

...the concepts of past, present, and future have significance relative only to human thought and utterance and do not apply to the universe as such. They contain a hidden anthropocentricity. So also do tenses. On the other hand, the concepts of 'earlier', 'simultaneous', and 'later' are impeccably non-anthropocentric. (Smart, p. 132)

1. Tenseless predication

In what follows I shall want to make use of tenseless verbs. I shall indicate tenselessness by putting these verbs in italics. Tenseless verbs are familiar in logic and mathematics. When we say that two plus two *equals* four we do not mean that two plus two equals four at the present moment. Nor do we mean that two plus two always equalled four in the past, equals four now, and will always equal four in the future. (Smart, p. 133)

2. Temporal parts account of change

It is perfectly possible to think of things and processes as four-dimensional space-time entities. The instantaneous state of such a four-dimensional space-time solid will be a three-dimensional "time slice" of the four-dimensional solid. Then instead of talking of things or processes changing or not changing we can now talk of one time slice of a four-dimensional entities *being* different or not different from some other time slice. (Note the tenseless participle of the verb 'to be' in the last sentence.) (Smart, p. 133)

3. Token-reflexive account of 'now', 'past' and 'future'

Let us replace the words 'is past' by the words '*is* earlier than this utterance'. (Note the transition to the tenseless '*is*'.) Similarly, let us replace 'is present' and 'now' by '*is* simultaneous with this utterance', and 'is future' by '*is* later than this utterance'. (Smart, pp. 133-4).

4. Fatalism, determinism?

...when we say that future events exist we do *not* mean that they exist now (present tense). The view of the world as a four-dimensional manifold does not therefore imply that, as some people seem to have thought, the future is already 'laid up'. To say that the future is already laid up is to say that future events exist *now*, whereas when I say of future events that they *exist* (tenselessly) I am doing so simply because, in this case, they *will* exist. The tensed and tenseless locutions are like oil and water—they do not mix, and if you try to mix them you get into needless trouble. (Smart, p. 141)

...the view of the world as a space-time manifold no more implies determinism than it does the fatalistic view that the future 'is already laid up'. It is compatible both with determinism and with indeterminism, i.e. both with the view that earlier time slices of the universe are determinately related by laws of nature to later time slices and with the view that they are not so related. (Smart, pp. 141–2)

5. Against the A theory

We can also see how misleading it is to talk of the flow of time, or of our advance through time. To say that by next year a year of time will have gone by is simply to say that our conscious experiences of a year later than this utterance *are* (tenseless) a year later than this utterance. Our consciousness does not literally advance into the future, because if it did we could intelligibly ask ‘How fast does it advance?’ We should need to postulate a hyper-time with reference to which our advance in time could be measured (seconds per hyper-seconds), but there seems to be no reason to postulate such an entity as a hyper-time... Moreover, anyone who thought that time-flow was necessary for time would presumably want to say that hyper-time-flow was necessary for hyper-time. He would therefore be driven to postulate a hyper-hyper-time, and so on without end. (Smart, p. 136).

5.1 The hyper-time argument

1. Flowing is always with respect to some dimension
2. If time flows, then any “time-like” dimension must flow
3. If 1 and 2 are true, then if time flows, there exists an infinite series of “time-like” dimensions
4. There does not exist an infinite series of “time-like” dimensions
5. Therefore, time does not flow

5.2 How fast does time pass?

1. If time flows, it flows at some rate
2. There is no rate at which time flows
3. Therefore time does not flow