

Julian Charles Cole

Curriculum Vitae

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Department of Philosophy and Humanities
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Employment

- Assistant Professor (Tenure-Track), Buffalo State College, Fall 2008 -
- Assistant Professor (Tenure-Track), University of Texas - Pan American, Academic Years 2006 - 2008
- Interim Assistant Chair, University of Texas - Pan American, Fall 2007
- Lecturer, The Ohio State University, Academic Year 2005 - 2006

Education

- Ph.D., Philosophy, The Ohio State University, August 2005
Dissertation: Practice-Dependent Realism and Mathematics
Committee: Stewart Shapiro (advisor), Neil Tennant, Robert Kraut
- Ph.D., Pure Mathematics, University of St. Andrews, June 1999
Dissertation: Graph Directed Self-Conformal Multifractals
Committee: Lars Olsen (advisor), Kenneth Falconer
- B.Sc. (1st Class with Honours), Pure Mathematics, University of St. Andrews, June 1995

Areas of Specialization

Metaphysics, Philosophy of Mathematics, Philosophy of Logic, Logic

Areas of Competence

Early Analytic Philosophy, Epistemology

Awards and Honours

- Title V Faculty Development Award, Four Advanced Workshops on Cooperative Learning, University of Texas - Pan American, 2007-2008
- Title V Faculty Development Award, Five Workshops on Cooperative Learning and Learning Communities, University of Texas - Pan American, 2006-2007
- Presidential Fellowship, The Ohio State University, 2004-2005
- William H. Fink Essay Award, The Ohio State University, 2004
- Andrew Carnegie Scholarship, Graduate research at a Scottish university, 1995-1996
- Duncan Medal and Prize, University of St. Andrews, 1995

- Arthur Hinton Read Memorial Prize, University of St. Andrews, 1995
- Alexander Stewart Prize, University of St. Andrews, 1994
- Tullis Medal and Prize, University of St. Andrews, 1993
- Duncan Medal and Prize, University of St. Andrews, 1993

Research Abstract

Practice-Dependent Realism and Mathematics

My research addresses a puzzle concerning the interpretation of mathematical practices. Mathematical claims seem to be objective and their surface grammar suggests that they are about objects or structures. Furthermore, these objects or structures do not appear to be located in the spatio-temporal world. For these reasons, Platonists have suggested that mathematical claims concern domains or structures that are abstract and are in no sense constituted by our intellectual activities. Yet if the Platonists are correct, then something very peculiar is going on as items that are abstract and not constituted by our intellectual activities cannot influence spatio-temporally instantiated activities like mathematical practices. Contemporary authors have responded to this observation in two distinct (and incompatible) ways. Some have argued that mathematics should be understood as a fiction that helps us represent and reason about the spatio-temporal world. Others hold that the surface grammar of mathematical claims is misleading; they are really claims about what is logically possible and/or necessary. A philosopher who accepts either suggestion must pay a high price. Specifically, (s)he expresses a problematic lack of respect for actual mathematical practice: either (s)he doesn't take mathematicians' claims literally or (s)he interprets mathematicians as offering extremely misleading characterizations of their subject matter. Neither option, I argue, is acceptable.

As a solution to this puzzle, I articulate and defend a new metaphysical interpretation of mathematics. According to this interpretation, mathematical structures are constituted by the mathematical activities of rational beings in a way analogous to the constitution of laws and legal borders by the legislative activities of rational beings. The presence of appropriate types of mathematical activity is both a necessary and sufficient condition for the existence of a mathematical structure, just as the presence of appropriate types of legislative activity is both necessary and sufficient for the existence of particular laws. Yet while laws are constituted by explicit stipulation, mathematicians constitute mathematical structures by providing coherent and adequate characterizations of those structures. My interpretation of mathematics offers an authentic solution to this puzzle, since my solution takes mathematics to be about the very things it seems to be about, i.e., mathematical structures. It interprets mathematicians as making literal, i.e., non-fictional, claims about these structures. And, it is not affected by the peculiarity associated with Platonism, because it takes mathematical structures to be constituted by mathematical activities. As a consequence, while mathematical structures themselves are acausal, the mathematical activities that constitute those structures enter into causal relations. Finally, this view, which I call *practice-dependent realism*, contains the resources for a novel account of the objectivity, necessity, and applicability of mathematical truth.

Publications

- Creativity, Freedom, and Authority: A New Perspective on the Metaphysics of Mathematics, forthcoming in the *Australasian Journal of Philosophy* **87** (2009)
- Mathematical Domains: Social Constructs?, in Bonnie Gold and Roger Simons (eds.), *Proof and Other Dilemmas: Mathematics and Philosophy*, Mathematics Association of America, Washington, D.C., 2008, pp. 109-128
- Multifractal Variation Measures and Multifractal Density Theorems, *Real Analysis Exchange* **28** (2003), pp. 501-514 (with Dr. Lars Olsen)

- Relative Multifractal Analysis, *Chaos, Solitons and Fractals* **11** (2000), pp. 2233-2250

Critical Studies/Book Reviews

- A critical study of Gianluigi Oliveri's, *A Realist Philosophy of Mathematics*, *Philosophia Mathematica* **16(3)** (2008), pp. 409-420
- Social Construction: The Neglected Option. A critical analysis of Jody Azzouni's, *Deflating Existential Consequence: A Case for Nominalism*, *Notre Dame Journal of Formal Logic* **46(2)** (2005), pp. 235-247
- Review of David Corfield's, *Towards a Philosophy of Real Mathematics*, *Math. Rev.* 2004f:00005
- Review of Mark Colyvan's, *The Indispensability of Mathematics*, *Mind* **112** (2003), pp. 331-336 (with Prof. Stewart Shapiro)
- Review of Sunny Y. Auyang's, *Foundations of Complex-System Theories in Economics, Evolutionary Biology, and Statistical Physics*, *Brit. J. Phil. Sci.* **51** (2000), pp. 187-190

Presentations

- 'Untainted Dependency: An Answer to the Epistemological Challenges,' Macalester College, St. Paul, MN, October 2008
- 'Creativity, Freedom, and Authority: A New Perspective on the Metaphysics of Mathematics,' Buffalo Logic Colloquium, University at Buffalo, September 2008
- 'There's More Outside Plato's Cave than Alice's Wonderland,' Buffalo State College, February 2008
- 'Ontology, Freedom, and Authority: A New Perspective on the Metaphysics of Mathematics,' Seventh Annual Midwest Philosophy of Mathematics Workshop, University of Notre Dame, November 2006
- '*Bleak House* Regentrified,' Department of History and Philosophy Symposium, University of Texas - Pan American, October 2006
- 'Mathematics: Its Metaphysics and Epistemology,' University of Texas - Pan American, April 2006
- 'Mathematics: Its Metaphysics and Epistemology,' The Logic Seminar, University of Melbourne, May 2005
- 'Mathematics: Its Metaphysics and Epistemology,' University of Adelaide, May 2005
- 'Linguistic Priority, Metaphysical Dependence, and Mathematics,' Fink Award Presentation, The Ohio State University, June 2004
- Commentary on Christopher Pincock's 'Mathematics Makes a Difference,' Central Division Meeting of the American Philosophical Association, Chicago, IL, April 2004
- 'Using an Old Epistemological Argument to Motivate a New Metaphysical Position,' Fourth Annual Midwest Philosophy of Mathematics Workshop, University of Notre Dame, November 2003
- 'Using an Old Epistemological Argument to Motivate a New Metaphysical Position,' Arché Graduate Conference, University of St. Andrews, September 2003
- 'Relative Multifractal Analysis,' EU Summer School on Fractal Geometry, University of Cambridge, January 1999
- 'Relative Multifractal Analysis,' Fractal Geometry & Stochastics II, Griefswald, Germany, September 1998

- ‘Introduction to Multifractals,’ ‘Graph Directed Multifractals I,’ and ‘Graph Directed Multifractals II,’ St. Andrews Analysis Seminar, University of St. Andrews, November 1997

Teaching Experience

- Assistant Professor (tenure-track), Buffalo State College, Fall 2008
- Assistant Professor (tenure-track), University of Texas - Pan American, Fall 2006-Summer 2008
- Lecturer, The Ohio State University, Autumn 2005-Summer 2006
- Lecturer(Graduate Teaching Associate), The Ohio State University, Winter 2000-Summer 2004
- Graduate Teaching Assistant, The Ohio State University, Autumn 1999
- Tutorial Assistant, Department of Mathematics, University of St. Andrews, Autumn 1997-Spring 1999 and Autumn 1995-Spring 1996

Courses Taught

- Introduction to Philosophy
- Introduction to Ethics
- Introduction to Logic and Critical Thinking
- Beginning Symbolic Logic
- Statistical Reasoning in Science
- Philosophical Methods/Philosophy of Mathematics
- Contemporary Epistemology
- Freedom and the Self
- Advanced Symbolic Logic (as TA)

Graduate Studies in Philosophy

Metaphysics and Epistemology

- Graduate survey course in Metaphysics (Robert Kraut)
- Truth (Stewart Shapiro)
- Objectivity (Stewart Shapiro)
- Explanation, Reduction, and Emergence (Robert Batterman)
- A Priori Knowledge (Neil Tennant and Stewart Shapiro)
- Sellars’ Empiricism and the Philosophy of Mind (Robert Kraut)
- Sellars and Rorty (Robert Kraut)
- Internalism and Externalism in Epistemology (George Pappas)
- Survey course in Contemporary Epistemology (George Pappas)

Logic and Philosophy of Mathematics

- Advanced Symbolic Logic (Neil Tennant and Stewart Shapiro)

- Gödel, Church, and Tarski (George Schumm)
- Survey course in the Philosophy of Mathematics (Stewart Shapiro)
- Reading group in the Philosophy of Mathematics (Stewart Shapiro, Neil Tennant, and Lisa Shabel)

Early Analytic Philosophy

- Frege's Philosophy of Logic and Mathematics (Steven Boer)
- Reading group on Frege's Philosophy of Logic and Mathematics (William Taschek and Stewart Shapiro)
- Wittgenstein's *Philosophical Investigations* (Allan Silverman)

Philosophy of Mind/Language

- Semantic Holism (William Taschek)
- Semantic Anti-Realism (Neil Tennant)
- Vagueness (Stewart Shapiro and Diana Raffman)
- Mental Content (Louise Antony)
- Color and Qualia (Diana Raffman)

History of Philosophy

- Kant's Empirical Realism and Transcendental Idealism (Lisa Shabel)
- Plato's *Theatetus* and Wittgenstein's *Philosophical Investigations* (Allan Silverman)

Moral/Social and Political Philosophy

- Graduate survey course in Metaethics (Justin D'Arms and Robert Kraut)
- Survey course on Feminist Approaches to Autonomy (Louise Antony)

University and Departmental Service

- Webmaster, Department of Philosophy and Humanities, Fall 2008-
- Webmaster, Philosophy Program, UTPA, 2007-2008
- Philosophy Search Committee, 2007-2008
- UTPA, Faculty Research Council, 2006-2008
- Department of History and Philosophy, UTPA, Policy and Procedures Committee, Spring 2008
- Department of History and Philosophy, UTPA, Interim Assistant Chair, Fall 2007
- Department of History and Philosophy, UTPA, Library Committee, 2006-2007
- Department of Philosophy, OSU, Graduate Student Ombudsman, 2004-2005
- Department of Philosophy, OSU, Curriculum Committee, 2001-2002
- Department of Philosophy, OSU, Graduate Student Representative, 2000-2001
- Department of Philosophy, OSU, Colloquia Committee, 1999-2000

Professional Affiliations

- American Philosophical Association
- Association for Symbolic Logic
- British Logic Colloquium
- Association for Practical and Professional Ethics

References

Stewart Shapiro
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The Ohio State University
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