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CITIZENSHIP:

Canadian, American.

EDUCATION AND DEGREES:

1971 B.A. University of Saskatchewan, magna cum laude.

1973 B.A. Cambridge University, first class honours in philosophy.

1974 M.A. University of Toronto, philosophy.

1977 M.A. Cambridge University.

1977 Ph.D. University of Toronto, philosophy. Thesis: *Explanation and Scientific Inference*.

1985 M.S. University of Michigan, Ann Arbor, computer science.

AREAS OF SPECIALIZATION:

Philosophy of science and medicine, cognitive science, philosophy of mind.

EMPLOYMENT:

1977-1981, Assistant Professor of Philosophy, University of Michigan-Dearborn.

1981-1986, Associate Professor of Philosophy, University of Michigan-Dearborn.

1981-1982, Visiting Scholar, Program in Cognitive Science, University of Michigan, Ann Arbor.

1983-1985, Visiting Associate Research Scientist, Psychology Department, University of Michigan, Ann Arbor.

1985-1986, Visiting Research Fellow/Visiting Associate Professor, Psychology Department, Princeton University.

1986-1989, Research Psychologist, Princeton University.

1989-1992, Senior Research Cognitive Scientist, Princeton University.

1990-1991, Adjunct Professor of Decision Sciences, University of Pennsylvania, Wharton School.

1992-current, Professor of Philosophy, with cross appointment to Psychology and Computer Science, University of Waterloo.

1995-current, Director, Cognitive Science Program, University of Waterloo.

2005, University Research Chair, seven-year appointment.

HONOURS

1997-1999, Killam Research Fellow

1999, Fellow of the Royal Society of Canada.

2003, University of Waterloo Award for Excellence in Research.

2006, Fellow of the Cognitive Science Society.

2007, Canada Council for the Arts Molson Prize for Social Sciences and Humanities.

2009, Fellow of the Association for Psychological Science.

SOCIETY MEMBERSHIPS:

Canadian Philosophical Association

Cognitive Science Society (governing board, 1996-2002; chair, 1998-1999)

Royal Society of Canada

Philosophy of Science Association (nominating committee, 1996-1997)

Society for Machines and Mentality (Vice president, 1996-1997; President, 1997-1998)

PRESENTATIONS: American Association for Artificial Intelligence Spring Symposium on Automated Abduction, American Association for Artificial Intelligence Spring Symposium on Scientific Discovery, AAI Workshop on Evaluating Computational Models of Cognition, AAI Workshop on Visual Reasoning, AAI Workshop on Neurosymbolic Processing, American Association for the Advancement of Science (2), American Philosophical Association (5), American Psychological Association, Applications of Computer Algebra, British Society for the Philosophy of Science (2), Canadian Conference on Artificial Intelligence, Canadian Society for Epistemology, Conference on Cognitive Science Education, Conference on Evolving Knowledge in Natural Science and Artificial Intelligence, Canadian Consensus Conference on *Helicobacter pylori*, Canadian Philosophical Association (7), Canadian Society for History and Philosophy of Science (3), Cognitive Science Society (16), Creative Concepts Conference, DARPA Workshop on Case-Base Reasoning, Georgia Philosophical Society (3), German Cognitive Science Society, Group Decision and Negotiation (3), International Congress for Logic, Methodology, and Philosophy of Science; International Joint Conference on Artificial Intelligence (2); International Peirce Congress (2); Model-Based Reasoning in Scientific Discovery Conference (2), Philosophy of Science Association (8), Political Cognition Conference, Society for Machines and Mentality, Society for Philosophy and Psychology (4), Society for Text and Discourse Processing, Workshop on Computational Models of Scientific Discovery, Society for Social Studies of Science, XXXVI International Congress of Psychology, International Joint Conference on Neural Networks, Workshop on Evidence and the Law, Conference on the Cognitive Basis of Science, Western Canadian Philosophical Association, Workshop on Cognitive Studies of Science, Philosophy of Medicine Conference, Canadian Congress of Social Sciences and Humanities Symposium on Computer Use in Humanities, Canadian Society for Epistemology, North American

Computing and Philosophy Conference, Southern Ontario Decision Research Conference, Conference on Computational Discovery, Cognitive Science Society Workshop on Cognitive Social Sciences, Philosophy of Social Science Roundtable, Ontario Society for the Study of Argumentation.

Australian National University, Baylor College of Medicine, Bell Communications Research, Boston University, Bowling Green State University, Brock University, Brooklyn College, University of Calgary, Cambridge University, Carnegie Mellon University (2), Cardozo College of Law, Carleton College, Carleton University (2), University of California at Irvine, University of California at Los Angeles, University of California at San Diego, University of Chicago (2), University of Colorado, Educational Testing Service, Emory University, Freiberg Universität (2), University of Georgia, Georgia State University, Georgia Institute of Technology (3), Harvard Business School (2), University of Illinois at Urbana-Champaign, Institute for Research on Learning, Lehigh University, University of Maryland, McDonnell Douglas Aerospace, McGill University, McMaster University, University of Michigan (3), University of Minnesota, University of New South Wales, University of Newcastle, Ohio State University, Ontario Institute for Studies in Education, University of Pennsylvania, University of Pittsburgh, Princeton University, University of Puerto Rico, Purdue University, Université du Québec à Montréal, Queen's University, Rensselaer Polytechnic Institute, Rutgers University, Universität des Saarlandes, SRI International, Stanford University, State University of New York at Buffalo (3), Tufts University, University of Arizona, University of Aarhus (2), University of Dusseldorf, University of Groningen, University of Southern California, University of Sussex, University of Tel Aviv, University of Toronto (4), Tufts University, Vancouver Conference on Cognition (2), University of A Coruna (2), Villanova University, University of Virginia, University of Waterloo (6), University of Western Ontario (2), Yale University, York University (3), University of Nice, University of Provence.

REFEREE FOR: *Philosophy of Science, Behavioral and Brain Sciences, Business Ethics, Dialogue, Journal of Philosophical Logic, Cognitive Psychology, Systematic Zoology, Cognitive Science, American Psychologist, Biology and Philosophy, Synthese, Philosophical Psychology, Journal of the History of Philosophy, Journal of Experimental Social Psychology, Psychological Review, Psychological Bulletin, New Ideas in Psychology, Language and Cognitive Processes, Linguistics and Philosophy, Decision Support Systems, Informal Logic, Machine Learning, Journal of the Learning Sciences, Instructional Science, Canadian Journal of Philosophy, Computational Intelligence, Cognition and Instruction, Minds and Machines, International Studies in Philosophy of Science, Personality and Social Psychology Bulletin, Review of General Psychology, Psychonomic Bulletin & Review, IEEE Transactions on Systems, Man, and Cybernetics; Journal of Artificial Intelligence Research, Trends in Cognitive Sciences, Cognitive Science Quarterly, Journal of Personality and Social Psychology, Psychological Science, Cognition and Emotion, Theory & Psychology, Science in Context, Neural Networks, History and Philosophy of the Life Sciences, Acta Biotheoretica, Applied Artificial Intelligence, Eidos, Philosophical Quarterly, Cognition, Perspectives on Science, Psychological Methods,*

Journal of Consciousness Studies, Journal of Cognitive Science, Journal of the Psychology of Science and Technology, Topics in Cognitive Science, European Journal of Philosophy of Science, Group Decision and Negotiation, Pacific Philosophical Quarterly, Philosophical Studies, Studies in History and Philosophy of Science, Theoretical Medicine and Bioethics, Journal of Experimental Psychology: General.

National Science Foundation (History and Philosophy of Science, Memory and Cognition, Knowledge and Database Systems, Social Psychology, Science Studies), National Endowment for the Humanities, Air Force Office of Scientific Research, Spencer Foundation, Australian Research Council, Medical Research Council (Britain), National Sciences and Engineering Research Council of Canada (Psychology, Computer Science), Social Sciences and Humanities Research Council of Canada, Fonds pour la Formation de Chercheurs et l'Aide à la Recherche (Quebec), NATO Collaborative Research Grants, Society for Philosophy and Psychology, International Joint Conference on Artificial Intelligence, Cognitive Science Society Conference, Canadian Philosophical Association Conference, Machine Learning Conference, European Conference on Artificial Intelligence, IEEE Conference on AI Applications, Oxford University Press, Basil Blackwell, Academic Press, MIT Press, Cambridge University Press, Princeton University Press, Macmillan, Sage, Springer-Verlag, John Templeton Foundation, European Research Community, Swiss National Science Foundation, Wellcome Trust.

EDITORIAL/ADVISORY BOARD MEMBER: *Handbook of the Philosophy of Science* (co-general-editor), *Philosophical Psychology*, *Journal of Cognitive Systems Research* (action editor), *Journal of Cognitive Science*, *Journal of Applied Logic*, *Biological Knowledge*, *Journal of the Psychology of Science and Technology*, *Journal of Algorithms in Cognition, Informatics and Logic*, *Episteme*, John Benjamins series in Human Cognitive Processing, Springer series in applied philosophy, *Mind and Society*, *Rutherford Journal*, *Dialogue* (1997-2000), *SIGART Bulletin* (Book Review Editor, 1990-1993), *Cognitive Science* (1999-2005, Associate Editor, 2006-2008).

PROGRAM COMMITTEE MEMBER: American Association for Artificial Intelligence Workshop on Abductive Reasoning, spring 1990. Florida Artificial Intelligence Research Symposium, Workshop on Analogy, 1994. Philosophy of Science Association Conference, 1996. American Association for Artificial Intelligence National Conference, 1996. AAI Workshop on Computational Cognitive Modeling, 1996. Conference on Information, Statistics, and Induction in Science, Melbourne, 1996. Conference on Computational Models of Metaphor and Analogy, Aizu, 1998. Conference on Model-Based Reasoning, 1998, 2001, 2009, 2010, 2012. Cognitive Science Society Annual Conference, 2000, 2002, 2003, 2005, 2006, 2007, 2008, 2009, 2010. Workshop on Creative Systems, 2002. AAI Workshop on Visual Reasoning, 2010.

GRANTS AND FELLOWSHIPS:

1979: Rackham faculty grant, University of Michigan. Title: Theories and Frames.

- 1980: Campus grant, University of Michigan-Dearborn. Title: Theories and Explanations in Cognitive Science.
- 1981: Council of Philosophical Studies Fellowship. To attend Summer Institute in Psychology and the Philosophy of Mind.
- 1981-82: National Science Foundation. Title: Knowledge Structures: Methodological and Conceptual Issues in Cognitive Science.
- 1981-82: Cognitive Science Program, University of Michigan, Ann Arbor: Sloan Post-doctoral Fellowship.
- 1982-83: Alfred P. Sloan Foundation (with J. Holland, K. Holyoak, and R. Nisbett). Title: The Process of Induction.
- 1983-84: Systems Development Foundation (with J. Holland, K. Holyoak, and R. Nisbett). Title: The Process of Induction.
- 1986-89: U.S. Army Research Institute for the Behavioral and Social Sciences (with K. Holyoak). Title: A Cognitive Architecture for Solving Ill-Structured Problems.
- 1989: American Council of Learned Societies Travel Grant
- 1989-1992: U.S. Army Research Institute for the Behavioral and Social Sciences (with K. Holyoak). Title: A Cognitive Architecture for Analogy and Problem Solving.
- 1992-1995. Social Sciences and Humanities Research Council of Canada. Title: Integration of Psychological and Sociological Models of Scientific Change.
- 1992-1995. Natural Sciences and Engineering Research Council of Canada. Title: Cognitive Mechanisms for Forming and Evaluating Explanatory Hypotheses.
- 1993-1995. University of Waterloo Interdisciplinary Grants Committee. Title: Development and Coordination of Cognitive Science Research at the University of Waterloo.
- 1995-1998, Social Sciences and Humanities Research Council of Canada. Title: Explaining Scientific Change: The Development and Acceptance of the Bacterial Theory of Ulcers.
- 1995-2000, Natural Sciences and Engineering Research Council of Canada. Title: Cognitive Mechanisms for Analogy and Explanation
- 1997-1999, Canada Council Killam Research Fellowship. Title: Making Sense: Coherence in Thought and Action.
- 2000-2005, Natural Sciences and Engineering Research Council of Canada. Title: Cognitive Mechanisms for Coherence and Emotion.
- 2005-2010, Natural Sciences and Engineering Research Council of Canada. Title: Cognitive and Neural Mechanisms for Decision and Explanation.

2010-2015, Natural Sciences and Engineering Research Council of Canada. Title: Cognitive and Neural Mechanisms for Goal Revision and Emotional Change.

BOOKS:

- Holland, J., Holyoak, K., Nisbett, R., & Thagard, P. (1986). *Induction: Processes of inference, learning, and discovery*. Cambridge, MA: MIT Press/Bradford Books. Paperback edition, 1988. Japanese translation published by Shinyo Sha, 1990.
- Holyoak, K., & Thagard, P. (1995). *Mental leaps: Analogy in creative thought*. Cambridge, MA: MIT Press/Bradford Books. Paperback edition, 1996. Japanese translation published by Shinyo Sha, 1998.
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- Thagard, P. (1992). *Conceptual revolutions*. Princeton: Princeton University Press. Paperback edition, 1993. Italian translation published by Guerini e Associati, 1994. Chinese translation published by Hung Yeh Publishing, Taiwan., 2004. Selected by the Association of American Publishers, Professional/Scholarly publishing division, as the outstanding psychology book of 1992.
- Thagard, P. (1996). *Mind: Introduction to cognitive science*. Cambridge, MA: MIT Press/Bradford Books. Italian translation published by Guerini e Associati, 1998. Portuguese translation published by Artes Médicas, 1998. German translation published by Kletta-Cotta Verlag, 1999. Japanese translation published by Kyoritsu Shuppan, 1999. Chinese translation published by the University of Science and Technology of China Press, 1999. Czech translation published by Portal, 2001. Chinese translation (complex character) published by Wu-Nan Book Company, 2003.
- Thagard, P. (1999). *How scientists explain disease*. Princeton: Princeton University Press. Paperback edition, 2000. Italian translation published by McGraw-Hill Italy, 2001. Chinese translation published by Shanghai Science and Technology Education Publishers, 2001.
- Thagard, P. (2000). *Coherence in thought and action*. Cambridge, MA: MIT Press. Paperback edition, 2002.
- Thagard, P. (2005). *Mind: Introduction to cognitive science, second edition*. Cambridge, MA: MIT Press. Reprint edition published 2006 by Prentice-Hall of India. Spanish translation published 2008 by Katz Editores. Chinese translation to be published by Shanghai Lexicographical Publishing House.
- Thagard, P. (2006). *Hot thought: Mechanisms and applications of emotional cognition*. Cambridge, MA: MIT Press. Paperback edition, 2008.

Thagard, P. (2010). *The brain and the meaning of life*. Princeton: Princeton University Press. Japanese translation to be published by Shinyosha. Korean translation published by Purun Communications, 2011. Catalan translation to be published by Obrador Edendum. Portuguese translation to be published by Bizancio.

Thagard, P. (in press). *The cognitive science of science: Explanation, discovery, and conceptual change*. Cambridge, MA: MIT Press. April, 2012.

EDITED BOOKS:

Magnani, L., Nersessian, N., and Thagard, P. eds. (1999), *Model-based reasoning in scientific discovery*. New York: Plenum. Chinese translation published by China Science and Technology Press, 2000.

Thagard, P., ed. (1998). *Mind readings: Introductory selections on cognitive science*. Cambridge, MA: MIT Press/Bradford Books.

Thagard, P. ed. (2007). *Philosophy of psychology and cognitive science*. Amsterdam: Elsevier.

ARTICLES AND REVIEWS:

1977

Thagard, P. (1977). Darwin and Whewell. *Studies in History and Philosophy of Science*, 8: 353-356.

Thagard, P. (1977). The unity of Peirce's theory of hypothesis. *Transactions of the Charles S. Peirce Society*, 13: 112-121.

1978

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1979

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1980

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1981

- Thagard, P. (1981). The autonomy of a logic of discovery. In L. W. Sumner et al. (Eds.), *Pragmatism and Purpose* (pp. 248-260). Toronto: University of Toronto Press.
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1982

- Thagard, P. (1982). Beyond utility theory. In M. Bradie & K. Sayre (Eds.), *Reason and Decision* (pp. 42-49). Bowling Green, Ohio: Bowling Green State University.
- Thagard, P. (1982). Fallacies of practical inference. *Informal Logic Newsletter*, V: 26-27.
- Thagard, P. (1982). From the descriptive to the normative in psychology and logic. *Philosophy of Science*, 49: 24-42.
- Thagard, P. (1982). Hegel, science, and set theory. *Erkenntnis*, 18: 397-410.
- Thagard, P. (1982). Programs, theories and models in cognitive science. In *Proceedings of the Fourth Annual Conference of the Cognitive Science Society* (pp. 155-157). Ann Arbor, MI:
- Thagard, P. (1982). Review of books by Mary Hesse, John Klige, and Gary Gutting (ed.). *Teaching Philosophy*, 5: 258-261.
- Thagard, P., & Nisbett, R. (1982). Variability and confirmation. *Philosophical Studies*, 42: 379-394.

1983

Nisbett, R., & Thagard, P. (1983). Psychology, statistics, and analytic epistemology. *Behavioral and Brain Sciences*, 6: 257-258.

Thagard, P. (1983). Artificial intelligence, psychology, and the philosophy of discovery. In P. Asquith & T. Nickles (Eds.), *PSA 1982*, vol. 2. (pp. 166-175). East Lansing: Philosophy of Science Association.

Thagard, P., & Nisbett, R. (1983). Rationality and charity. *Philosophy of Science*, 50: 250-267.

1984

Thagard, P. (1984). Alternative methods for psychological research (review of D. Polkinghorne, *Methodology for the Human Sciences*). *Contemporary Psychology*, 29: 911-912.

Thagard, P. (1984). Computer programs as psychological theories. In O. Neumaier (Ed.), *Mind, Language, and Society* (pp. 77-84). Vienna: Conceptus-Studien.

Thagard, P. (1984). Conceptual combination and scientific discovery. In P. Asquith & P. Kitcher (Eds.), *PSA 1984*, vol. 1. (pp. 3-12). East Lansing: Philosophy of Science Association.

Thagard, P. (1984). Frames, knowledge, and inference. *Synthese*, 61: 233-259.

Thagard, P. (1984). Psychology meets philosophy. (review of E. Valentine, *Conceptual Issues in Psychology*). *Contemporary Psychology*, 29: 514-515.

Thagard, P. (1984). Rules for conceptual combination. In *Proceedings of the Sixth Annual Conference of the Cognitive Science Society*, (pp. 328-333). Boulder, Colorado.

1985

Thagard, P., & Holyoak, K. (1985). Discovering the wave theory of sound: induction in the context of problem solving. In *Proceedings of the Ninth International Joint Conference on Artificial Intelligence* (pp. 610-612.). Los Altos: Morgan Kaufmann.

1986

Laudan, L., Donovan, A., Laudan, R., Barker, P., Brown, H., Leplin, J., Thagard, P., & Wykstra, S. (1986). Scientific change: philosophical models and historical research. *Synthese*, 69: 141-223.

Thagard, P. (1986). Charles Peirce, Sherlock Holmes, and Artificial Intelligence. *Semiotica*, 60: 289-295.

Thagard, P. (1986). The emergence of meaning: How to escape Searle's Chinese room. *Behaviorism*, 14: 139-146.

Thagard, P. (1986). Parallel computation and the mind-body problem. *Cognitive Science*, 10: 301-318.

Thagard, P. (1986). The pragmatics of induction. *Behavioral and Brain Sciences*, 9: 668-669.

1987

Holland, J., Holyoak, K., Nisbett, R., & Thagard, P. (1987). Classifier systems, Q-morphisms, and induction. [reprinted excerpts from 1986 book, *Induction*]. In L. Davis (Ed.), *Genetic Algorithms and Simulated Annealing* (pp. 116-128). London: Pitman.

Thagard, P. (1987). Computerized creativity. (review of P. Langley, H. Simon, G. Bradshaw, and J. Zytkow, *Scientific Discovery*). *The Scientist*, 1: 22.

Thagard, P. (1987). Reply to Krellenstein on parallel computation. *Cognitive Science*, 11: 159-161.

Thagard, P. (1987). Review of Z. Pylyshyn and W. Demopoulos (Eds.), *Meaning and cognitive dtructure*. *Canadian Philosophical Reviews*, 7: 422-423.

Thagard, P. (1987). Zdolnosc godzaca a struktura teorii. [Consilience and the structure of theories]. In K. Jodkowski (Ed.), *Realizm, Racjonalnosc Relatywizm 4* (pp. 153-170). Lublin: MCS University Press.

Thagard, P., & Kunda, Z. (1987). Hot cognition: mechanisms of motivated inference. In E. Hunt (Ed.), *Proceedings of the Ninth Annual Conference of the Cognitive Science Society* (pp. 753-763). Hillsdale, N.J.: Erlbaum.

1988

Ranney, M., & Thagard, P. (1988). Explanatory coherence and belief revision in naive physics. In *Proceedings of the Tenth Annual Conference of the Cognitive Science Society* (pp. 426-432). Hillsdale, NJ: Erlbaum.

Thagard, P. (1988). Computational models in the philosophy of science. In A. Fine & P. Machamer (Eds.), *PSA 1986, vol. 2*. (pp. 329-335). East Lansing, MI: Philosophy of Science Association.

Thagard, P. (1988). Dimensions of analogy. In D. Hellman (Ed.), *Analogical Reasoning* (pp. 105-124). Dordrecht: Reidel.

Thagard, P. (1988). Review of M. Midgley, *Evolution as a Religion*, and M. Ruse, *Taking Darwin Seriously*. *Victorian Studies*, 31: 433-435.

Thagard, P. (1988). Why astrology is a pseudoscience. (reprint of 1978 article). In E. D. Klemke et al.(Eds.), *Introductory Readings in the Philosophy of Science (revised edition)* (pp. 45-54). Buffalo: Prometheus Books.

Thagard, P., & Nowak, G. (1988). The explanatory coherence of continental drift. In A. Fine & J. Leplin (Eds.), *PSA 1988 vol. 1*. (pp. 118-126). East Lansing, Michigan: Philosophy of Science Association.

1989

- Holyoak, K., & Thagard, P. (1989). Analogical mapping by constraint satisfaction. *Cognitive Science*, *13*: 295-355.
- Holyoak, K., & Thagard, P. (1989). A computational model of analogical problem solving. In S. Vosniadou & A. Ortony (Eds.), *Similarity and Analogical Reasoning* (pp. 242-266). Cambridge: Cambridge University Press.
- Thagard, P. (1989). Connectionism and epistemology: Goldman on winner-take-all networks. *Philosophia*, *19*: 189-196.
- Thagard, P. (1989). Epistemology and explanation. [review of W. Lycan, *Judgment and Justification*]. *Contemporary Psychology*, *34*: 646-647.
- Thagard, P. (1989). Explanatory coherence. *Behavioral and Brain Sciences*, *12*: 435-467.
- Thagard, P. (1989). Extending explanatory coherence (reply to 27 commentators). *Behavioral and Brain Sciences*, *12*: 490-502.
- Thagard, P. (1989). Scientific cognition: hot or cold? In S. Fuller, M. de Mey, T. Shinn, & S. Woolgar (Eds.), *The Cognitive Turn: Sociological and Psychological Perspectives on Science* (pp. 71-82). Dordrecht: Kluwer.
- Thagard, P. (1989). Welcome to the cognitive revolution. *Social Studies of Science*, *19*: 653-657.
- Thagard, P., Cohen, D., & Holyoak, K. (1989). Chemical analogies: two kinds of explanation. In *Proceedings of the Eleventh International Joint Conference on Artificial Intelligence* (pp. 819-824). San Mateo: Morgan Kaufmann.
- Thagard, P., & Holyoak, K. (1989). Why indexing is the wrong way to think about analog retrieval. In *Proceedings of the DARPA Workshop on Case-Based Reasoning* (pp. 36-40). San Mateo: Morgan Kaufman.

1990

- Holyoak, K., & Thagard, P. (1990). A constraint-satisfaction approach to analogue retrieval and mapping. In K. Gilhooly, M. Keane, R. Logie, & G. Erdos (Eds.), *Lines of thinking, vol. 1*. (pp. 205-220). Chichester, U.K.: Wiley.
- Thagard, P. (1990). Comment: information and concepts. In P. Hanson (Ed.), *Information, Language, and Cognition*. (pp. 169-174). Vancouver: University of British Columbia Press.
- Thagard, P. (1990). Concepts and conceptual change. *Synthese*, *82*: 255-274.
- Thagard, P. (1990). The conceptual structure of the chemical revolution. *Philosophy of Science*, *57*: 183-209.
- Thagard, P. (1990). Modelling conceptual change. In J. Tiles, G. McKee, & G. Dean (Eds.), *Evolving Knowledge in Natural Science and Artificial Intelligence* (pp. 201-218). London: Pitman.
- Thagard, P. (1990). Philosophy and machine learning. *Canadian Journal of Philosophy*, *20*: 261-276.

- Thagard, P. (1990). Review of H. Margolis *Patterns, Thinking, and Cognition*. *Philosophical Psychology*, 3: 165-167.
- Thagard, P., Holyoak, K., Nelson, G., & Gochfeld, D. (1990). Analog retrieval by constraint satisfaction. *Artificial Intelligence*, 46: 259-310.
- Thagard, P., & Nowak, G. (1990). The conceptual structure of the geological revolution. In J. Shrager & P. Langley (Eds.), *Computational Models of Scientific Discovery and Theory Formation* (pp. 27-72). San Mateo: Morgan Kaufmann.

1991

- Thagard, P. (1991). Concepts and conceptual change (reprint of 1990 paper). In J. Fetzer (Ed.), *Epistemology and Cognition*. (pp. 101-120). Dordrecht: Kluwer.
- Thagard, P. (1991). Connectionism and legal inference. *Cardozo Law Review*, 13: 1001-1004.
- Thagard, P. (1991). Defending explanatory coherence (reply to 4 commentators). *Behavioral and Brain Sciences*, 14, 745-748.
- Thagard, P. (1991). The dinosaur debate: Explanatory coherence and the problem of competing hypotheses. In J. Pollock & R. Cummins (Eds.), *Philosophy and AI: Essays at the Interface*. (pp. 279-300). Cambridge, Mass.: MIT Press/Bradford Books.
- Thagard, P. (1991). Goldman's psychologism [critical notice of Alvin Goldman, *Epistemology and Cognition*]. *Erkenntnis*, 34: 117-123.
- Thagard, P. (1991). In defense of computational philosophy of science. *Minds and Machines*, 1: 217-219.
- Thagard, P. (1991). Philosophical and computational models of explanation. *Philosophical Studies*, 64: 87-104.
- Thagard, P. (1991). Review of Y. Peng and J. Reggia, *Abductive Inference Models for Diagnostic Problem Solving*. *SIGART Bulletin*, 2(1): 72-75.
- Thagard, P. (1991). Why astrology is a pseudoscience. (reprint of 1978 article) In M. Velasquez (Ed.), *Philosophy: A Tutorial Reader* (pp. 334-341). Belmont, CA: Wadsworth.

1992

- Nowak, G., & Thagard, P. (1992). Copernicus, Ptolemy, and explanatory coherence. In R. Giere (Ed.), *Cognitive Models of Science, Minnesota Studies in the Philosophy of Science*, vol. 15. Minneapolis: University of Minnesota Press, 274-309.
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- Thagard, P. (1992). Analogy, explanation, and education. *Journal of Research in Science Teaching*, 29: 537-544.
- Thagard, P. (1992). Computing coherence. In R. Giere (Ed.), *Cognitive Models of Science, Minnesota Studies in the Philosophy of Science*. Minneapolis: University of Minnesota Press, 485-488.
- Thagard, P. (1992). Hypothesis formation. In M. Keane & K. Gilhooly (Eds.), *Advances in the Psychology of Thinking*, vol 1, Hemel Hempstead: Harvester Wheatsheaf, 177-201.
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- Thagard, P., and Hardy, S. (1992). Visual thinking and the development of Dalton's atomic theory. In *Proceedings of the Ninth Canadian Conference on Artificial Intelligence*, Vancouver, 30-37.

1993

- Buchanan, L., Joordens, S., Fleck, R., and Thagard, P. (1993). Orientation and complexity effects: Computational models of visual analogical reasoning. In *Proceedings of the Fifteenth Annual Conference of the Cognitive Science Society*. Hillsdale, NJ: Erlbaum, 272-276.
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- Thagard, P. (1993). Bereiter on knowledge. *Interchange*, 23/4: 363-366.
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