

# Christopher Menzel

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## Education

Ph.D., Philosophy, University of Notre Dame, May 1984

B.A. *magna cum laude*, Philosophy, Pacific Lutheran University, May 1979

## Employment History

Texas A&M University: Associate Professor of Philosophy, September 1991 to present;  
Assistant Professor of Philosophy, August 1986 to August 1991

Stanford University: Acting Assistant Professor (Philosophy), July 1985 to June 1986, and  
Postdoctoral Fellow, Center for the Study of Language and Information, July 1984 to June  
1986

## Areas of Specialization

Metaphysics (Ontology), Logic, Philosophy of Language/Logic/Mathematics, Knowledge  
Representation

### Other Areas of Interest and Research

Artificial Intelligence, Philosophical Theology, 20th Century Anglo-American Philosophy

## Academic Grants/Fellowships

Faculty Development Grant, Texas A&M, Fall 2004 (spent at IFOMIS, Saarbrücken,  
Germany)

Summer Institute for Instructional Technology Innovation, TAMU, 2003

Computerized Logic Instruction Center at Texas A&M University, TAMU, 2001

Faculty Development Grant, Texas A&M, Fall 1996 (spent at CSIRO, Melbourne, Australia)

National Endowment for the Humanities Fellowship for College Teachers, 1991-92

Summer Research Grant, College of Liberal Arts, Texas A&M, summer 1988

Research Fellowship, Center for the Philosophy of Religion, University of Notre Dame,  
spring 1988

National Endowment for the Humanities Summer Stipend, summer 1987

Postdoctoral Fellowship, CSLI, Stanford University, 1984-86

## Publications

46. "Knowledge Representation, the World Wide Web, and the Evolution of Logic," *Synthese*, 2009, Digital Object Identifier (DOI) 10.1007/s11229-009-9661-2; forthcoming in print in 2011.
45. "Good Actions in Tourism," (with Tazim Jamal), in J. Tribe (ed.), *Philosophical Issues in Tourism*, Clevedon, UK, Channel View Publications, 2009.
44. "Intention Is Commitment with Expectation" (with James Creel and Thomas Ioerger), in *Proceedings of the Twentieth International FLAIRS Conference*, Menlo Park: AAAI Press (2008), 50-55.
43. "Actualism," *The Stanford Encyclopedia of Philosophy (Winter 2008 Edition)*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/win2008/entries/actualism>. (This is a major update and revision of the Summer 2000 version of this article. The latest version is always online at <http://plato.stanford.edu/entries/actualism>.)
42. "Modal Rigidity in the OntoClean Methodology" (with William Andersen), in A. C. Varzi and L. Vieu (eds.), *Formal Ontology in Information Systems*, Amsterdam, IOS Press (2004), 119-127.
41. "Basic Semantic Integration," in Y. Kalfoglou, M. Schorlemmer, A. Sheth, S. Staab, M. Uschold (eds.), *Semantic Interoperability and Integration, Proceedings of Dagstuhl Seminar 04391*, Dagstuhl, Germany (2004).
40. "Reference Ontologies / Application Ontologies: Either/Or or Both/And?" in P. Grenon, C. Menzel, and B. Smith (eds.), *Proceedings of the Workshop on Reference Ontologies and Application Ontologies*, KI 2003, September 16, 2003, Hamburg, Germany. CEUR Workshop Proceedings, vol. 94 (2004), ISSN 1613-0073.
39. "SCL: A Logic Standard for Semantic Integration" (with Patrick Hayes), in A. Doan, A. Halevey, and N. Noy (eds.), *Semantic Integration*, CEUR Workshop Proceedings, vol. 82 (2003).
38. "Ontology Theory," in J. Euzenat, A. Gomez-Perez, N. Guarino, and H. Stuckenschmidt (eds.), *Ontologies and Semantic Interoperability*, CEUR Workshop Proceedings, vol. 64 (2003).
37. "Process Specification Language: Principles and Applications" (with Michael Grüninger), *AI Magazine* 24(3) (Fall 2003), 63-74.
36. "A Formal Foundation for Process Modeling" (with Michael Grüninger), in C. Welty and B. Smith (eds.), *Formal Ontology and Information Systems*, New York: ACM Press, 2001, 256-269
35. "An Adaptive Process Management System (APMS)" (with P. C. Benjamin), in L. Nemes and J. Mo (eds.), *Global Engineering, Manufacturing and Enterprise Networks*, Boston: Kluwer Academic Publishers, 2001
34. "God and Mathematical Objects," in J. Bradley and R. Howell (eds.), *Mathematics in a Postmodern Age: A Christian Perspective*, Eerdmans Publishing Company, 2001. (This is a revised and expanded version of "Theism, Platonism, and the Metaphysics of Mathematics.")
33. "Review of J. Copeland (ed.), *Logic and Reality: Essays on the Legacy of Arthur Prior*," *Philosophical Review* 109(2) (April 2000).

32. "Actualism," *Stanford Encyclopedia of Philosophy*, (Summer 2000 Edition), Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/sum2000/entries/actualism>
31. "The Objective Conception of Context and Its Logic," *Minds and Machines* 9 (1999) 29-56.
30. "Logical Form," in W. Craig (ed.) *Routledge Encyclopedia of Philosophy*, Routledge and Kegan Paul, 1998.
29. "The IDEF Family of Languages" (principal author, with R. J. Mayer), in P. Bernus, K. Mertins, and G. Schmidt (eds.), *Handbook on Architectures for Information Systems*, Springer-Verlag, 1998, 209-241.
28. "An Integrated Process Model Driven Knowledge Based System for Remote Customer Support (with J. Mo)," *Computers in Industry* (1998) 171-183.
27. "Applying the Process Interchange Format (PIF) to a Supply Chain Process Interoperability Scenario" (with S. Polyak, J. Lee, and M. Gruninger). In A. Gomez-Perez and R. Benjamins (eds.), *Proceedings of the Workshop on Applications of Ontologies and Problem Solving Methods*, ECAI'98, Brighton, England, August 1998.
26. "Modeling Method Ontologies: A Foundation for Enterprise Model Integration," in M. Gruninger and Farquhar, A. (eds.), *Ontological Engineering: Papers from the 1997 AAAI Spring Symposium*, Menlo Park, AAAI Press, Technical Report SS-97-06, pp. 73-83.
25. "Situations and Processes" (principal author, with R. J. Mayer), *Concurrent Engineering: Research and Applications* 4(3) (1996).
24. "A Situation Theoretic Approach to the Representation of Processes" (principal author, with R. J. Mayer), in P. Bernus and L. Nemes (eds.), *Modelling and Methodologies for Enterprise Integration*, London, Chapman and Hall, 1996.
23. Entries on "Alethic Modalities" and "Type Theory," R. Audi (ed.), *The Cambridge Dictionary of Philosophy*, Cambridge, Cambridge University Press, 1995.
22. "Toward a Method for Acquiring CIM Ontologies" (with P. Benjamin, R. Mayer, and N. Padmanaban), *International Journal of Computer Integrated Manufacturing* 8(3) (1995), 225-234.
21. "An Ontology and Process Description Method for Design and Implementation of Information-Integrated Enterprises" (with R. Mayer and J. Hwang), *International Journal of Flexible Automation and Integrated Manufacturing* 1 (1994), 207-227.
20. "IDEF3 Process Descriptions and Their Semantics" (principal author, with R. Mayer and D. Edwards), in A. Kusiak and C. H. Dagli (eds.), *Intelligent Systems in Design and Manufacturing*, ASME Press, 1994.
19. "A Formal Model of Single Agent Planning Situations" (with R. Mayer, M. Erraguntla, and J. Hwang), *Journal of Systems Integration* 4(3) (1994), 219-241.
18. "Singular Propositions and Modal Logic," *Philosophical Topics* 21 (1993), 113-148.
17. "The Proper Treatment of Predication in Fine-grained Intensional Logic," in J. Tomberlin (ed.), *Philosophical Perspectives, vol. 7: Language and Logic*, 1993, Ridgeview Publishing Co., 1993, 61-87.
16. "Possibilism and Object Theory," *Philosophical Studies* 69 (1993), 195-208.

15. "Critical Review of E. Zalta, Intensional Logic and the Metaphysics of Intentionality," *Journal of Symbolic Logic* 57 (3) (1992), 1146-1150.
14. "Representation, Information Flow, and Model Integration" (principal author, with R. Mayer and L. Sanders), in C. Petrie (ed.), *Enterprise Model Integration: Proceedings of the First International Conference*, Cambridge, MIT Press, 1992, 131-141.
13. "The True Modal Logic," *Journal of Philosophical Logic* 20 (1991), 331-374.
12. "Temporal Actualism and Singular Foreknowledge," J. Tomberlin (ed.) *Philosophical Perspectives*, vol. 5: *Philosophy of Religion*, Ridgeview Publishing Co., 1991, 475-507.
11. "Actualism, Ontological Commitment, and Possible World Semantics," *Synthese* 85 (1990), 355-389.
10. "Structuralism and Conceptual Change in Mathematics," *PSA 1990* 2 (1990), 397-401.
9. "The Basic Notion of Justification" (with Jonathan L. Kvanvig), *Philosophical Studies* 59 (1990), 193-219.
8. "On an Unsound Proof of the Existence of Possible Worlds," *Notre Dame Journal of Formal Logic* 30 (1989), 598-603.
7. "Frege Numbers and the Relativity Argument," *Canadian Journal of Philosophy* 18 (1988), 87- 98.
6. "Theism, Platonism, and the Metaphysics of Mathematics," *Faith and Philosophy* 4 (1987), 365- 382; reprinted in *The Philosopher's Annual* 10 (1987), 91-112, and in M. Beaty (ed.), *Christian Theism and the Problems of Philosophy*, University of Notre Dame Press, 1990.
5. "A Complete, Type-free 'Second-order' Logic and Its Philosophical Foundations," Report No. CSLI-86-40, Center for the Study of Language and Information, Stanford University, 1986.
4. "On Set Theoretic Possible Worlds," *Analysis* 46 (March 1986), 68-72.
3. "On the Iterative Explanation of the Paradoxes," *Philosophical Studies* 49 (1986), 37-61.
2. "Absolute Creation" (with Thomas V. Morris), *American Philosophical Quarterly* 23 (1986), 353-362.
1. "Cantor and the Burali-Forti Paradox," *The Monist* 67 (1984), 92-107.

## Other Papers

"A New Axiomatic Semantics for RDF, RDFS, and OWL"

An updated "axiomatic semantics" of RDF, RDF Schema, and the various OWLs, based strictly on the W3C standards. Inspired by the (pre-OWL) first-order axiomatization of RDF, RDF Schema, and DAML+OIL semantics by McGuinness and Fikes. Mostly written in Fall 2005 when I was a visiting researcher with the Intelligent Information Systems unit of the Mathematics and Computing Technology division of The Boeing Company.

## Work Under Review or in Progress

"Strict Actualism, and the Logic of the Possible", under review

Strict actualism is a species of actualism defended first by Arthur Prior that rejects the existence of haecceities or any other actualist surrogates designed to do the work of *possibilia*. In this paper, I look at three arguments against strict actualism. I argue that all three can be rendered unsound by

means of a general change in semantic “perspective” that is entirely consistent with the strict actualist scruples.

“Possible Worlds, the Lewis Principle, and the Myth of a Large Ontology” (co-authored with Edward Zalta), under review

It is a commonplace of modal metaphysics that belief in possible worlds not only burdens one with a large ontology but also raises metaphysical problems concerning their existence and identity conditions and epistemological problems concerning the justification of one’s belief in them. In this paper, we challenge this commonplace and show that belief in possible worlds doesn’t necessarily burden one with a large ontology or with the metaphysical and epistemological problems noted. We argue specifically for the claim that the most fundamental existence principle of world theory is not only true in small models, but is derivable from analytically true principles. If this is so, it puts the lie to the view that a commitment to possible worlds entails a commitment to a large ontology. Moreover, the particular theory we use to support our claims precisely addresses the metaphysical problems about the existence and identity of worlds and offers a solution of the epistemological problem of justifying belief in worlds.

“Haecceities and Mathematical Structuralism”, under review

John Burgess has raised a challenge for a version of mathematical structuralism that assumes a strong form of the identity of indiscernibles on which objects within a structure that share all of their structural properties are identical. José Bermúdez has proposed that Burgess’s challenge can be countered, or at least mitigated, by considering, for any given structure, an expansion of that structure in which every object *x* is named and, hence, has a *haecceity*, that is, a property of the form *being identical with x*. According to Stewart Shapiro, haecceities are obviously not structural properties and, hence, do not enable us to turn back Burgess’s challenge. In this paper I argue, contra Shapiro, that haecceities can be considered legitimately structural but that, contra Bermúdez, they do not enable the structuralist to turn answer Burgess’s challenge.

“Possible World Semantics for the Strict Actualist”

Possible world semantics is often feted for its ability to provide extensional truth conditions for modal propositions. However, as usually presented, the semantics appears to require commitment to *possibilia* or actualist surrogates thereof like haecceities. This paper describes a modified version of Robert Adams’ “world story” semantics that provides an extensional theory of truth conditions without haecceities or other ersatz *possibilia*.

“Haecceitism and Modal Extensionalism”

Alvin Plantinga argues that haecceities provide a viable actualist alternative to *possibilia* in the semantics of modal logic. This paper is an extended argument against this thesis. Briefly, the argument is that haecceities can be meaningfully distinguished from *possibilia*, but only at the high cost of undermining the truth conditional role they are designed to play in the semantics of modal languages.

“Possible Worlds”

An overview of possible worlds in the philosophy of modality over the past 50 years. To appear in the *Stanford Encyclopedia of Philosophy*.

## Talks and Other Professional Activities

“Strict Actualism and the Logic of the Possible,” Oberseminar Logik und Sprachtheorie, Wilhelm-Schickard Institut für Informatik, Tübingen University, Tübingen, Germany, July 2010.

“Common Upper Ontologies and Common Logic,” The Logic and Cognitive Science Initiative (LACSI) Conference, North Carolina State University, September 2009.

“Two Arguments against Modal Existentialism,” IU Logic Group, Indiana University, October 2008.

“Common Logic: Motivations and Some Simple Theory,” IU Informatics Group, Indiana University, October 2008.

“Tutorial on Common Logic (with Patrick Hayes and John Sowa), Semantic Technologies 2008, San Jose, CA, May 2008.

“Comments on ‘Truth at a World for Modal Propositions’,” American Philosophical Association, Pacific Division Meetings, Los Angeles, March 2008

“Possible World Semantics for the Strict Actualist: Response to Nelson,” Symposium on Possible Worlds, American Philosophical Association, Pacific Division Meetings, San Francisco, March 2007

“Weblogic: Open Networks and the (Proposed) Common Logic Standard” (with Patrick Hayes), Semantic Technologies 2006, San Jose, CA, March 2006.

“A New Axiomatic Semantics for RDF, RDFS, and OWL,” The Boeing Company, Seattle, WA, December 2005

“Extensionalism for Strict Actualists,” Department of Philosophy, University of Washington, Seattle, November 2005

“Extensionalism for Strict Actualists,” Philosophisches Seminar, Saarland University, Saarbrücken, Germany, December 2004

“Modal Rigidity in the OntoClean Methodology,” Fifth International Conference on Formal Ontology and Information Systems, Torino, Italy, November 2004 (co-authored with, and presented by, William Andersen.)

“SCL: A Logic Standard for Semantic Integration,” Semantic Integration Workshop, Second International Semantic Web Conference (ISWC 2003), Sanibel Island, Florida, October 2003.

“Application Ontologies / Reference Ontologies — Either / Or or Both / And?,” Workshop on Application Ontologies vs. Reference Ontologies, 2003 German Conference on Artificial Intelligence, Hamburg, September 2003.

“Formal Ontology and Philosophical Content on the Semantic Web,” Symposium on Formal Ontology and Philosophical Content on the Semantic Web (invited panelist), APA Pacific Meetings, San Francisco, March 2003.

“The Common Logic Standard,” Open Forum 2003 International Conference on Metadata Registries, Santa Fe, New Mexico, January 2003 (invited talk).

“Ontology Theory,” Workshop on Ontologies and Semantic Interoperability, European Conference on Artificial Intelligence (ECAI 2002), Lyon, July 2002.

“Modal Particularism,” Department of Philosophy, University of Texas, Austin, November 2001

“A Formal Foundation for Process Modeling” (with Michael Gruninger), International Conference on Formal Ontology and Information Systems (FOIS-01), Ogunquit, Maine 2001 (delivered by Michael Gruninger)

“A Formal Semantics for the Knowledge Interchange Format,” Workshop on the IEEE Standard Upper Ontology, International Joint Conference on Artificial Intelligence (IJCAI), Seattle, August 2001.

"An Adaptive Process Management System (APMS)" (with P. C. Benjamin), 4th International Conference on Design of Information Infrastructure Systems for Manufacturing 2000, International Federation for Information Processing (IFIP), Melbourne, November 2000 (delivered by Benjamin)

"Modal Particularism and the Ground of Modal Truth," Society for Exact Philosophy 2000 Conference, Gainesville, March 2000.

"Applying the Process Interchange Format (PIF) to a Supply Chain Process Interoperability Scenario" (with S. Polyak, M. Gruninger, and J. Lee), European Conference on Artificial Intelligence (ECAI 1998), Brighton, England, August 1998 (delivered by Polyak).

"Propositions and Properties: Comments on Jubien," Symposium on Intensional Logic, Association for Symbolic Logic, Spring Meeting, Los Angeles, March 1998.

"A Logic of Contexts," Department of Information Sciences, Griffith University, and Department of Philosophy, Queensland University, December 1996.

"Philosophy, Logic, and Enterprise Modeling," Department of Mechanical and Manufacturing Engineering, Melbourne University, October 1996.

"Toward a Science of Information Modeling," Department of Mechanical and Manufacturing Engineering, Melbourne University, October 1996.

"Types, Instances, and Process Modeling," Joint Workshop on Standards for the use of Models that Define the Data and Processes of Information Systems (JTC1-96), The Boeing Company, Seattle, September 1996.

"Contexts and Information," Common Sense 96: Third Symposium On Logical Formalizations of Commonsense Reasoning, Stanford University, January 1996.

"A Situation Theoretic Approach to the Representation of Processes," International Federation for Information Processing Conference on Enterprise Integration, Heron Island, Australia, November 1995.

"An Ontology-Based Environment for Enterprise Model Integration," Workshop on Basic Issues in Ontology, International Joint Conference on Artificial Intelligence (IJCAI), Montreal, August 1995.

"In Defense of Fine-grained Intensions," Symposium on Property Theory, American Philosophical Association Pacific Division meeting, San Francisco, March 1995 (invited panelist).

"Singular Propositions and Modal Logic," joint Association of Symbolic Logic /American Philosophical Association Central division meeting, Kansas City, May 1994.

"Comments on 'Wittgenstein on the Infinite in Set Theory'," American Philosophical Association Pacific Division meeting, San Francisco, March 1993.

"Possibilism and Object Theory," American Philosophical Association author-meets-critic symposium on Edward Zalta's Intensional Logic and the Metaphysics of Intentionality, Portland, March 1992 (invited panelist).

"Representation, Information Flow, and Model Integration," International Conference on Engineering Integration and Modeling Technology, Workshop on Modeling Technology, Microelectronics and Computer Technology Corporation, Austin, February 1992.

"The Importance of Mathematical Formalization for the Advancement of Information Modeling Technology," IDEF Users Group, Fort Worth, September 1991.

"Randomness, Algorithmic Complexity, and Mathematical Truth," joint American Philosophical Association/Association for Symbolic Logic symposium on the philosophical implications of Gregory Chaitin's Algorithmic Information Theory, San Francisco, March 1991 (invited panelist).

"Temporal Actualism and Singular Foreknowledge," Pacific division meeting of the American Philosophical Association, San Francisco, March 1991.

"Comments on Grosholz's 'Formal Unities and Real Individuals'," Philosophy of Science Association symposium on mathematical and physical objects, Minneapolis, October 1990.

"Comments on Deutsch's 'Logic for Contingent Beings'," Pacific division meeting of the American Philosophical Association, Los Angeles, March 1990.

"Contingency, Q, and the True Modal Logic," Pacific division meeting of the Association for Symbolic Logic, Berkeley, January 1990.

"Contingency and Modal Logic," Arthur Prior Memorial Conference, University of Canterbury, Christchurch, New Zealand, August 1989.

"Qualitative and Quantitative Simulation Model Generation from Manufacturing System Descriptions," Engineering Society of Detroit Expert Systems Conference 1989, Detroit, April 1989 (with R. Mayer et al.; I was not present for the delivery of this paper).

"Platonism in Mathematics," Baylor University philosophy club, Waco, October 1988.

"Comments on Landini's 'Cantor's Power Class Theorem and the Historical Inseparability of the Simple and Ramified Theory of Logical Types'," Central division meeting of the American Philosophical Association, Cincinnati, April 1988.

"A Heretical Approach to Modal Actualism," Calvin College philosophy colloquium, March 1988.

"Absolute Creation and the Structure of Propositions," invited address, University of Notre Dame Conference on Christian and Theistic Philosophy, February 1988.

"The Nature of Ordinal Numbers," University of Oklahoma philosophy colloquium, Norman, September 1987.

"Formalizing Information Modeling Techniques," Stanford University database colloquium, Department of Computer Science, Palo Alto, July 1987.

"Structuralism and Ordinal Numbers," University of Texas philosophy colloquium, Austin, May 1987.

"Theism and the Subject Matter of Mathematics," invited address, the Association of Christians in the Mathematical Sciences, Calvin College, May 1987.

"Comments on Jubien's 'Models of Property Theory'," delivered at a symposium on property theory, Western division meeting of the American Philosophical Association, San Francisco, March 1987.

"Comments on Turner's 'Generalized Frege Structures'," also delivered at the above-mentioned symposium.

“Paradoxes, Large Sets, and Proper Classes,” delivered at the Eastern division meeting of the American Philosophical Association, Washington D.C., December 1985.

“The Relational Theory of Meaning,” delivered at the University of Notre Dame, December 1985.

“Property Theory and Second-order Logic,” delivered at the Western regional meeting of the Association for Symbolic Logic, Stanford University, July 1985.

## Courses Taught

*Graduate:* Mathematical Logic, Metaphysics, Logic and Metaphysics of Modality, Computability Theory, History and Philosophy of Logic, Philosophy of Language, Philosophy of Mathematics

*Undergraduate:* Symbolic Logic I and II (includes at least first-order logic through completeness and (optionally) intensional logic and set theory), Contemporary British and American Philosophy, Metaphysics, Philosophy of Language, Philosophy of Religion, Introduction to Logic, Introduction to Philosophy, Contemporary Moral Issues

*Directed Studies:* Advanced Logic, Modal Logic, Set Theory, Model Theory, Computability Theory, Montague Grammar, Philosophy of Mathematics

## Dissertation

*Title:* “Mathematical Realism and the Theory of Sets”

*Advisors:* Penelope Maddy and Alvin Plantinga