

The B-Theory

“The Space-Time World”

J.J.C Smart

Recap: A-Theory vs. B-Theory

- 1. Time is tensed:** An event is first part of the future, then part of the present, and then past.
- 2. Temporal properties.**
- 3. Time flows.**
- Distant future
Near future
Present
Near past
Distant past

- 1. Time is tenseless:** earlier, simultaneous, later.
- 2. Temporal relations.**
- 3. Time does not flow.**
- t_5
 t_4
 t_3
 t_2
 t_1

A-series

B-series

All of time is happening at once.



J.J.C Smart

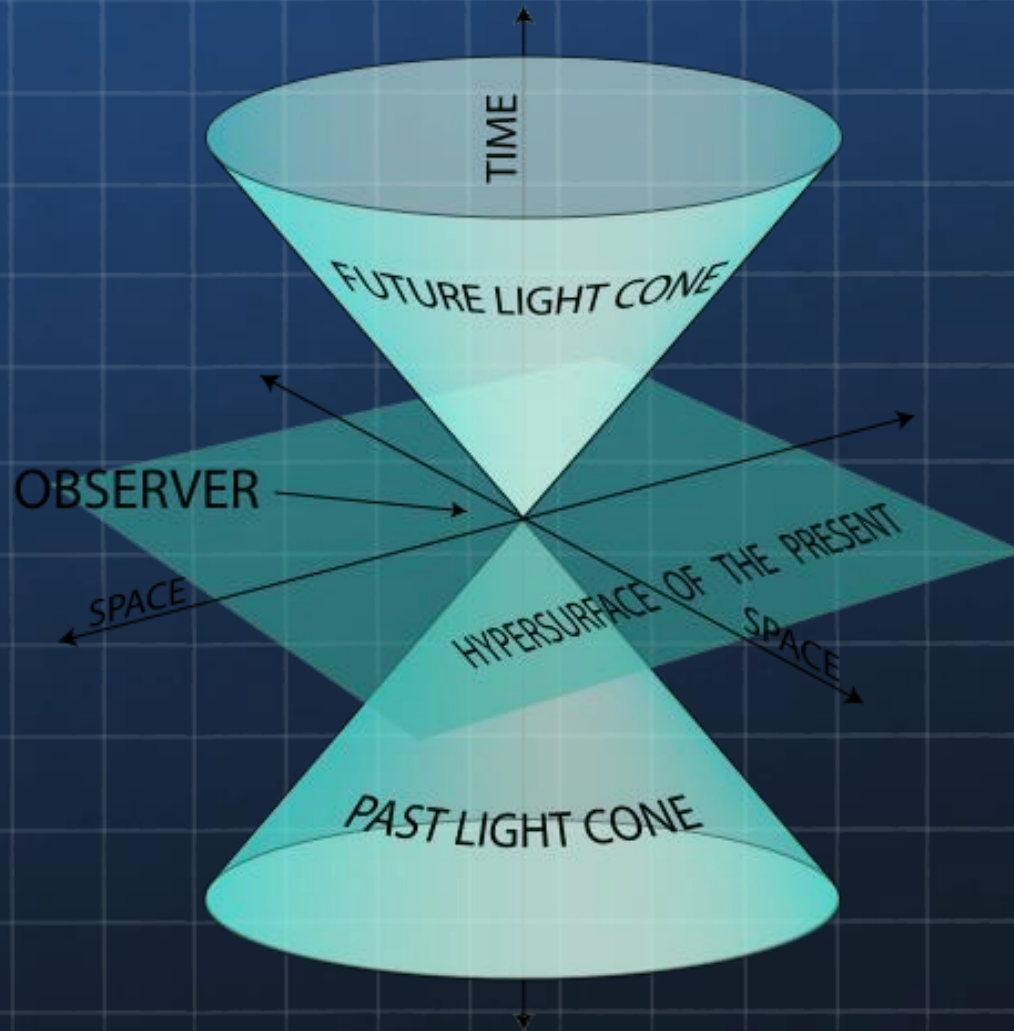
16 September 1920 – 6 October 2012 (died 92)
Melbourne, Australia

- In metaphysics, he studied the philosophy of time
- Physicalist
- Mind-Brain Identity Theory
- Utilitarianism

“When we use tenses and token-reflexive words such as ‘past’, ‘present’, and ‘future’, we are using a language which causes us to see the universe very much from a perspective of our position in space-time. Our view of the world thus acquires a certain anthropocentricity, which can be best eliminated by passing to a tenseless language.”

(Smart's *The Space Time World*, 101)

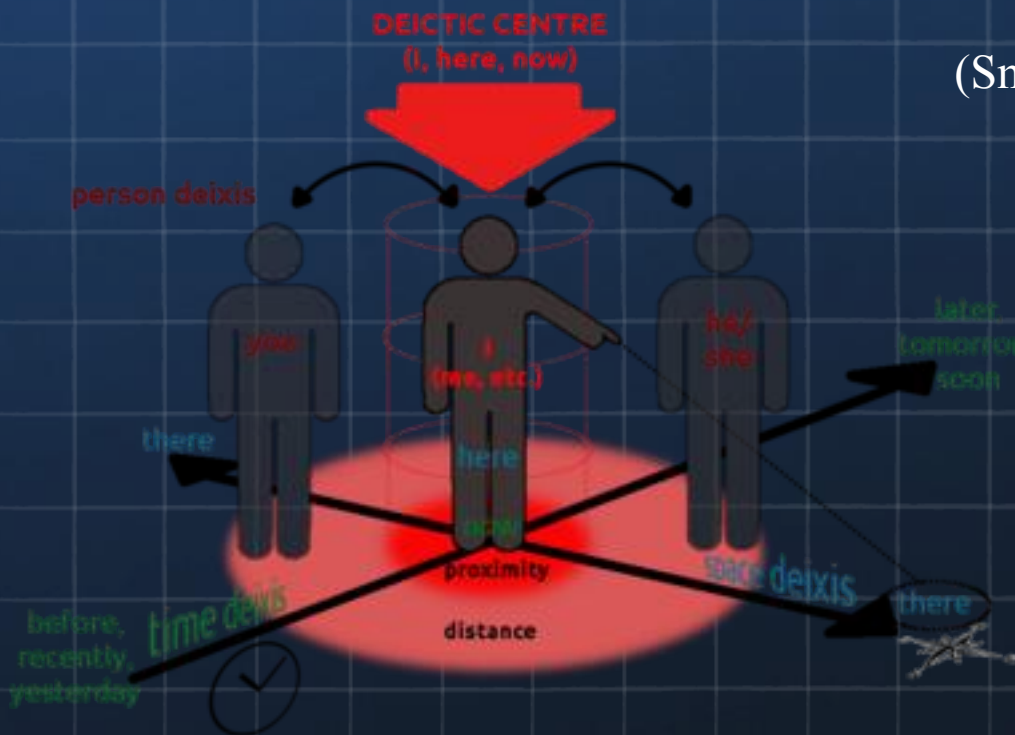
Space-Time



A Tenseless World: Token-Reflexive

“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’s *The Space-Time World*, 95).



1. He will run
2. He runs at some future time
3. He runs later than this utterance

Against the A-Theory

Time Does NOT Flow

“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?’”

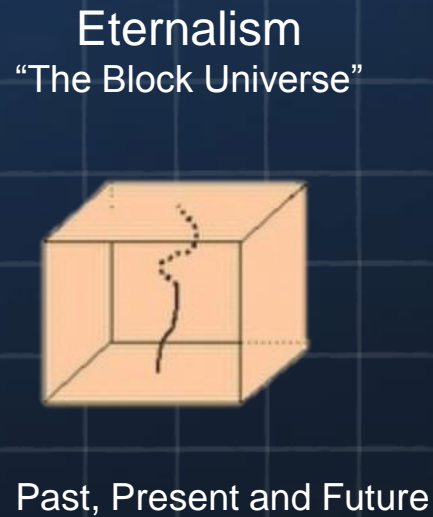
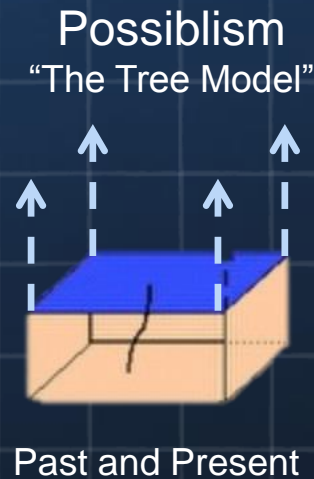
(Smart’s *The Space-Time Theory*, 96)

Hypertime?

1. If time flows, then it flows at some rate.

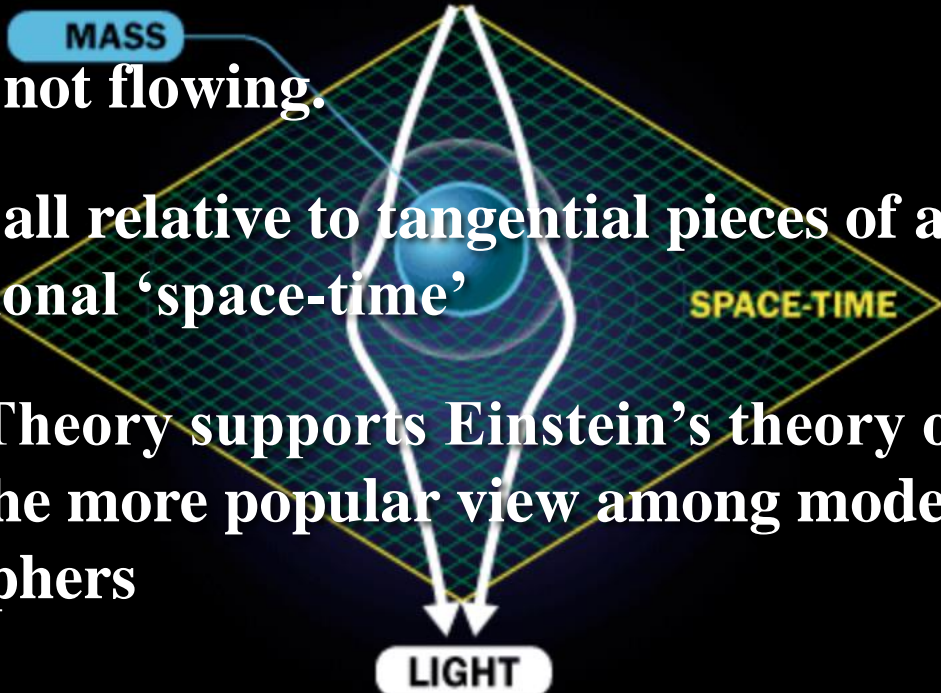
2. There is no rate at which time flows.

So, time does not flow.



SUMMARY of the B-Theory

How Warp Speed Works Gravitational Lens Effect



Time is not flowing.



Time is all relative to tangential pieces of a four-dimensional 'space-time'



The B-Theory supports Einstein's theory of relativity and is the more popular view among modern philosophers

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According to Einstein's General Theory of Relativity, matter bends the fabric of space and time. The distortion of the space-time continuum even affects the behavior of light.

Other Things To Ponder About Time

- **Is time linear? Circular?**
- **Quantum Physics: How many different realities are occurring right now?:**
 - [Symphony of Science - The Quantum World](#)
 - [Symphony of Science - Secret of the Stars](#)

So what do you think?

**Is time flowing or are we living in a block universe?
Spotlight vs. Block Theory?**

**Is there another theory of space and time that you
believe to be possible or true?**