

Leibniz-Clarke Reading List

James Read
james.read@philosophy.ox.ac.uk

This is James Read's reading list for the Prelims paper, *The Leibniz-Clarke Correspondence*. If you have any questions, comments, or suggestions, please email me at the above address.

(Some of the questions below are based upon those in the excellent Leibniz-Clarke reading list by Oliver Pooley.)

Vacation reading

Over the vacation, please read the following:

1. H. G. Alexander (ed.), *The Leibniz-Clarke Correspondence*, Manchester: Manchester University Press, 1956.
2. Nick Huggett (ed.), *Space from Zeno to Einstein*, Cambridge, MA: MIT Press, 1999.
3. Tim Maudlin, *Philosophy of Physics: Space and Time*, Princeton, NJ: Princeton University Press, 2012. **Chs. 1-3.**
4. Oliver Pooley, *Leibniz-Clarke Lectures TT18*, 2018. (Sent via email.)

1 Newton's criticisms of Descartes

Descartes offered various definitions of motion. These were subsequently criticised by Newton, most explicitly in an unpublished manuscript, *De Gravitatione*. Explain and assess both Descartes' definitions and Newton's criticisms. Is there anything in Descartes' views that can be salvaged?

Primary texts

1. René Descartes, *Principles of Philosophy*, Part II, **up to §39** (especially §§10ff.), in *The Philosophical Writings of Descartes*, vol. I, translated by Cottingham, Stoothoff and Murdoch, Cambridge: Cambridge University Press, 1985.
2. Isaac Newton, "De Gravitatione", in Janiak (ed.), *Newton: Philosophical Writings*, Cambridge: Cambridge University Press, 2004. **Pp. 12-21.**

Secondary literature

1. Nick Huggett (ed.), *Space from Zeno to Einstein*, Cambridge, MA: MIT Press, 1999. **Commentaries to ch. 6 and ch. 7, §§1-3 only.**
2. Oliver Pooley, *Leibniz-Clarke Lectures TT18*, 2018. **Up to end of §2.1.**

Further reading

1. Howard Stein, "Newton's Metaphysics", in I. B. Cohen and G. E. Smith (eds.), *The Cambridge Companion to Newton*, Cambridge: Cambridge University Press, pp. 256-307, 2002.
2. Barry Dainton, *Time and Space*, second edition, London: Routledge, 2010. **Ch. 10, §§1-3.**
3. Daniel Garber, "Descartes' Physics", in J. Cottingham (ed.), *The Cambridge Companion to Descartes*, Cambridge: Cambridge University Press, pp. 286-334, 1992.
4. Robert Rynasiewicz, "By Their Properties, Causes and Effects: Newton's Scholium on Time, Space, Place, and Motion — II. The Context", *Studies in History and Philosophy of Science* 26, pp. 295-321, 1995.
5. Julian Barbour, *The Discovery of Dynamics*, Oxford: Oxford University Press, 2001. **Ch. 8, §§5-8; ch. 11.**

2 The rotating bucket and the globes

This week, we'll cover two closely-related sets of questions:

1. **What is the purpose of Newton's discussion of the rotating bucket? What is the purpose of his discussion of the two-globes thought experiment? Does he succeed in establishing what he intends?**
2. **What is the best way to use the rotating bucket phenomenon in an argument for the existence of absolute space? Do you think any such argument succeeds?**

In considering the first set of questions, you might consider the following:

- How does Newton's argument involving the rotating bucket relate to his arguments in the preceding paragraphs involving the "properties" and "causes" of motion?
- Are the two experiments intended to establish the same thing or different things?

Primary text

1. Newton, *Mathematical Principles of Natural Philosophy*. **Scholium to the Definitions.**

Secondary literature

1. Nick Huggett (ed.), *Space from Zeno to Einstein*, Cambridge, MA: MIT Press, 1999. **Commentaries to ch. 7, §§4-5.**
2. Oliver Pooley, *Leibniz-Clarke Lectures TT18*, 2018. §2.2.

Further reading

1. Lawrence Sklar, *Space, Time, and Spacetime*, University of California Press, 1974. **Pp. 182-193.**
2. Robert DiSalle, *Understanding Space-Time*, Cambridge: Cambridge University Press, pp. 17-39, 2006.
3. Robert Rynasiewicz, "Newton's Views on Space, Time, and Motion", in E. N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*, 2011.
4. Tim Maudlin, "Buckets of Water and Waves of Space: Why Spacetime is Probably a Substance", *Philosophy of Science* 60, pp. 183-203, 1993. §§1-4.
5. John Earman, *World Enough and Space-Time*, Cambridge, MA: MIT Press, 1989. **Pp. 61-73, 81-84.**
6. Julian Barbour, *The Discovery of Dynamics*, Oxford: Oxford University Press, 2001. **Ch. 12, §5.**

7. Robert Rynasiewicz, "By Their Properties, Causes and Effects: Newton's Scholium on Time, Space, Place, and Motion — I. The Text", *Studies in History and Philosophy of Science* 26, pp. 133-153, 1995.
8. Ronald Laymon, "Newton's Bucket Experiment", *Journal of the History of Philosophy* 16, pp. 399-413, 1978.

3 The principle of the identity of indiscernibles

**“To suppose two things indiscernible is to suppose the same thing under two names” (Leibniz).
What does Leibniz mean by this? Is he right?**

Primary texts

1. H. G. Alexander (ed.), *The Leibniz-Clarke Correspondence*, Manchester: Manchester University Press, 1956. **L2.1; C2.1; L3.2; C3.2; L4.1-6; C4.3&4, 5&6; L5.21-28.**
2. G. W. Leibniz, “Primary Truths” in Ariew and Garber (eds.), *G. W. Leibniz: Philosophical Essays*, Hackett, 1989.

Secondary literature on Leibniz’s arguments

1. Gonzalo Rodriguez-Pereyra, *Leibniz’s Principle of Identity of Indiscernibles*, Oxford: Oxford University Press, 2014. **Chs. 5, 8.**

Secondary literature: modern discussions

1. Max Black, “The Identity of Indiscernibles”, *Mind* 61, pp. 153-164, 1952.
2. A. J. Ayer, “The Identity of Indiscernibles”, in his *Philosophical Essays*, Macmillan, 1954.
3. Robert M. Adams, “Primitive Thisness and Primitive Identity”, *Journal of Philosophy* 76, pp. 5-26, 1979.

Further reading

1. Benson Mates, *The Philosophy of Leibniz*, Oxford: Oxford University Press, 1986. **Ch. 7.**
2. Anja Jauernig, “The Modal Strength of Leibniz’s Principle of the Identity of Indiscernibles”, in D. Garber and S. Nadler (eds.), *Oxford Studies in Early Modern Philosophy*, Oxford: Oxford University Press, 2008.
3. J. A. Cover and J. O’Leary-Hawthorne, *Substance and Individuation in Leibniz* Cambridge: Cambridge University Press, 1999.
4. Peter Forrest, “The Identity of Indiscernibles”, in E. N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*, 2010.
5. Ian Hacking, “The Identity of Indiscernibles”, *Journal of Philosophy* 72, pp. 249-256, 1975.
6. Katherine Hawley, “Identity and Indiscernibility”, *Mind* 118, pp. 101-119, 2009.
7. Gordon Belot, “The Principle of Sufficient Reason”, *Journal of Philosophy* 98, pp. 55-74, 2001.

4 Leibniz against absolute space

“I have many demonstrations, to confute the fancy of those who take space to be a substance, or at least an absolute being” (LEIBNIZ). Explain and assess Leibniz’s arguments against the reality of space. In light of Leibniz’s arguments, what is the correct spacetime setting for Newtonian mechanics?

When writing your essay, make sure to address the following points:

- What, precisely, are Leibniz’s arguments? What are their premises? How does Clarke reply to them?
- What is the difference between arguments involving a ‘static Leibniz shift’ and those involving a ‘kinematic Leibniz shift’?

Primary texts

1. Isaac Newton, “De Gravitatione”, in Janiak (ed.), *Newton: Philosophical Writings*, Cambridge: Cambridge University Press, 2004. **Pp. 12-21.**
2. H. G. Alexander (ed.), *The Leibniz-Clarke Correspondence*, Manchester: Manchester University Press, 1956. **L3.1-7; C3.1-5; L4.6-18; C4.5&6-18, 41; L5.27-31; 36-47 [47 is a key paragraph] 52-67; 104; C5.21-25, 52.**

Secondary literature

1. Oliver Pooley, *Leibniz-Clarke Lectures TT18*, 2018. **Chs. 3-4.**
2. Tim Maudlin, “Buckets of Water and Waves of Space: Why Spacetime is Probably a Substance”, *Philosophy of Science* 60, pp. 183-203, 1993. **§§1-4.**

Further reading

1. Shamik Dasgupta, “Substantivalism vs Relationalism About Space in Classical Physics”, *Philosophy Compass* 10, pp. 601-624, 2015.
2. H. G. Alexander (ed.), *The Leibniz-Clarke Correspondence*, Manchester: Manchester University Press, 1956. **Pp. xxii-ix, esp. pp. xxiii-iv.**
3. John Earman, *World Enough and Space-Time*, Cambridge: MIT Press, 1989. **Chs., 2, 3, 6.**
4. Nick Huggett (ed.), *Space from Zeno to Einstein*, Cambridge, MA: MIT Press, 1999. **Commentary to ch. 8.**
5. Paul Horwich, “On the Existence of Time, Space and Space-Time”, *Noûs* 12, pp. 397-419, 1978.
6. Barry Dainton, *Time and Space*, second edition, London: Routledge, 2010. **Ch. 10, §§4-7, ch. 11, §§4-5.**

7. Lawrence Sklar, *Space, Time, and Spacetime*, University of California Press, 1974. **Pp. 161-181.**
8. Simon Saunders, "Rethinking Newton's Principia", *Philosophy of Science* 80, 22-48, 2013.
9. David Wallace, "Fundamental and Emergent Geometry in Newtonian Physics", *British Journal for the Philosophy of Science* 71, pp. 1-32, 2020.
10. Shamik Dasgupta, "Inexpressible Ignorance", *Philosophical Review* 124(4), pp. 441-480, 2015.
11. Shamik Dasgupta, "The Bare Necessities", *Philosophical Perspectives* 25, pp. 115-160, 2011.

5 Incongruent counterparts

Does Kant's argument from incongruent counterparts pose a challenge to the relationalist? What is the correct spacetime setting for Newtonian mechanics in light of the parity symmetry of that theory?

Primary text

1. Immanuel Kant, "Concerning the First Grounds of the Distinction of Regions in Space", translated by J. Handyside, in Van Cleve and Frederick (eds.), *The Philosophy of Right and Left*, Dordrecht: Kluwer Academic Publishers, pp. 27-38, 1991.

Secondary literature

1. John Earman, *World Enough and Space-Time*, Cambridge, MA: MIT Press, 1989. **Ch. 7.**
2. Nick Huggett, "Reflections on Parity Nonconservation", *Philosophy of Science* 67, pp. 219-241, 2000.
3. Oliver Pooley, "Handedness, Parity Violation, and the Reality of Space", in K. Brading and E. Castellani (eds.), *Symmetries in Physics: Philosophical Reflections*, Cambridge: Cambridge University Press, 2003.
4. Nick Huggett, "Mirror Symmetry: What is it for a Relational Space to be Orientable?", in K. Brading and E. Castellani (eds.), *Symmetries in Physics: Philosophical Reflections*, Cambridge: Cambridge University Press, 2003.

Further reading

1. James Van Cleve and Robert E. Frederick (eds.), *The Philosophy of Right and Left*, Dordrecht: Kluwer Academic Publishers, 1991.
2. Simon Saunders, "Mirroring as an A Priori Symmetry", *Philosophy of Science* 74, pp. 452-480, 2007.
3. Carl Hoefer, "Kant's Hands and Earman's Pions: Chirality Arguments for Substantival Space", *International Studies in the Philosophy of Science* 14, pp. 237-256, 2000.
4. Carolyn Brighthouse, "Incongruent Counterparts and Modal Relationalism", *International Studies in the Philosophy of Science* 13, pp. 53-68, 1999.
5. Martin Gardner, *The New Ambidextrous Universe*, New York, NY: W. H. Freeman & Co., 1990.
6. Niels C. M. Martens, *Parity Violation and the Reality of Space*, B.A. thesis, University of Groningen, 2011.

6 Relationalist accounts of dynamics

This week's topics divides into two parts: the first historical, the second modern:

1. **Can Leibniz's admission that there is a distinction between true and merely relative motion be combined with his relational account of space?**
2. **Is there any acceptable modern-day vindication of Leibniz's relationalist agenda?**

Primary text

1. H. G. Alexander (ed.), *The Leibniz-Clarke Correspondence*, Manchester: Manchester University Press, 1956. L.V.47-8, 52-3; C.V.53.

Secondary literature on Leibniz

1. Anja Jauernig, "Leibniz on Motion and the Equivalence of Hypotheses", *The Leibniz Review* 18, pp. 1-40, 2008.
2. Edward Slowik, "Another Go-Around on Leibniz and Rotation", *The Leibniz Review* 19, pp. 131-137, 2009.
3. Anja Jauernig, "Leibniz on Motion—Reply to Edward Slowik", *The Leibniz Review* 19, pp. 139-147, 2009.

Secondary literature: modern relationalist programmes

1. Julian Barbour, *The End of Time*, Weidenfeld and Nicholson, 1999. **Chs. 6, 7.**
2. Oliver Pooley, "Substantialist and Relationalist Approaches to Spacetime", in R. Batterman (ed.), *The Oxford Handbook of Philosophy of Physics*, 2013. §6.

Further reading

1. Nick Huggett and Carl Hoefer, "Absolute and Relational Theories of Space and Time", in E. N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*, 2015.
2. John T. Roberts, "Leibniz on Force and Absolute Motion", *Philosophy of Science* 70, pp. 553-573, 2003.
3. Daniel Garber, "Leibniz: Physics and Philosophy", in N. Jolley (ed.), *The Cambridge Companion to Leibniz*, Cambridge: Cambridge University Press, 1995. §§3.2-4.3.
4. Oliver Pooley and Harvey R. Brown, "Relationalism Rehabilitated? I: Classical Mechanics", *British Journal for the Philosophy of Science* 53, pp. 183-204, 2002.