# <u>OUTLINE</u>

# Time

This course will span **four** lectures. In it, we will cover canonical readings in the metaphysics of time. In doing so, we will consider questions concerning the nature of time and its properties. We will also consider how it is that we (and other objects) change and persist through time. The lectures will proceed as follows:

- 1. Introduction & The Unreality of Time
- 2. Paradoxes of Flow
- 3. The Direction of Time
- 4. Persistence through Time

# Lecture 1 – Introduction & The Unreality of Time

### 1. Introduction

We regularly talk about temporal facts.

- "Today is Friday"
- "WWII lasted six years"
- "There will be a presidential election next year"

There are a number of different questions about time that can arise once we make this observation. Such as:

- Can time exist independent of the events to which we ascribe temporal properties?
- What is the 'topography' of time? Should we represent it as a single line? Or a series of branches? Or just a moment-sized 'slice'?
- Does time flow? Is there an inherent direction to time?
- Is time static or dynamic?
- Can we move through time from future to past? (Time travel)
- What, if anything, makes the present unique?
- Are the objects that seem to exist in time 3-dimentional or 4-dimentional?

We will only end up address some of the questions on this list. But it is worth noting that there are many other metaphysical questions to be asked about time beyond the topics we will cover here.

#### 2. McTaggart, Part I – The A- and B-series

In 1908, McTaggart published a paper in which he argued that there is no such thing as time. He begins by stating that there are two different ways we can order positions in time, and calls these the **A-Series** and the **B-Series**.

#### **A-Series**

This series is formed by ordering positions in time (which he calls 'moments') according to the properties that they bear, where those properties are defined relative to a *specious now*. These properties concern *pastness*, *presentness*, and *futurity*. Thus, the properties 'Past', 'Present', and 'Future' are such properties, but so too are the related properties 'a long way in the past', and 'in the near future'. These properties are called **A-properties**, and moments ordered according to their A-properties form the **A-series**.

#### **B-Series**

This series is formed by ordering moments according to the properties that they bear, where those properties defined relative to some other moment (but not

relative to any moment in particular). In other words, these properties concern the position of moments relative to one another. Thus, these properties take the form 'earlier than m', or 'later than n', or 'simultaneous to o' (where these too can be elaborated in the way the A-properties are, hence '*much* earlier than m' or 'a little later than n'). These properties are call **B-properties**, and moments ordered according to their B-properties form the **B-series**.

Notice that for any given event, its B-properties will be unchanging. For instance, it will always be a property of the Moon landing that it occurred later than the Glorious Revolution. Contrastingly, an events A-properties will change. In 1800, the Moon landing had the property of being future; but on 20 July, 1969 it lost the property of being future and gained the property of being present; and on 21 July, 1969 it lost the property of being present and gained the property of being past. In this way, A-properties (and the A-series) is **tensed**, whereas B-properties (and the B-series) is **tenseless**.

#### 3. McTaggart, Part II – The Argument

#### Time and Change

According to McTaggart, there can be no time without change. He writes:

A particular thing, indeed, may exist unchanged through any amount of time. But when we ask what we mean by saying that there were different moments of time, or a certain duration of time, through which the thing was the same, we find that we mean that it remained the same while other things were changing. **A universe in which nothing whatever changed** (including the thoughts of the conscious beings in it) **would be a timeless universe**. (1908: 459)

He then asks whether a B-series alone could allow for change. Recall that in the B-series, moments, and the events that occurred in them, had their temporal properties permanently. So, for any event *E* in the B-series, it cannot gain and lose the property of 'being present' (for instance). Now, in order for some event *E* in the B-series to undergo genuine change, McTaggart argues that it must either be the case that (1) *E* ceases to be an event, or else it must be the case that (2) there is some other characteristic of an event that "can change and yet leave the event the same event" (460).

On (1), he argues that this is impossible because of the permanence of B-properties.

On (2), he argues that the *only* candidate for such characteristics are A-properties.

But, if McTaggart is right on both of these counts, then there can be no change without A-properties. And if this is so, then the B-series alone cannot allow for change.

The A-series, on the other hand, faces no such difficulty with accounting for change. Consider the following passage concerning the event of the death of Queen Anne:

At the last moment of time-if time has a last moment-the event in question will still be a death of an English Queen. And in every respect but one it is equally dev6id of change. But in one respect it does change. It began by being a future event. It became every moment an event in the nearer future. At last it was present. Then it became past, and will always remain so, though every moment it becomes further and further past. (460)

So, since events can gain and lose their A-properties, the A-series can allow for the possibility of change. And since time cannot exist without change, McTaggart argues, time cannot exist without the A-series.

## A-series and Incoherence

The second part of the argument concerns the coherence of the A-series itself. Recall that the primary A-properties are the properties of being past, being present, and being future. These properties are incompatible; that is, no event can bear more than one of these. But, every event bears *all* of these properties!

Now, you might think that this isn't strictly true since, for any given event *E* in the Aseries, it never bears all three properties *at the same time*. If *E* is present, then it was future, and will be past. The properties of being past, present, and future are only incompatible if possessed simultaneously.

McTaggart anticipates this response, and argues that involves a vicious circularity. This move invokes time in order to account for the A-series; but due to the change argument, it was proven that we need the A-series in order to account for time. *Petitio Principii*.

Since, McTaggart wrote his paper, however, others have observed that you needn't invoke the A-series again in order to explain the A-series. Instead of saying *E* was future in the past, where 'future' and 'past' are both A-properties, we can posit a new set of A\*-properties, past\*, present\*, and future\*. Thus, *E* was future in the past\*. The trouble with this is that, while it avoids vicious circularity, it sets off an infinite regress. While the initial inconsistency is avoided, a new one is introduced since every *E* will have the properties 'future in the past\*', 'present in the past\*' and 'past in the past\*' (and so on

for the other combinations of the A- and  $A^*$ - properties). Now *E* has inconsistent properties at the same moment in the A\* series. This process of positing a distinct series to resolve the inconsistency can be iterated, but at each step a new inconsistency will arise. So the problem seems insoluble.

#### Standard Form Argument

Briefly, then, McTaggart's argument can be stated as follows:

- P1. If time exists, then it exists either as an A-series or as a B-series.
- P2. Time cannot exist unless there is change.
- P3. Change is impossible on the B-series.
- P4. Change is possible on the A-series.
- C1. Therefore, time cannot exist unless the A-series exists. (From P2, P3, P4)
- P5. The A-series is incoherent.
- C2. Therefore, the A-series does not exist. (From P5)
- C3. Therefore, time does not exist. (From P1, C1, C2)

#### 4. When is the present?

McTaggart gives us one other reason to doubt the reality of the A-series; one that sticks even if you don't accept the incoherence argument. You might think that we determine whether an event has the property of being past, present or future depends on when the present is. Call those direct perceptions that I am having now *present*; all other perceptions are those that I can only remember or anticipate. All of the perceptions I'm having now fall in my "specious present". McTaggart writes that the specious present "varies in length according to circumstances, and may be different for two people at the same period" (472). But if this is the case, there could be some event *M* such that the following is true:

The event M may be simultaneous both with X's perception Q and Y's perception R. At a certain moment Q may have ceased to be part of X's specious present. M, therefore, will at that moment be past. But at the same moment R may still be part of Y's specious present. And, therefore, M will be present, at the same moment at which it is past. (472)

But surely this is impossible. So we can't fix any event *M*'s A-properties according to *M*'s relation to a specious present. And if we can't determine when the present is by appeal to our experience of 'now-ness' as it were, then we need some other way of determining when *now* is. The problem with that is, picking any duration of time to call *present* seems arbitrary.