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Lewisian Four-Dimensionalism and the Problem of Change

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Abstract

Four-dimensionalism (as opposed to three-dimensionalism) is a view in contemporary metaphysics according to which ordinary objects are identified as four-dimensional entities continue to exist through time by having distinct temporal parts at different times. This theory may be presented in various form and one major variant of it is known as space-time worm-theory or perdurantism, which is proposed by David Lewis. This view takes the referent of the objects to be the four-dimensional sums of temporal parts. Lewis maintains that four-dimensionalism is the only tenable solution to the so-called problem of temporary intrinsic and can be well defended against different possible objections. Putting the main emphasis on this problem, the present paper aims to evaluate Lewisian version of four-dimensionalism. To do so, after introducing this problem, Lewisian temporal part-based solution to the problem will be stated and examined. We conclude that besides its problems in providing a viable solution to the problem of intrinsic change and the problem of change in general, four-dimensionalism proposed by Lewis renders a counterintuitive account of persistence and non-standard and unfamiliar notions of change and instantiation and fails to preserve the sense of unity which is crucial to the concept of being an object.

Keywords: Four-Dimensionalism, David Lewis, The Problem of Temporary Intrinsic, Change, Persistence.

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Problem Statement

Change entails difference, yet it requires sameness as well. So the problem of change is the problem of how an object can remain the same and preserve its numerical identity while undergoing change. In Lewisian version of four-dimensionalism, objects are considered to be four dimensional entities having different temporal parts at different times (i.e. they have one more extension through time besides their spatial extension.). This account of persistence of objects through time construes change as variation between subsequent temporal parts of the same object. There are some objections which are raised to such an analysis of change and persistence and the extent to which this analysis succeeds is debated among some scholars.

Method

This research has been conducted by descriptive-analytical method and the philosophical views discussed are cited by reference to the main sources and then analyzed according to logical criteria.

Findings and Results

Lewisian four-dimeinsionalism renders an unusual analysis of persistence and change and it seems, despite its attempts to give some weight to itself by means of some responses to (e.g. distinguishing between our ontological and linguistic analyses of reality and ascribing its counter intuitiveness / unfamiliarity to the latter), when confronted with the self-consciousness and introspection of human beings, is still faced with other difficulties and according to which the numerical unity of objects is not well explained.

References

- Balashov, Yuri, (2000) *Enduring and Perduring Objects in Minkowski Space-Time*, Philosophical Studies, 99, pp 129–66. [In English]
- (2007) *Defining Exdurance*, Philosophical Studies, Vol. 133, No. 1, pp143–9. [In English]
- Benovsky, Jiri, (2011) *Endurance, Perdurance and Metaontology*, SATS, vol. 12, pp 159–177. [In English]
- Forrest, Peter, (2010) *The Identity of Indiscernibles*, The Stanford Encyclopedia of Philosophy, Edward N. Zalta (ed.), URL=<[http://plato.stanford.edu/archives/2015/entries/ The Identity of Indiscernibles />. \[In English\]](http://plato.stanford.edu/archives/2015/entries/The%20Identity%20of%20Indiscernibles/)
- Gallois, Andre, (2016) *Identity over Time*, The Stanford Encyclopedia of Philosophy (winter 2016 Edition), Edward N. Zalta (ed.), URL =<[https://plato.stanford.edu/archives/win2016/entries/identity-time/>. \[In English\]](https://plato.stanford.edu/archives/win2016/entries/identity-time/)
- Hales, Steven D. and Johnson, Timothy A., (2003) *Endurantism, Perdurantism and Special Relativity*, The Philosophical Quarterly, vol.53, no. 213, pp 524-539. [In English]
- Haslinger, Sally, (1989) *Endurantism and Temporary Intrinsic*, Analysis, 49:30, pp119-125. [In English]
- , (2005) *Persistence through Time*, in Michael J. Loux and Dean W. Zimmerman (Ed.), *Oxford Handbook of Metaphysics*, New York: Oxford University Press, pp 315-354. [In English]
- Hawley, Katherine, (2001) *How Things Persist*, Oxford:Clarendon Press. [In English]
- , (2015) *Temporal Parts*, The Stanford Encyclopedia of Philosophy, (2015), Edward N. Zalta (ed.), URL=<[http://plato.stanford.edu/archives/2015/entries/ Temporal Parts/>. \[In English\]](http://plato.stanford.edu/archives/2015/entries/Temporal%20Parts/)

- Heller, Mark, (1984) *Temporal Parts of Four Dimensional Objects*, *An International Journal for Philosophy in the Analytic Tradition*, Vol. 46, No. 3 (Nov., 1984), pp 323-334. [In English]
- Johnston, Mark, (1987) *Is There a Problem about Persistence*, *Proceedings of the Aristotelian Society*, 61, pp107-135. [In English]
- Lewis, David, (1976a) *Survival and Identity*, in Amelie Rorty (ed.), *The Identities of Persons*, Berkeley, CA: University of California Press, pp 117–40. [In English]
- , (1976b) *The paradoxes of time travel*, reprinted in Van Inwagen, Peter and Dean W. Zimmerman (eds.), (1998), *Metaphysics, The Big Questions*, Oxford: Blackwell, pp 159-169. [In English]
- , (1983) *Extrinsic Properties*, reprinted in (1999) *Papers in Metaphysics and Epistemology*, New York: Cambridge University Press, pp 111-115. [In English]
- , (1986) *On Plurality of the Worlds*, Oxford, Blackwell. [In English]
- , (1988) *Rearrangement of Particles: Reply to Lowe*, reprinted in (1999), *Papers in Metaphysics and Epistemology*, New York: Cambridge University Press, pp 187-95. [In English]
- , (1993) *Many, But Almost One*, reprinted in (1999) *Papers in Metaphysics and Epistemology*, New York: Cambridge University Press, pp 164-182. [In English]
- , (2002) *Tensing the Copula*, *Mind*, Vol. 111, No. 441, pp 1-13. [In English]
- , (2003) *Postscript to Survival and Identity*, in his *Philosophical Papers*, vol. 1. Oxford: Oxford University Press, pp 73-77. [In English]
- Lombard, Lawrence Brian, (1994) *The Doctrine of Temporal Parts and No-Change Objection*, *Philosophy and Phenomenological Research*, Vol. 54, No. 2 (Jun., 1994), pp 365-372. [In English]
- Loux, Michael J, (2006) *Metaphysics, A Contemporary Introduction*, New York: Routledge. [In English]
- Lowe, A. J, (2002) *A Survey of Metaphysics*, New York: Oxford University Press. [In English]
- Merricks, Trenton, (1994) *Endurance and Indiscernibility*, *Journal of Philosophy*, 91, pp165–84. [In English]
- Noonan, Harold & Curtis, Ben (2014) *Identity*, *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), URL=<<http://plato.stanford.edu/archives/2014/entries/Identity>>. [In English]
- Rea, Michael C, (2005) *Four-Dimensionalism*, in Loux, Michael J. and Dean W. Zimmerman (ed.) *The Oxford Handbook of Metaphysics*, Oxford: Oxford University Press, pp 246-280. [In English]
- Robertson, Teresa and Atkins, Philip, (2018) *Essential vs. Accidental Properties*, *The Stanford Encyclopedia of Philosophy*, (spring 2018 Edition), Edward N. Zalta (ed.), URL=<<http://plato.stanford.edu/archives/spr2018/entries/essential-accidental/>>. [In English]
- Sider, Theodore, (1996) *All the World's a Stage*, *Australasian Journal of Philosophy*, 74, pp 433–453. [In English]
- , (1997) *Four-Dimensionalism*, *Philosophical Review*, 106, pp 197–231. [In English]
- , (2000) *The Stage View and Temporary Intrinsics*, *Analysis*, 60, pp 84–88. [In English]
- , (2001) *Four Dimensionalism: An Ontology of Persistence and Time*, New York: Oxford University Press. [In English]
- Van Inwagen, Peter, (1990) *Four-Dimensional Objects*, *NOUS*, 24, pp 245-255. [In English]