my ontology. It is just that 'here' happens to be where I am right now. B-theorists think that these



A-properties are reducible to simply B-properties.<sup>17</sup> While the A-properties are always changing, the B-properties stay static.<sup>18</sup>

### 1.13 Tense

The third relevant aspect of time is dependent on the previous one. It deals with how we use tense and locate ourselves temporally in a metaphysically ideal language.<sup>19</sup>

Arthur Prior wrote in his paper “*Thank Goodness That’s Over*” that it seems natural to be able to say that an object has a certain property *at some time*.<sup>20</sup> For instance, it seems perfectly normal for me to say that Nina is teaching. But it also seems obvious that Nina is not *always* teaching, and so we generally take that sentence to mean that *Nina is teaching at some time*. Nina having the property that she is currently teaching is a property that changes with time, and so we naturally assume that this property is instantiated at a certain time. Using Priors’ space-time language formulation we would

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<sup>17</sup>The A-theory and B-theory are generally discussed in the literature in Maudlin (2007, Chapter 4), Mellor (1998), Paul (2010), Prior (1959, 1968) Sider (2001), Skow (2009), Smith (1987), and Williams (1951).

<sup>18</sup>There are instances where B-series relations may change in relation to each other. An interesting paper about “multiple B-series” by Katherine Fazekas (2016) that highlights when B-series relations might change based on the fact that we have no privileged reference frame. So there may be multiple ways that events are lined up on the timeline, changing the global relations to each other based on what might seem like arbitrary reference frames.

<sup>19</sup> Philosophers of time that have written extensively on this topic include Mellor (1998), Prior (1959, 1968), and Smith (1987)

<sup>20</sup> Prior, “*Thank Goodness That’s Over*,” 13.

say that Nina teaches at (time)  $t_1$ .<sup>21</sup> This method of formulating statements offers the B-theorist a system to list the complete properties of objects at different times in their existence. It also has the potential to eliminate tense from our language.

The way an A-theorist would think about tense is just the way that we use tense in everyday language. In the statements ‘She will go to the circus,’ or ‘Virginia lived here,’ we are employing the use of the moment those statements are uttered as *now*. We can deduct from the tensed language of ‘will’ and ‘lived’ which direction from *now* the event in question takes place. On the other hand, the contemporary B-theorist would employ a tenseless view of language. Using tenseless propositions the above statements for the B-theorist could read ‘Elle goes to the circus five months before this utterance’ or ‘Virginia lives in Sussex England two centuries prior to the century in which this utterance occurs’ While the B-theorist would say these statements are equivalent to each other, the A-theorist would say that they are not equivalent because the second set of statements doesn’t contain facts about A-properties.

In the A-theory we keep verbal tense because their truth values change over time. We cannot reduce words like was, will be, or am from our ideal language. In the

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<sup>21</sup> Prior, “*Thank Goodness That’s Over*,” 13.

B-theory we reduce verbal tense to statements that are true at all times rather than at-times. The truth value of these statements does not change over time.

### *1.14 Ontology*

The final aspect in which there is a difference between the static and dynamic theories has to do with the ontology of events. There are three main views in the ontology of past, present, and future events.<sup>22</sup>

The first is presentism—that only temporally present events and objects exist. According to presentism, if we were to list out all the events and objects that exist the list would not contain anything that lies merely in the past, or merely in the future. What follows from this is a commitment to the existence of A-properties. In order to know which events and objects exist under presentism we need to know what moment is now. It also follows that our ontology of events and objects changes as each present moment manifests and disappears.

For example, if you are a presentist, the event of me writing the introduction to this thesis doesn't exist because it lies merely in the past. And the event of me defending this thesis doesn't exist because it lies merely in the future. But the event of you reading

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<sup>22</sup> Sider, *Four Dimensionalism*, 12

this section of my thesis does exist. If you accept the presentist view, your own birth doesn't exist, the event that humans discover we are in a simulation doesn't exist, and Virginia Woolf doesn't exist.<sup>23</sup>

Some presentists state that this is the intuitive view of temporal ontology.<sup>24</sup> I can see how presentists could think this way. Our experience of life reflects that we can only have access to the present moment. But it is hard to see how we can have meaningful conversations about people like Virginia Woolf if she doesn't exist. What would be referring to in these cases?

There are two alternatives to presentism. The first is the *growing-block theory* (GBT), which states that all the events and objects of the past and present exist, but the future ones do not.<sup>25</sup> This view is illustrated, as the name suggests, by a block-like timeline. Each moment of time is a slice on the block, and the only slices that exist are past and present ones. These slices combine to form the block. As each present moment manifests itself, the edge of the block grows to accommodate the new moment. In this view, our complete ontology—similarly to presentism—is always changing to accommodate new things, but it never erases old ones off the list.

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<sup>23</sup> Perhaps the event of humans discovering we are in a simulation doesn't exist in any actual timeline.

<sup>24</sup> Markosian "A Defense of Presentism," 52.

<sup>25</sup> Tooley *Time, Tense, and Causation*, 238

Note that GBT entails the existence of A-properties and draws on some intuitive epistemic aspects of our experiences. We have memories of the world before the present moment and can be told stories of the world's history and find out all sorts of facts about what has happened and what objects existed. We also know what events are happening now and what objects we have access to in the present moment. But what we don't know about and have access to is future events and objects. According to the GBT, this is because the future doesn't exist.

The second alternative to presentism is the *eternal block theory* (EBT), according to which, all events and objects in the past, present, and future exist. In other words, the temporal location of an object is not a factor in ontology. The illustration of EBT—similar to the GBT—is that all the events and objects in the past, present, and future are set in a block-like timeline. Our ontology status of every object in this view never changes; it is static. Another way to say this is that all events and objects exist *simpliciter*, without any qualification or condition.

Additionally, this view can accommodate the B-theoretic, reductionist view of temporal properties. While you can still accept A-properties in this view,<sup>26</sup> it does not entail A-properties. Because all the past and present events exist we can then line them

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<sup>26</sup> Which will be detailed later in chapter 3 with the moving spotlight theory

all up in an earlier-than, later-than relation to each other. It also does not have to contain information about what moment is now, because you don't need that information if the ontology doesn't change.

With no ontological constraints, I am free to say Virginia Woolf exists simpliciter, regardless of any temporal relation to her. Also, me writing the introduction to this thesis exists, you reading this section exists, and me defending this thesis exists.

## ***1.2 Markosian's static and dynamic views***

### ***1.21 The static view***

Markosian uses the above aspects as the basis for his own formulation of the static and the dynamic theory. Using those aspects, the static theory as Markosian formulates it is that;

- 1) Any physical object that persists through time does so in virtue of having a temporal part at each moment at which it is located.
- 2) There are no genuine irreducible A-properties. All talk that appears to be about A-properties can be correctly analyzed in terms of B-relations. This is also true for the facts about the world.
- 3) We do not need to take tense seriously. Propositions have truth values simpliciter rather than at times, and so cannot change their truth values

over time. Also we can in principle eliminate verbal tenses like *is*, *was*, and *will be* from an ideal language.

- 4) The correct ontology does not change over time. It always includes objects from every region in spacetime<sup>27</sup>

This combination of aspects can be summed up as a standard, B-theory, eternalist block, view of time.

One drawback of the static view is that it is unintuitive. I experience the world as if I am living in one moment, then the next and the previous moment has gone away. The laptop I was using earlier is no longer present with me, and isn't accessible to me anymore. If time really is like the static theory it means that we are experiencing something different than what is really going on.

On the other hand, this view is compatible to the way we experience the world with respect to space, and personal identity.<sup>28</sup> We don't think of ourselves as inhabiting a privileged place in space; "here" is not the only spatial location that exists. Geneva, Switzerland exists, as does South Hadley, Massachusetts—even though I can only see

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<sup>27</sup> Markosian "Five New Arguments...", 5-6.

<sup>28</sup> I should cite Professor Emery here for giving a lecture in her philosophy of time course in the Spring of 2022 at Mount Holyoke College. This lecture set these two analogs alongside time in addition to modal indexicals. These puzzles have kept me entertained since then. She also has a wonderful paper on the analog between actualism and presentism— "*Actualism without Presentism? Not by way of the Relativity Objection.*" (2018)

one of them when I look out my window. If we were to use the spatial dimension analogously to the temporal dimension why would now be the only temporal location that exists?

The analogs here are interesting. Some philosophers of time referred to spatial and temporal references from a specific vantage point as *token-reflexive expressions*.<sup>29</sup> Other philosophers prefer to use the term *indexicals*.<sup>30</sup> These terms point out a way that we refer to things from a specific vantage point. For example the words *now* and *then* can both denote the same point of time. The point in time in which Virginia penned “Mrs. Dalloway said she would buy the flowers herself...” was *now* when she wrote it, but has since become a point on the timeline we refer to as *then*. I also did this with spatial terms above. The term you use to point out a location in space or time contains some reference point from which you refer to it from.

Here is one more fun indexical. We don’t think of ourselves as the only people that have a special quality—*me*. Everyone has their own *me*. To deny everyone their own *me-ness* seems like a misstep in explaining what the world is like.<sup>31</sup> ‘You’ happen to be ‘you’ simply because ‘I’ am not experiencing the rich inner and sensorial life that you are

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<sup>29</sup> Including Dummett (1960), Mellor (1998), and Smith (1987).

<sup>30</sup> See Beer “*Temporal Indexicals and...*,” 158-164

<sup>31</sup> Hare, *On Myself and Other, Less Important Subjects*



experiencing. But I am assuming that you are experiencing it.<sup>32</sup> The reference in this analog doesn't change via spatial or temporal location, but instead depends on which individual is referencing it.

The static theory also is compatible with some of our leading physical theories. I will say more about this in the next section.

### 1.22 *The dynamic view*

On to Markosian's preferred theory; the dynamic theory. It has the following four relevant aspects;

- 1) Any physical object that persists through time does so in virtue of being wholly present at each moment at which it is located.
- 2) There are genuine and irreducible A-properties, which cannot be correctly analyzed in terms of B-relations. The temporal facts about the world include ever-changing facts involving A-properties.
- 3) We must take tense seriously. Propositions have truth values at time rather than *simpliciter* and can, in principle, change their truth values over time. We cannot eliminate verbal tenses like *is*, *was*, and *will be* from an ideal language. And

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<sup>32</sup> Maybe I shouldn't make such assumptions. Philosophers of consciousness that have non-phenomenological views and solipsists may have a wildly different view than this. But I think I am safe to assume that *I-ism* seems unintuitive to most others.

- 4) The correct ontology is liable to change over time, and it is always true that only present objects exist<sup>33</sup>

This can be summed up as a standard, A-theory, presentist view of time. This view has the advantage of being the common sense view.<sup>34</sup> As I explained above we experience the world in A-theoretic terms.

There are a few downsides to adopting this view. First, because it is a presentist view, people like my grandmother, who has passed away, don't exist. I don't mean that my grandmother doesn't exist *anymore*, I mean that she doesn't exist simpliciter.

Another objection to this view is that some philosophers say it isn't compatible with the prevailing physical theories of physics—namely the Special Theory of Relativity (STR.)<sup>35</sup> This theory, in broad strokes, says that there is no fact of the matter to what events are simultaneous with each other.<sup>36</sup> As a result, the events on a timeline don't have a specific order until you pick a *reference frame*. A reference frame is a way to refer to the same point in space at different times.<sup>37</sup> Unless we have some sort of privileged reference frame we are using to determine the order of events, there is no way to see which pairs of events are simultaneous with each other. If we can't tell which

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<sup>33</sup> Markosian, "Five new arguments for....," 9-10

<sup>34</sup> Markosian "A Defense of Presentism," 52

<sup>35</sup> Sider *Four Dimensionalism* Chapter 2

<sup>36</sup> Michelson "Relative motion of the earth..." 129

<sup>37</sup> Sider *Four Dimensionalism* Chapter 2

events are happening at the same time, then how are we supposed to know what events are happening *now*? This seems like a problem for A-properties, and especially for presentism.

STR presents the following problem for the dynamic theory; there is no such fact as a universal now. We can't have a fact about now without some arbitrary reference frame. If there is no fact to which events have the property of now, then we don't know what A-properties these, and other, events have. If there is a question about which A-properties events have then we have a problem for almost all the aspects of the dynamic theory stated above. Aspects (2) and (3) are hard to determine—there are no facts about universal A-properties, or what tense should be like in an ideal language. And aspect (4) isn't coherent —ontologically it is a problem to not have facts about what exists because there is no universal now.

What can the dynamic theorist say about the STR problem? They *could* posit that such a reference frame exists, perhaps it isn't even arbitrary.<sup>38</sup> We don't yet have enough information available to us to know what reference frame is the correct one. But perhaps a single correct reference frame does exist as a matter of fact. If this is so, the

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<sup>38</sup> Or perhaps an arbitrary reference frame would work just as well, if everyone agreed could agree on it.

A-theorist or presentist can still stand on their views. And so the dynamic theory could be plausible.

### *1.23 Time is like a film*

Markosian offers us a sweeping metaphor in his paper to help us further understand these theories: a film. A filmstrip consists of multiple frames placed next to each other. These frames are basically pictures with small differences, set next to each other in a row to be slid past a beam of light and projected onto the screen. When the film is played at the appropriate speed and projected it seems as if these still images take on some sort of life. Our minds will construct the images into a cohesive scene where movement seems like it is in real life, smooth and filled with change.

According to Markosian, one way to imagine the static theory is to think of a film that has been made in its entirety and it is sitting on the shelf. It has all the frames, images, events, and objects that are contained in the film on its filmstrips sitting there ready to be viewed, but no one is viewing it. There is no way to tell which of the frames on the strip have that special quality that we observe when we watch it. The film is simply existent, static and unchanging.

To imagine the dynamic theory, on the other hand, we could say that time is like a film being played in the cinema *right now*. It is not the frames that are the universe, but the image on the screen. Markosian says that this is because “reality is one thing that keeps changing.”<sup>39</sup>

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<sup>39</sup> Markosian, “*Five new arguments...*” 10

## 2. THE SENTIMENTAL ARGUMENT

Now that you see the relevant distinctions between static and dynamic theories of time, we can take a look at Markosian's *Sentimental Argument*. He first outlines a series of important yet poignant truths. He claims that in a static theory framework they are not able to be captured accurately, and you cannot properly appreciate them. And if you cannot accurately capture these truths and properly appreciate them properly as a Static Theorist, then you are doing something wrong. Your theory of time is incorrect.

Here is the formal argument as he puts it:

- “P1     *There are certain important yet poignant truths about the passage of time such that the Dynamic Theory is consistent with a proper appreciation of those truths, the Static Theory is not.*
- P2     *If (P1), then The Dynamic Theory is true.*
- C     *The Dynamic Theory is true.”<sup>40</sup>*

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<sup>40</sup> Markosian, “Five New Arguments...,” 38

What are these truths and how does the dynamic theory capture them?

Markosian addresses this by giving us several of these truths. First he posits them in dynamic theorist language, and then attempts to translate them into Static Theorist language. I will expand upon specific examples of these truths in the next section of this chapter. He uses these formulations to point out that the Static Theorist cannot accurately capture the sentiments behind them.

### ***2.1 Some poignant truths***

In the following I present several different poignant truths that Markosian uses.<sup>41</sup> He uses these, and other, truths to persuade his readers that we ought not ignore these important but poignant truths when formulating our metaphysical account of time. First I will give you how Markosian formulates them originally, then how he thinks the Static Theorist would translate them in an ideal language. After that, I give clarity on how the static theory translations fall short of appreciating the original sentiment behind them.

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<sup>41</sup> Markosian posits eight in total and you can find them all on page 34.

## 2.11 Nostalgia

The first example of Markosian's poignant truths is our concept of nostalgia. He says his understanding of *Nostalgia* is:

*“Every event that has already happened is irretrievably past.  
The world will never be like that again.”<sup>42</sup>*

He posits that the way you would say something akin to Nostalgia as we do in Static Theorist language is:

*“There are certain events that are earlier than this utterance,  
and these earlier events are not duplicated at any time later  
than this utterance.”<sup>43</sup>*

According to Markosian the Static Theorist formulation does not capture the proper appreciation of Nostalgia that we experience. In what way does it not? First we should answer this question—what is the experience of Nostalgia? The way I understand it, Nostalgia encapsulates a longing to experience something that has previously happened, but we cannot be experiencing it at this time. So there are three things here; that the event happened in the past (i.e. not now), we currently are not experiencing it, and we will not experience it in the future because the world will not be

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<sup>42</sup> Markosian, “Five new arguments...,” 34

<sup>43</sup> Markosian, “Five new arguments...,” 35



like that again. The Static Theorist formulation of the sentiment captures that the events are in the past. Additionally, by not being duplicated at a later time they only happened once. But only happening once doesn't mean quite the same thing as having an appreciation of the event not happening right now. It lacks an experiential bit of the sentiment about us not experiencing the nostalgic event now, or in the future. Instead something else is happening now, and it will not happen again in the future. And this is tragic.

### *2.12 Lost and gone forever*

Another example Markosian uses is about people and events being lost and gone forever (LAGF). He formulates this as

*“What is past is lost and gone forever. Loved ones we once cherished, but who have passed away, no longer exist. This is tragic.”<sup>44</sup>*

His translation into Static Theorist language is as follows

*“Earlier things still exist, but they are earlier. This is tragic.”<sup>45</sup>*

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<sup>44</sup> Markosian, “Five new arguments...,” 34

<sup>45</sup> Markosian, “Five new arguments...,” 37

Markosian doesn't find this statement to appreciate the sentiment behind what is lost and gone forever. What is happening here? As I understand it this sentiment captures the feeling of loss of someone (or something) we really loved experiencing life at the same moment of space and time with, like my grandmother. And, like my grandmother, this special person, object, or event is no longer accessible to us because it lies merely in the past. Additionally the whole of my grandmother's life lies in the past, she is no longer able to access her own life in the same way I am no longer able to access the same spatiotemporal location as her.

The static theory formulation speaks mainly to the ontological nature of things. They exist, but merely earlier than the statement. While I could critique Markosian for leaving out the emotionally charged language of "loved ones we once cherished have passed away," I don't think it contributes to how we appreciate the statement. The commitment still remains mainly ontological—my grandmother exists, but she is earlier.

The static theory formulation doesn't connect with us on an experiential level, once again. Is it simply pointing out that a person exists but is inaccessible to our experience now, instead of saying a person no longer exists? No, that is not quite right.

There is something tricky happening here. It's not that the static theory formulation is saying that we are not experiencing the same spatiotemporal location as that person and this is tragic. It is not saying anything about experience at all. It is simply saying I have some temporal parts that make up the object of me. Some of my temporal parts have a tragic feeling about a certain person or object not being a part of that spatiotemporal location. And all of those parts occur later than the parts that have the opportunity to be at the same spatiotemporal location as that other person or object. This is not as tragic as experiencing a moment now where your grandmother has died and you no longer get to spend time with her again.

### *2.13 Inexorable passage*

A third example of Markosian's poignant truths is *Inexorable Passage*. Here is how Markosian formulates this truth in dynamic theorist language:

*"The passage of time is a strange and inexorable process that we are powerless to stop. We can't even slow it down. Sometimes this is tragic, sometimes it is a blessing."*<sup>46</sup>

And in Static Theorist language he posits it reads:

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<sup>46</sup> Markosian, "Five new arguments..." 34

*“We have a mistaken impression according to which there is such a thing as the passage of time—a strange and inexorable process that we are powerless to stop (or even slow down). Sometimes this mistaken impression is accompanied by a feeling that something tragic is happening, and sometimes it is accompanied by a feeling that something is happening that is a blessing. But is it always just an illusion, because time does not really pass.”<sup>47</sup>*

Once again, according to Markosian, the static formulation doesn't live up to the sentimental material of the original statement. It relies on the idea that the way we are experiencing time is not how time actually is. Because of this mistaken impression of how time passes, we feel like we can't stop its passage, but according to the static theory time doesn't pass.

This missing sentimental part here is what it actually feels like to realize that time is passing, and that there is nothing we can do to stop it. Which feels to me slightly terrifying, like when I am trying to do petit allegro in ballet class. Petit allegro is a section of ballet class where students learn a combination of small steps, and then have to perform these steps in rapid succession to music that is just as fast. When I try to do petit allegro the passage of time feels like it will swallow the steps I am trying to complete. I can never perform the small

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<sup>47</sup> Markosian, “Five new arguments...,” 37

jumps and precise steps fast enough to keep up with the time of the piano. If I examined this scenario like a static theorist I wouldn't be able to speak to the experience of how the steps keep stumbling over each other, it would be that the temporal parts of me that were performing the petit allegro had a frustrated feeling that the steps I was completing were not in the right time. Additionally, I mistakenly thought that my frustration was stemming from the passage of time. Without the experience of now in this equation, time passing doesn't contain the same sentiments that it feels like it should.

## ***2.2 Is there precedence for this kind of argument in metaphysics?***

At first glance the sentimental argument may seem like something that you have not encountered in metaphysics before. But I think that there is some precedence for an argument of this type in metaphysics. I believe it is an extension of a popular argument put forth by Arthur Prior in 1959. In this section I will detail how Markosian's sentimental argument is a more robust version of Prior's argument.

### ***2.21 Prior***

I have already touched on Prior's paper "Thank Goodness That's Over" above in my introduction of the relevant aspects of time for tense. While the paper is mostly

about tense use, Prior uses a small phenomenological example that the paper is titled after to support his conclusion that we should take tense seriously.<sup>48</sup> The phenomenon that Prior very briefly uses is the feeling that we get after something occurs that is unpleasant. Take for instance at one time in the past I was sick. I can say “Thank goodness that’s over!” now that my sickness has run its course. Everyone understands this statement without any date appended to the end of it. Prior says that this statement makes much more sense than nearby statements like “Thank goodness the conclusion of that thing is (February 3rd, 2024)”<sup>49</sup> According to Prior it doesn’t make any sense to “thank goodness for the sickness being earlier than this utterance.”

This is almost exactly what Markosian is doing in his sentimental argument. Finding sentimental phenomena that have some sort of time asymmetry bias attached to them. He then uses immediately understandable common phrases to flesh out how we intuitively experience the dynamic theory as true. He contrasts the statements with similar, but odd sounding statements that we wouldn’t really use to point out how the static theory doesn’t make any sense to our experiences of time.

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<sup>48</sup> Prior, “*Thank Goodness That’s Over*,” 17

<sup>49</sup> Prior, “*Thank Goodness That’s Over*,” 17

In this way, Markosian is just expanding what Prior started over 50 years ago. He is adding to the view of metaphysics that says we should take into account our understanding of the world as it intuitively occurs to us.

### 3. OBJECTIONS TO THE SENTIMENTAL ARGUMENT

I agree that we ought to pay attention to these sorts of truths. The way we experience them should affect our metaphysical understanding of time. Some of the most important things in my life are built on how I relate temporally to people and things around me. The birth or death of a loved one is considered a major life event around the world in all cultures. A parent's care for her children is paramount to any other thing in her life. My nostalgic memories and time's inexorable passage affects how I make choices and are the foundation to how I view the world. Events of this type have enormous power to how we perceive and understand the world. I would question the philosopher that discounts these experiences from their evidence. What are we doing in metaphysics if things that are so important to our experience don't contribute to our views?



Perhaps some metaphysicians would say that we can't be using these subjective experiences to understand an objective feature of reality like time. We have made several major scientific discoveries in just the last few hundred years that undermined our intuitions and experience. Take for instance Copernicus' discovery of the earth moving around the sun; it fundamentally changed how we understood our place in the universe and is a completely unintuitive way to view the world. But we know now that this is the correct view, however unintuitive.

While this is an objection to the overall methodology of this type of argumentation, I think that the sentimental aspects of our lives that the poignant truths highlight should be considered as evidence as we think about the structure of time. We all experience time in roughly the same way, which, in tandem with physical evidence like entropy etc, seems to tell us something about the universe we live in.

In the rest of this chapter I will look at other possible objections to Markosian's sentimental argument. First I will explain one possible objection to premise one, which will bring up important questions about what proper appreciation actually entails. Then I will explore why Markosian uses, and what counts for, *proper appreciation*. After that I will re-examine some of the poignant truths that I have detailed above, this time figuring out what aspects of Markosian's dynamic formulation are required to support

these truths. Finally I will object to premise two—that if the first premise is true, it entails the dynamic theory.

### 3.1 (P1)

You could object to Markosian's first premise, which says "*There are certain important yet poignant truths about the passage of time such that the Dynamic Theory is consistent with a proper appreciation of those truths, and The Static Theory is not.*"

The main objection is that these are not truths at all. For the Static Theorist, they are decidedly false, as Markosian aptly points out.<sup>50</sup> For example the Static Theorist clearly wouldn't find Markosian's *inexorable passage* statement as the dynamic theorist posits it as remotely true. For them, there is not an entity to have the sentimental phenomena of "blessing," "slowing down" or anything to feel tragic about. Because the Static Theorist does not endorse A-properties, time does not have the property of passing from one moment to the next, it is static. Even though it appears to us that time is passing, this is not actually the case, and so the statement is false. There is no property of now for the Static Theorist to remark that is inexorably passing.

To make the first objection more robust the Static Theorist might "deny these sentiments are actually true, and insist that there are not even any nearby truths."<sup>51</sup> A

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<sup>50</sup> Markosian, "Five New Arguments...", 39

<sup>51</sup> Markosian, "Five New Arguments...", 39

nearby truth for *inexorable passage* might be to say that the statement is about some phenomena that is not true to the fundamental nature of the universe, instead merely true to our psychological understanding of the universe. Markosian acknowledges this as well, and determines that if this is the route a philosopher takes, they are somehow talking past each other.

While Markosian doesn't deny the Static Theorist will say these sentiments are not truths, he heads this objection off by adding the *proper appreciation of these truths* to P1. This seems reasonable on his part. While the Static Theorist can deny that these poignant truths are indeed truths, they should not be able to deny that we can understand them from this other standpoint—proper appreciation. The truths must be appreciable in the right way. But what does *the proper appreciation* of those truths actually mean? Given that this is a central part of the argument I think we should have a precise answer for that.

### *3.11 Why proper appreciation?*

There is a simpler version of the sentimental argument that Markosian could have used. It is analogous to an earlier argument in his paper—using personal identity and moral responsibility. That argument bases itself on the truths of moral and personal

identity statements that we use in everyday life. Statements like “I am embarrassed today about something that happened to me when I was seven years old.”<sup>52</sup> This statement is true, according to Markosian. In the same move as he does for the sentimental argument he translates this truth into static theorist language; “My embarrassment is true now because my current temporal part feels embarrassment over something that happened to a distinct temporal counterpart that is seven years removed from a still earlier temporal counterpart that is being born.” Markosian claims this statement is not true. He isn’t embarrassed because a temporal part of himself had something happen to it, he is embarrassed because that thing happened to *him*. For Markosian these two statements don’t have the same truth value. He makes the case that personal identity claims are only true and point to a dynamic theory of time, rather than the static theory. He disagrees “that the underlying facts about each of these statements are true.”<sup>53</sup>

While I won’t comment on if I think the argument from personal identity holds up, why then, does Markosian add the *proper appreciation* of the sentimental truths instead of just sticking with the truth of the statement itself? I think it is to block the

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<sup>52</sup> Markosian, “Five New Arguments...,” 11

<sup>53</sup> Markosian, “Five New Arguments...,” 38

objection to premise one that we stated above, that you can simply say the Static Theorist formulations of the sentimental argument are true.<sup>54</sup>

### *3.12 What counts as proper appreciation?*

Markosian addresses proper appreciation briefly as a “failure to appreciate the temporal dimension.” He says that to be a Static Theorist about temporality is akin to being a moral nihilist about if there are moral facts in the world. A moral nihilist thinks that the world doesn’t contain moral facts in addition to not having knowledge of them. But a lot of philosophers would disagree, and claim that there indeed are moral facts in the world. For these philosophers, to not acknowledge the existence of moral facts doesn’t aptly capture, in actuality, how humans act towards each other. Markosian thinks that moral nihilists are doing it wrong, which I take to mean their methodology is not taking into account facts that we get from the way people actually act in and see the world. In the same way that moral nihilists are doing it wrong, he thinks that Static Theorists are doing it wrong with regards to time.

What I take Markosian to mean from the above analogy with moral nihilism is that our metaphysical account of the world should reflect our common sense temporal understanding of the world. Even a static theorist admits she has sadness years after a

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<sup>54</sup> Or somewhere “in the ballpark” of truth as Markosian puts it.

dear friend passes away, or is nostalgic for the time that her children were building sandcastles on the windy Caribbean beaches of Cozumel when they were small.

How do we determine what statements are “properly appreciating truths,” and which ones are not? Would Markosian accept something that said, “It feels like time never stops moving and that I am subject to its ever constant directional passage,” for something that is accurate for *inexorable passage*? Or would this merely be a nearby statement that cannot be true because of what the dynamic theory says about time? When taken this way I can’t see if Markosian is basing his poignant truths on the dynamic theory, or if the dynamic theory is actually supported by the poignant truths. If we look at his argument as the former, then it seems as if the poignant truths are cherry picked to showcase the features of time that we would associate with the dynamic theory. And I don’t think that is how we should do metaphysics. We should not have a theory in mind, and then support it with the justification of the poignant truths. The truths should come first, then we should determine which theory they point to.

I feel like the above statement I formulated is true about *inexorable passage*,<sup>55</sup> and additionally I think that it appreciates the temporal dimension in the correct sense. But is it up to Markosian to be the gatekeeper on what counts as proper appreciation? I

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<sup>55</sup> For me, at the very least, and I’m sure more would agree.

don't think that should be the case, not any one philosopher should be the gatekeeper on this matter.

Perhaps the following is true; we should pay attention to the sentimental part of our experiences when coming to a metaphysical understanding of what time is like, and furthermore, the appreciation of those experiences is a key component to that. The appreciation of those experiences looks like finding a consensus on what truths accurately reflect the way we experience the world.<sup>56</sup> Then using those to apply our reasoning about the philosophy of time.

While some criteria could be developed for *proper appreciation* as a technical term, that is beyond the scope of this thesis. I imagine some of this criteria may border on begging the question by assuming a metaphysical understanding of time that already included A-properties.<sup>57</sup>

### *3.13 Which aspects do we need to have proper appreciation for the poignant truths?*

There is a significant question of what aspects of the dynamic argument we actually need to fulfill the proper appreciation of the poignant truths Markosian uses.

Do we need endurantism, A-properties, A-property tenses, and also presentism to

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<sup>56</sup> Easier said than done.

<sup>57</sup> But if this is the case, maybe A-properties should be looked at carefully as based in truth.

satisfy these requirements? This will determine if there are more theories that we could consider besides the dynamic and static views when taking into account sentimental phenomena in our lives. In this section I will take you back through the poignant truths I discussed above—Nostalgia, LAGF, and Inexorable Passage—and determine which of those aspects are actually needed to appreciate them.

### *Nostalgia*

Do we need all of the aspects of Markosian's dynamic theory to properly appreciate Nostalgia? First let's look at aspect (1), an endurantist view of events and objects. If we take on endurantism in Nostalgia, I am wholly present in the moment I am in right now, and I am not simply a temporal part in relation to the other parts of me that experienced other times to be nostalgic about. Markosian presumably thinks one must be wholly present in the now to experience Nostalgia's consequences because *he* is the thing experiencing the sentiment.

I don't think that endurantism is a necessary condition to Nostalgia. It's not necessary for me to be wholly present right now in order for me to be nostalgic about an event that I experienced in the past. It seems to have the same meaning to me if I am a later temporal part experiencing the sentiment about a past temporal part of myself.



The important bit is that I am not experiencing the event now. In the perdurantist view for Nostalgia I would simply be wishing that a previous temporal part of my life was present instead of previous.

Perhaps Markosian would object that wanting a previous temporal part of me to be present is different than wanting myself to be present. But for the purposes of Nostalgia, as I stated above, the truth hinges on the fact that I am not experiencing the event *now*. The temporal part of me interacting with my grandmother being present, and myself being present is about the fact that I am present, and not about the fact that I am wholly present or not.

Do we need our A-properties truth values and associated tenses from (2) and (3)? As you see above we do need them to support Nostalgia on two counts—first for an event to be in the past we need to be able to use tensed language, and second that event must not have the property of presentness now. To be able to say that something is in the past, you must have a point of reference within time to be viewing events from. To say something is in the present, that event or object is occupying the same point in your particular temporal reference frame. For Nostalgia we need to have already experienced the event in question to be able to look back on it fondly. We wish that those events still retained their properties of presentness. It was a special thing for those particular

moments to have presentness. And so we are not able to get rid of aspect (2) or (3) for Nostalgia.

Perhaps the Static Theorist would object here by saying that each temporal part of myself would experience Nostalgia correctly for the time that the part was located temporally. The experience of the part would be that of experiencing nostalgia for an earlier part of itself. But I think this is not quite right. Part of properly appreciating Nostalgia is not only that some part of me is experiencing the sentimental feelings, it is that the part of me *right now* is experiencing those feelings.

Moving forward, do we need aspect (4)—a presentist ontology—to support Nostalgia? I don't think so. For the same reasons an endurantist view is not a necessary condition, we don't need to prove that only the present moment can exist to understand Nostalgic expressions and their truth. I can imagine Markosian would object to this by saying that the fact that the nostalgic event doesn't exist anymore is a stronger motivator for the sentimental feeling that Nostalgia appreciates. While this could be true, the difference between having a stronger motivator for a feeling and not having a feeling at all is vast. If a sentiment can be experienced even when the nostalgic event still exists, then the exact strength of the feeling or motivation doesn't play into if presentism is necessary. You can still appreciate Nostalgia, even if the level of

appreciation seems less to the dynamic theorist, without the ontological commitment to presentism.

Let's examine this with a description of something that gives me nostalgia: I have nostalgia for climbing a certain tree as a child in the summertime that was in my childhood backyard. The event of me climbing a tree is in the past as indicated by the nostalgic feeling. The part of me that is climbing the tree is a temporal part that experiences this when I am seven. I am not currently experiencing the part of me that is seven, I am experiencing a part at a later temporal location. So while I cannot access this event presently, because it is both in the past and time moves in a forward direction, it is plausible that the event still exists. I have a memory of it happening, and the way that memory usually works is that I only remember events that exist merely in the past. I also am experiencing the nostalgic feeling presently.

In the description above I have used temporal parts, A-properties, and the existence of a past event to accurately describe my feeling of nostalgia. As I see it, for Nostalgia, we merely need A-properties to explain this poignant truth.

*Lost and gone forever*

Turning again to our poignant truth LAGF. To remind you, this truth is about the feeling that past people, objects, and events that we once cherished are lost and gone forever. Let's again go through the relevant aspects systematically and see which of them are needed to support LAGF.

First, endurantism. Do we need to have wholly present objects in order to appreciate the truth of LAGF? I don't think so. This poignant truth doesn't rely on persistence of an object through time. Imagine an object that becomes instantiated, stays instantiated for one instant, and then becomes uninstantiated again. We could say this object was wholly present, or we could say it simply had one temporal part, and this wouldn't change the fact that after it is uninstantiated it could be considered lost and gone forever. It can still be true in perdurantism that we once (and probably still) cherished loved ones who have passed away. Whether or not my loved ones or myself are wholly present now instead of having temporal parts has no bearing on the dynamic version of this statement. So we don't need aspect (1) here.

What about A-properties and tensed truths? We still need to retain them here to be able to recognize the pastness of our loved ones' lives. Without pastness, there are moments that are possibly experienced in which the loved one is still around. Like

with Nostalgia, pastness is a key component of appreciating this truth. If we were to be Static Theorists and get rid of what moment is now, we would just have the events and objects placed in spacetime without a relation to where we are located. Their pastness would not be a factor in how we appreciate this poignant truth. We need to retain the A-properties to understand what LAGF is going on about. LAGF is supported by aspects (2) & (3) of the dynamic theory.

And what of our ontological commitment? At first it seems that you do need presentism to be able to appreciate LAGF. After all, the static theory statement says (rather dryly) that earlier things exist, but they are earlier—that doesn't really sound tragic. But I would like to push back a bit on Markosian's formulation here. I think the type of thing we need to appreciate this poignant truth isn't an ontological commitment but an inaccessibility commitment, which only necessitates A-properties. After all, having a relation to a person who merely passed away is easier to do if they exist. How can I have feelings of love and charity towards something that doesn't exist? I don't think I can. I think it is a detriment for this poignant truth to be a presentist.

Markosian pushes back against this accessibility argument. Here is a thought experiment where there are two scenarios.<sup>58</sup> The first is that my grandmother has received the great honor of being the first person to explore a distant planet on a space expedition.<sup>59</sup> I will not be able to communicate with her for the duration of her journey. The additional sad part is that I know after her departure that I will never see her again, as the journey will definitely last for the rest of our lives. The second scenario is that my grandmother gets the same opportunity but upon liftoff the space shuttle explodes, certainly killing her. In both scenarios I don't get to talk to or see my grandmother past the point in time where she gets on the shuttle.

When you first think of them, these scenarios seem metaphysically different from each other. Even though my experience will not differ between each scenario in relation to my grandmother, the second scenario is more tragic than the first.<sup>60</sup> If my grandmother was on a space exploration right now I would have a different feeling

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<sup>58</sup> I took this thought experiment (with creative liberties added) from two seminars on the philosophy of time, first Nina Emery's Spring 2022 course at Mount Holyoke College, and second Markosian's Fall 2022 course at UMass Amherst.

<sup>59</sup> What a delightful image.

<sup>60</sup> Not even considering the loss of knowledge that humanity may have gained.

when thinking of her, even though I would also never see her again. Her welfare would still be of importance to me.<sup>61</sup>

However, I'll point out an important delineation here; there are two tragic things happening instead of just one. The first is that my grandmother is no longer accessible to me, and she never will be in the future either. The second is the possibilities of her life that were discontinued when the space shuttle exploded.<sup>62</sup> Of course you care about her welfare, but the fact that the space shuttle exploded when I was already not going to see her for the rest of my life doesn't change how I feel about the possibilities of her journey ahead. It's not that I can't see her *right now*, it's that *she* will not have any more experiences, independent of when those experiences take place in relation to my own timeline. Think about a common thing people say at funerals when a death seems especially tragic; "Their life was cut so short." This points to an intuition we have about the length of life and possibility that the life once contained and now it doesn't. I think the tragedy in LAGF is necessarily both types of tragedy taken together—accessibility and possibility. When taken together they don't entail that presentism is the correct ontology to have. Just because she has fewer temporal parts

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<sup>61</sup> In a private conversation with Markosian he states that to think otherwise, (ie the only thing that matters is my being able to enjoy our relationship by communication or spending time with them) is selfish. You should care that your friend still *exists*.

<sup>62</sup> Thank you to Meg Wallace for talking through the possibilities argument with me.

than she supposedly would have, and I am also unable to access any temporal parts she did have right now, doesn't mean that to appreciate this poignant truth it follows that the only moment that exists is the present one, including all its events and objects. So I think we don't need aspect (4) of the dynamic theory to properly appreciate LAGF.

### *Inexorable passage*

The passage of time really feels inexorable doesn't it? Especially during *petit allegro*. This seems like one of the most dynamic truths that Markosian points out, wouldn't it entail the most dynamic version of time possible? Let's critically examine which aspects of Inexorable Passage are necessary to be appreciated properly.

First let's start with the aspects that I don't think you need to explain this—aspects (1) and (4). These aspects seem easy enough to explain what is going on through the poignant truth for a Static Theorist if you think about it using temporal parts; each of my parts gets to experience the time that is allotted to it, but not indefinitely. And all the parts experience it in a certain way, namely in the order that the events happen. Additionally it seems equally reasonable to think that the times that have passed still exist, but they are inaccessible to us.



Markosian will likely disagree in the following way; if you line up an object on a timeline with all its temporal parts existent in place, where is the passage? It seems like you cannot properly appreciate the inexorable passage of time without the passage bit. He might say my whole self has to be present in this moment to feel its passage to the next, not just a part of myself. And even more so if each moment is only existent while it is present, then the passage of time is literally moving from existent moment to existent moment.

I don't think this is what is going on here. Once again I'll bring up our intuitive experience of time. I simply cannot experience all the temporal parts at once, I can only experience one at a time. In the same way I can only experience a part of my body in that part of space. I can only experience the temporal part of me that is now.

This leads me to aspects (2) and (3). Inexorable Passage deals directly with these aspects—A-properties and their associated tense. I think we need A-properties because without which moment is now, we cannot understand time as passing. If the universe was just a series of events in order with no moment that has such a special, privileged time to be now, the events would simply be in order—like our film on the shelf. But with the fact about which moment is now on top of the events in order, suddenly the passage of time is possible.

Inexorable passage cuts straight to the heart of a century-long argument in the philosophy of time about the passage of time. What is passage, and does the structure of time contain it? Philosophers don't have a consensus on this topic.<sup>63</sup> The passage of time has these two sides, those who think that time does pass—who are usually some form of A-theorist—and those that don't think that time passes—who are usually B-theorists.

I think what Markosian is saying with this poignant truth is that we do experience A-properties. Time does pass. We only experience one moment at a time, and we are continuously moving through these moments. Our experiences of time indicate the truth of how time really is, and this poignant truth—as formulated by aspects (2) and (3) of the dynamic theory— properly appreciates this.

### *3.2 (P2)*

Now we can see which aspects of time we need to properly appreciate the poignant truths. I don't think we can jump right into the assumption that because the static theory cannot properly appreciate the sentimental truths, we must accept the

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<sup>63</sup> Although many philosophers have contributed to finding one. See Maudlin (2002), Prior (1968), for accounts of how time does pass in a robust way, and Beer (1988), Frischhut (2013), Sider (1987), Smart (1980), Williams (1951) for reductionist accounts. See Fazekas (2016), for an alternative to passage.

dynamic theory. Markosian's formulation of the static and dynamic theories are lacking. Namely, that he has posited what he thinks are *the only two views*, when in fact there are more live views being debated in the literature. These two views totally contrast in their content, but he doesn't indicate that they could be placed on a spectrum of views.

Therefore, I believe we should object to premise two—his conditional that if his first premise is correct, we should accept the Dynamic Theory. I think there are more options on the table than just the dynamic and the static theories. If there are more options that appreciate the kinds of poignant truths like Markosian lists, we can no longer accept premise two of his argument.

#### 4. THREE ALTERNATIVE THEORIES

As referenced above there are multiple alternatives to Markosian's dynamic and static theories. One can (almost) systematically go through the different aspects of these theories and outline intermediary views that are defended in the literature. In this chapter I will first share two such views— the *growing block theory* and the *moving spotlight theory*. I will then posit a third intermediary view that is new to the literature—the *emergent moving spotlight view*. Additionally I will show that to obtain proper appreciation of the sentimental argument the crucial belief is the existence of A-properties, which all of these views contain. I will argue that any theory in the literature that posits A-properties is likely to satisfy the proper appreciation requirement for my argument.

#### 4.1 *The growing block view*

The first intermediary view is already discussed in the literature—the growing block theory.<sup>64</sup> I have already briefly described this in my exposition—the view that the ontology of the world consists of past and present events and objects, but not future ones. If I were to formulate this view according to the four aspects we have been discussing in this paper, the growing block view would look like this:

- 1) Any physical object that persists through time does in virtue of having a temporal part at each moment at which it is located. Temporal parts in this view have an ontology that is generally being added to in virtue of how many temporal moments are in our ontology.
- 2) There are genuine and irreducible A-properties, which cannot be correctly analyzed in terms of B-relations. The temporal facts about the world include ever-changing facts involving A-properties.
- 3) We must take tense seriously. Propositions have truth values at time rather than *simpliciter* and can, in principle do, change their truth values over time. We cannot eliminate verbal tenses like *is*, *was*, and *will be* from an ideal language. And

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<sup>64</sup> C.D Broad is widely known as an early defender of the Growing Block Theory in his 1923 book *Scientific Thought*. Michael Tooley is a contemporary defender in his 1997 book *Time, Tense, and Causation*. Other more recent defenders include Forrest (2004), Briggs & Forbes (2017), and Button (2006). Serious objections to this view based on A-theory problems can be found in Bourne (2002) and Braddon-Mitchell (2004).

- 4) The correct ontology is liable to change over time, while past and present objects always exist, the future ones only come into existence when becoming present.

In this formulation I have simply changed the endurantist view to a perdurantist one, and altered the ontological properties of the dynamic view. This says that a growing block theorist would believe that past objects exist in addition to present ones. It is possible for a standard growing block theorist to assert an endurantist view for aspect (1), that objects are wholly present. But either way, in this view time is still different from space, minimally its ontology is dynamic in virtue of A-properties. We don't posit that space has A-properties that make here the only existent place, like we do for time in this view.

Subscribing to this view doesn't seem to alter the sentimental argument. All of Markosian's poignant truths use only aspect (2) and (3) of the dynamic view, and are not necessarily presentist views. But can the growing block view fully appreciate the poignant truths that deal with ontology like LAGF? I think so. The important part of proper appreciation is the A-theory properties, as this is the only information that we experience of the world. And what we experience is the basis for our poignant truths.

There are some tricky poignant truths prima facie for proper appreciation here. They are LAGF, and *Time The Conqueror* (simply stating that all things come to an end).<sup>65</sup> Can these statements be appreciated if we believe that once events and objects are present they exist and continue existing as they transition into the past? I believe the answer is yes. The way that the growing block theory works is that the edge of the block is the most important spatiotemporal location for us as humans. Whatever is happening on the edge of the block—ie the present moment—is what we are able to access. Even though my grandmother still exists in this view, she does not exist on the edge of the block, and is therefore experientially inaccessible to me.

Given GBT it is true that my grandmother still exists in the past, and she is gone forever from A-properties going forward. This is a terrible thing, because I loved being able to experience hiking around the mountains of Idaho with her, and I know I will never experience that again. Additionally that experience, of hiking with her, has come to an end, like all things do. The end here is not an ontological end, but an experiential end, which are the most important things when referring to our sentimental truths.

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<sup>65</sup> Markosian, “Five new arguments...,” 34

## 4.2 *The moving spotlight view*

The second intermediary view, which is also discussed in existing literature is the *Moving Spotlight View* (MSV).<sup>66</sup> This view retains A-theoretic properties while keeping a full ontology of objects in the past, present, and future. Formulated with the four aspects looks like:

- 1) Any physical object that persists through time does in virtue of having a temporal part at each moment at which it is located.
- 2) There are genuine and irreducible A-properties, which can be correctly analyzed in terms of B-relations, but are not reducible to them. Some temporal facts about the world include ever-changing facts involving A-properties.
- 3) We can take tense seriously. Propositions can have truth values at time and also *simpliciter*. We cannot eliminate verbal tenses like *is*, *was*, and *will be* from an ideal language. And
- 4) The correct ontology does not change over time. It always includes objects from every region in spacetime

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<sup>66</sup> The origins of this view of course lie with McTaggart's (1908) separation of the A-series and B-series in *The Unreality of Time*. An early commentator of the view was C.D. Broad (1923). More contemporary analysts include Ross P. Cameron (2015) and Daniel Deasy (2015). Kristie Miller (2019) offers an alternative conception of the view that she endorses in her paper *A Cresting Wave: a new moving spotlight theory*. And Brad Skow (2017, 2009) has endorsed this view as a plausible secondary option to EBT after solving some relativity related questions.



The MSV's name is a metaphor of retaining the A-theoretic properties with an eternalist ontology. In this view the universe is like a block—all spatiotemporal locations in the past, present, or future exist in a block-like structure. But also encoded into the universe is a fact about what moment is now. The moment that is now is said to have a theoretical spotlight shining on it to point out that it is present.

For GBT, I have exactly flipped aspect (1) from the dynamic view to the static view.<sup>67</sup> While you could still consider objects to be wholly present at each present moment, since A-theoretic properties are not reduced in this view, it simplifies the view (and, I think, bolsters it) to let objects have temporal parts. I have also changed aspect (4) in this view to be in line with Markosian's static theory. To be able to have a moving spotlight that 'shines its light' on the present moment, all of the moments must exist for the spotlight to highlight them in turn. Notice here that we retain aspects (2) and (3), A-theoretic properties, in this formulation.

Can this view accommodate a proper appreciation of the sentimental truths? Yes, since we are retaining the A-theoretic properties in this view. Again, we have facts in the universe as to what moment is now. What is psychologically important to us is the

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<sup>67</sup> Although, you could retain aspect 1 in the dynamic configuration for this view, it would not be a standard interpretation and causes some problems with persistence that is also best left to mereological discussions.

objects and events that exist within those facts. And crucially, the spotlight does not move backward, so we cannot access events that happened in the past and we can only access events in the future, one at a time, in order.

Markosian is not likely to agree on the following point; to truly pay attention to the poignant truths we must have all the dynamic properties possible in the formulation. It's not just the facts about what moment is now, it's additionally that now is the only moment that exists for sentimental phenomena to arise. The MSV view does not have a changing ontology. If MSV doesn't have a changing ontology then he would say certain static theory statements fail to properly appreciate the relevant poignant truths.

But as I have argued above, it is not necessary to have a presentist ontology to pay attention to the poignant truths. You can find an appropriate and appreciative nearby truth to the statements that does not include presentist ontology. I don't agree that the correct way to appreciate the poignant sentimental truths in the world is to accept all the possible dynamic properties of our current theories.

### 4.3 *The emergent moving spotlight view*

Finally, the last intermediary view is a new one that I am introducing. I call it the *Emergent Moving Spotlight View* (EMSV). This view has the same formulation of aspects as above in the standard MSV, but with one minor change. Instead of being fundamental to the spacetime structure, the A-theoretic properties in this view are emergent properties over and above B-relations. The formulation would read as follows:

- 1) Any physical object that persists through time does in virtue of having a temporal part at each moment at which it is located.
- 2) There are emergent A-properties, which can still be correctly analyzed in terms of more fundamental B-relations. The temporal facts about the world include ever-changing facts involving A-properties.
- 3) We can take tense seriously. Propositions can have truth values at time and also *simpliciter*. We cannot eliminate verbal tenses like *is*, *was*, and *will be* from an ideal language. And
- 4) The correct ontology does not change over time. It always includes objects from every region in spacetime

What does it mean for A-properties to be emergent? Let's define it as a wider term first. Put very simply, emergence is when a complex system arises from the sum of

individual parts and functions above and beyond those parts.<sup>68</sup> Like a crowd making a “wave” at a sports stadium. Each individual doesn’t have the power to make this phenomenon occur alone, but together with a multitude of others it is possible.<sup>69</sup> For A-properties, the complex structure of time interacts with the wider properties of the world, and our own physiology, to make the information about which moment is ‘now’ ontologically emergent.<sup>70</sup> According to Elizabeth Barnes, ontological emergence acts as an explanatory theory for properties that are fundamental, but not independent.<sup>71</sup> It is possible when properties or an entity exist in relation to a fundamental entity but cannot be reduced to a part of that entity. If some property, x, emerges from some entity, y, x is dependent on y. In this case the property of which moment the spotlight is shining upon depends on a spacetime structure. You have to have the events and objects located next to each other, in order, to be able to have passage from one event to another in the correct order. I’m positing that this, then, allows A-properties to be ontologically emergent from the B-relations of spacetime.

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<sup>68</sup> O’Conner & Wong, *Emergent Properties*

<sup>69</sup> Thank you to my sister, Evelyn van DenAkker who is a nuclear physicist in Utah, who helped me with the examples in this section immensely.

<sup>70</sup> Note that there is a difference between weak emergence and strong emergence in the literature. Physical and biological sciences generally deal only with weak emergence, I’m positing a case of strong emergence for A-properties. See Baron, Miller, and Tallant (2023) *Out Of Time* specifically Chapter 5 and 6 for another instance of strong spacetime emergence.

<sup>71</sup> Barnes, “*Emergence and Fundamentality*”, 885

For an example, ontological dependence is used in the philosophy of mind debate on the relationship between the brain and mental states. Some philosophers claim that we can use the ontological emergence relation to understand this connection.<sup>72</sup> The base entities in this case are the neurons inside the brain. The emergent entity here is mental states and, some think, consciousness. Since consciousness seems to be dependent upon the physical body, it is said to be emergent from the body in this view.<sup>73</sup>

I'll pull from physics for another example. We use the conductivity of electrons on a daily basis to function in our modern society. Yet conductivity is said to be an emergent phenomenon of the transfer of energy from electron to electron. On their own, the electrons have no conductivity, but when they are aligned in the right way they then can transfer energy from one electron to another. The phenomenon of conductivity is evident from its applications. It is independent in the way that it functions, but is dependent on certain parts of atoms moving around and bumping into each other. Other phenomena that are said to be emergent are magnetic properties arise from the alignment of billions of electrons, and the complex lattice structure of ice crystals when the temperature of water drops below a certain point.<sup>74</sup>

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<sup>72</sup> See MacDonald & MacDonald's (2010) *Emergence in Mind* for an anthology of emergence in the philosophy of mind.

<sup>73</sup> This is an example of strong emergence.

<sup>74</sup> These are all examples of weak emergence

But does ontological emergence of A-properties also allow a proper appreciation of the poignant truths we have been discussing? Let's look at what this specific emergence contains. First, we have a base structure of spacetime, which has many parts including different locations in space and time. Then we have the moment of now that arises from this base structure, which is above and beyond what the individual parts of the structure provide. And if we have now, we have A-properties. And as I established above, if we have A-properties, then we have proper appreciation. So yes, as I understand it, it would properly appreciate the poignant truths because this view entails the existence of A-properties.

If A-properties are an emergent phenomenon, then we have a basis for appreciating the poignant truths in a dynamic way, given that A-properties provide the structure for time's passage. The important facts for us as humans are the events and objects that are instantiated partly by the emergent A-properties. If the moment of now can arise dependently from the underlying structure of time, we can understand the sentimental parts of our lives and still be accurate according to the structure of time. In this view my grandmother, though she exists, is still inaccessible to me presently. Even though she was a person at one time in the past, she is not now. I can't spend any more moments with her than I already have, and this is tragic.

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Now that I have shown that there are other options on the table than just the static and dynamic theories as Markosian formulates them, we can question which dynamic theory we should support, not just Markosian's formulation. GBT and MSV are well recognized in the literature with many philosophers that support and oppose them. My view—EMSV—is yet to be fleshed out as a full account, but if plausible would still satisfy the requirements of the sentimental argument for (a) dynamic theory of time. These views, and possibly others, should be considered for support in a version of the sentimental argument. They can be possibilities that arise from paying attention to the proper appreciation of poignant truths that Markosian formulates.

## 5. CONCLUSION

In this paper I first introduced you to Markosian's sentimental argument. I then explained the difference between the static and dynamic theories according to Markosian, and explained the aspects of time that contribute to those theories. After that I gave background for where this type of argument builds on previous metaphysical literature. Then, I objected to Markosian's premise that because the static theory cannot accommodate certain sentimental truths that are important to our experiences we should choose the dynamic theory as he formulates it. Instead I posited three other theories that contain enough dynamism to appropriately appreciate these truths.

I do think that Markosian is correct in his sentimental argument about how we ought to properly appreciate certain important and poignant truths about our experience. But I don't believe that this leads us directly to the dynamic theory as he formulates it. It doesn't follow that just because the static theory cannot accommodate a



proper appreciation of these truths a person should be committed to presentism, or endurantism. In fact, there are several other theories of time defended in the literature that can capture the sentimental aspects of our lives in an accurate way.

There is still work to do in areas of metaphysics discussed in this thesis, as they are on the forefront of metaphysical literature. First, the fact that Markosian proposes we should pay attention to our sentimental experiences in metaphysics positions us to re-examine the relationship between these two things. Another underdeveloped research opportunity is the possibility of applying emergence metaphysically to properties of time, such as A-properties. What is the most fundamental piece of the structure of time? What properties could be emergent from that? Finally there could be some investigation into what the criteria is for *proper appreciation* of the poignant truths.

In concluding one thing I want to emphasize is a thread that has shown up in multiple places about how we go about doing metaphysics. There is little consensus on how much attention we should pay to intuitive experiences that play such a significant part of our daily lives, and how much that impacts our metaphysical views. The sentimental argument at its core is addressing this issue, and that is highlighted by proper appreciation becoming a technical term. I'll leave you with a question; how

should I think about the structure of time when humans generally agree about these important yet poignant truths being such significant experiences in our lives?

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