

Dwayne Raymond

Department of Philosophy
Texas A&M University
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Education

Ph.D., with distinction, Philosophy, University of Western Ontario, Canada, 2006.

Area: Ancient logic/history of logic

M.A., Philosophy, University of Calgary, 1997.

Area: **Cognitive science/ Philosophy of Mind (included studying neuropsychology and neuropharmacology)**

B.A., Economics and Philosophy (Double Major), University of Calgary, 1993.

Areas: **Ethics and Economics**

Employment History

Assistant Instructional Professor (09/2019 - current)

Department of Philosophy, Texas A&M University, College Station, Texas, USA

Associate Director of Undergraduate Studies (09/2019- current)

Department of Philosophy, Texas A&M University, College Station, Texas, USA

Assistant Professor (09/2016-08/2019)

Department of Philosophy, Texas A&M University, College Station, Texas, USA

Director of Undergraduate Studies (05/2015- 08/2016)

Associate Director of Undergraduate Studies (09/2014 – 04/2015)

Department of Philosophy, Texas A&M University, College Station, Texas, USA

Assistant Instructional Professor (09/2014-8/2016)

Department of Philosophy, Texas A&M University, College Station, Texas, USA

Visiting Assistant Professor (01/2011-08/2014)

Department of Philosophy, Texas A&M University, College Station, Texas, USA

Assistant Professor (2009 – 2010)

Department of Philosophy and Classics, Campion College at the University of Regina,
Regina, Saskatchewan, Canada

Visiting Scholar (2008-2009)

Department of Philosophy, Texas A&M University, College Station, Texas, USA

Instructor (2006-2008)

Department of Philosophy, St. Tomas More College at the University of Saskatchewan,
Saskatoon, Saskatchewan, Canada

Instructor (2006-2007)

Department of Philosophy, University of Saskatchewan, Saskatoon, Saskatchewan, Canada

Instructor (2001-2006)

Department of Philosophy, University of Western Ontario, London, Ontario, Canada

Areas of Specialization

History of Logic (ancient/prehistory), Aristotle, Descartes

Areas of Competence

Logic, Ancient Philosophy, Philosophy of Mind, Cognitive Science of Religion, Asian Philosophy, Ethics, Metaethics, Early Modern Philosophy, Late Medieval Philosophy, Metaphysics

Publications – Refereed

Journals - Refereed

1. Raymond, D. (2012) "Comments on Justin Barrett's *Why would anyone believe in God?*," *Sophia* 51: 319-321.
2. Raymond, D. (2011) "From a particular diagram to a universal result: Euclid Book I," *Apeiron: A journal for ancient philosophy and science* 44 (3): 211-218.
3. Raymond, D. (2010) "Polarity and inseparability: The foundation of the apodictic portion of Aristotle's modal logic," *History and Philosophy of Logic* 31 (3): 193-218.

Book Chapters – Invited but Refereed

4. Raymond, D. Jeffrey Liew, Tracy A. Hammond, (2015) "A Vision for Education: Transforming how formal systems are taught within mass lectures by using pen technology to create a personalized learning environment," Hammond, T. A., Valentine, Adler, Payton (eds.) *The Impact of Pen and Touch Technology on Education* (Springer: 355-365).
5. Raymond, D. (2014) "From particular to universal: Drawing upon the intellectual milieu to understand Aristotle and Euclid" Paolo Biondi and Louis Groarke (eds.) *Shifting the Paradigm: Alternative Perspectives on Induction* (DeGruyter.: 269-300).
6. Raymond, D. (2009) "Parmenidean intuitions in Descartes's theory of the heart's motion" in Ann Ward (ed.) *Matter and form: From natural science to political philosophy* (Rowman & Littlefield Publishing Inc.: 103-118).

Book Reviews - Invited

7. Raymond, D. (2014). "Aristotle's Modal Syllogistic," *History and Philosophy of Logic* 35 (2): 209-211.

Conference and Workshop Proceedings - Submitted to a refereed conference

8. Raymond, D. "On Descartes's conjecture that yeast may lie the folds of the heart: The role of ancient intuitions in Descartes's rejoinder," *Proceedings of the International Society for the Study of European Ideas (ISSEI)*, Helsinki, Finland, June 2008.
http://www.valt.helsinki.fi/optek/issei/section5/Session_20_32_Ward/20_32_Raymond.pdf

Abstracts - Submitted to a refereed conference

9. Raymond, D. "From a particular diagram to a universal result: Euclid's *Elements* Book I," *Joint Session of the Aristotelian Society and Mind Associate Conference*, UK July 2009 (Published Abstract).
10. Raymond, D. "On the psychological underpinnings of a God-concept: the intuitive theist hypothesis, an equivocation and a subsequent reevaluation of the evidence," *The Concept of God and the Cognitive Science of Religion: An International Conference at Birmingham, UK*, June 2009 (Published Abstract).

11. Raymond, D. "Aristotle's apodeictic logic: the need to be clear about Aristotle's analysis of whole-part confusions," *Proceeding of History of Philosophy of Science (H.O.P.O.S.)* Paris, France, June 2006 (Published Abstract).

Publications – Under Review

Journals – Revise and Resubmit

12. Raymond, D. "Problematic Analysis, Generalization and Priority: the Contribution of co-relatives in Greek Geometrical Reasoning." *Studia Neoaristotelica*

Publications – In Preparation

Book Proposal

13. Raymond, D. *Misdirection through the use of modern logic* (in Prep for Routledge)

Book – in preparation

14. Raymond, D. *Misdirection through the use of modern logic*

Journals – in preparation

16. Raymond, D. "Rationalism and Empiricism are not part of Plato's *Meno*"
17. Raymond, D. "Analysis and Synthesis in Greek Geometry is facilitated by diagrammatic contexts for comparison."
18. Raymond, D. "On the distinction between Identity and Unity: What it tells us about the logical techniques for generalization."
19. Raymond, D. "Could relational arguments be among the oldest form of argumentation in ancient Greece?"
20. Raymond, D. "Gaming syntax: an in-class game to teach logical syntax and equivalent logical forms."

Journals – invitation to resubmit (not submitted)

21. Raymond, D. "Reconsidering Galen's relational syllogisms through a question of history and not through a question of heritage." (rethinking a portion of it prior to submitting to *History and Philosophy of Logic*)

Publications – Non-refereed, industry

White Paper

22. Raymond, D. "Preliminary code of ethics for the Canadian Environmental Certification Approvals Board," *Canadian Council for Human Resources in the Environment Industry*, March 1998.

Trade Journal (Feature Article)

23. Raymond, D. "Mining stocks: know their value, take your profits," *Capital Ideas*, January 1997.

Talks and Conference Presentations

Invited

24. Raymond, D. "Misdirection: Understated concerns about the use of modern logic in the reconstruction and evaluation of historic arguments" Chez Academy of Science, Prague, Czech Republic, March, 2019

25. Raymond, D. "What if Aristotle is right and Plato is a kind of Pythagorean?" University of South Bohemia, Ceske Budejovice, Czech Republic, March, 2019
26. Raymond, D. "Problematic Analysis, Generalization and Priority: the Contribution of co-relatives in Greek Geometrical Reasoning" Stockholm University Dec., 2018
27. Raymond, D. "Misdirection: Understated concerns about the use of modern logic in the reconstruction and evaluation of historic arguments" St. Thomas University, N.B. Nov. 2018.
28. Raymond, D. "Euclid and the *Euthyphro*," Regis College at the University of Toronto, Ontario, sponsored by the Lonergan Research Institute, November, 2010 (Lecture two of a two day series).
29. Raymond, D. "Distinguishing Between Logical and Linguistic Insights," Regis College at the University of Toronto, Ontario, sponsored by the Lonergan Research Institute, November, 2010 (Lecture one of a two day series).
30. Raymond, D. "What is Prime about Prime Numbers and Why it Matter to the History of Formal Thinking in Ancient Greece," Brandon University, MB, April 2010.
31. Raymond, D. "Structuring Wholes: On the origins and development of ancient formal systems of logic, geometry, harmony (ratio and proportion) and arithmetic," Department of Philosophy and Classics, Main Campus, University of Regina, SK, December 2009.
32. Raymond, D. "Inseparability and Polarity: Towards an understanding of logic's origins," Department of Philosophy, University of Manitoba, MB, October 2009.
33. Raymond, D. "From Gods to God to Euclid," Philosophy Cafe: An open exchange of philosophical ideas led by a University of Regina Professor at the Regina Public Library, October 2009.
34. Raymond, D. "Turning to the *Prior Analytics* to understand the contingency of Aristotle's future contingencies," History and Philosophy of Logic Group, Texas A&M University, December 2008.
35. Raymond, D. "Sifting for an ancient kernel of truth: the role of unity, inseparability and non-contradiction in the creation of formal logic," Texas A&M University, October 2008.
36. Raymond, D. "Is it absurd to think that the Truth is a surd?: The role of irrationals in Plato's late ontology, the generation of numbers, and his explanation of things that are less than ideal," University of Saskatchewan, January 2008.
37. Raymond, D. "A look at contingency in future contingences," St. Francis Xavier University, September 2007; McMaster University, September 2007; University of Western Ontario, March 2007.
38. Raymond, D. "Guest lecture for a graduate seminar in ancient logic," University of Western Ontario, March 2007 (The course was motivated by my Ph.D. Dissertation).
39. Raymond, D. "Atomistic Logic vs. a Logic of the Plenum: The distinction between analysis as reduction to individual elements vs. analysis as a disentangling of individual elements and structure," U of Saskatchewan, Department Colloquia, February 2007.

Submitted

37. Raymond, D. "Writing Wrongs" 2018 APRA in Halifax
38. Lin, B. Raymond, D. Hammond, T. Liew, J. "Demographic and Personality Factors Predictive of Math Anxiety in College Students" 30th Association for Psychological Science Annual Convention. 2018.
39. Raymond, D. Jeffrey Liew, Tracy A. Hammond, "A Vision for Education: Transforming how formal systems are taught within mass lectures by using pen technology to create a personalized learning environment," *WIPTTE: Workshop on the Impact of Pen and Touch Technology in Education*, March 12-15, 2014.
40. Raymond, D. "From a particular diagram to a universal result: Euclid's *Elements* Book I," *Joint Session of the Aristotelian Society and Mind Associate Conference*, UK, July 2009.
41. Raymond, D. "On the psychological underpinnings of a God-concept: the intuitive theist hypothesis, an equivocation and a subsequent reevaluation of the evidence," *The Concept of God and the Cognitive Science of Religion: An International Conference at Birmingham*, June 2009.

42. Raymond, D. "The Harvey-Descartes debate: The hardening of the heart, the proper use of the will and ancient logical intuitions," *International Society for the Study of European Ideas (I.S.S.E.I.)* Helsinki, Finland, July 2008.
43. Raymond, D. "Aristotle's apodeictic logic: the need to be clear about Aristotle's analysis of whole-part confusions," *History of Philosophy of Science (H.O.P.O.S.)* Paris, France, June 2006.
44. Raymond, D. "Relations, intensional contexts and the subject-*qua* / predicate-*qua* distinction in the *Prior Analytics*," *Symposium on Aristotle: Logic and Science, Canadian Philosophical Association*, May 2005.
45. Raymond, D. "Hypothetical Necessity: On the question of its lineage to the *Prior Analytics*," *Canadian Philosophical Association*, May 2005.
46. Raymond, D. "The Two Barbaras Problem and the role of subject-*quas*," *Western Canadian Philosophical Association*, October 2004.
47. Raymond, D. "Drawing upon an ancient logical intuition," *Canadian Philosophical Association*, May 2004; *American Philosophical Association, Central Division*, April 2004.
48. Raymond, D. "Possibility and Existential Commitment in Aristotle's logic," *Symposium on Ancient and Medieval Logic, Canadian Philosophical Association*, May 2004.
49. Raymond, D. "Aristotle's fallacy of accident," (Revised version) *American Philosophical Association, Eastern Division*, December 2003; (Original Version) *Ontario Philosophical Society*, November 2002.
50. Raymond, D. "The world's fastest man and a potato clock," *Canadian Philosophical Association*, May 2003.
51. Raymond, D. "Computational models of mind and the necessary role of the noise/signal distinction in computational models of mind," *University of Calgary*, October 1997.
52. Raymond, D. "Understanding physical systems *qua* physical systems," *The Stanford-Berkley Graduate Student Conference*, April 1995.
53. Raymond, D. "The foundation for a computational account of cognition: an inquiry," *The Canadian Graduate Students Conference*, May 1995.

Invited Commentaries

54. Raymond, D. Commentary on Aristotle's Mathematics 2019 Pacific APA Vancouver (unable to attend)
55. Raymond, D. "Commentary on Michael Bruder's 'The Role of Perception in Aristotle's Account of Time'," *Western Canadian Philosophical Association*, October 2009.
56. Raymond, D. "Commentary on Andrea Mihali's 'Cartesian Freedom(s) Before and After (Acts of Will are Elicited)'", *Western Canadian Philosophical Association*, October 2009.
57. Raymond, D. "Commentary on Richard Bosley's 'The theory of correspondence in Aristotle's syllogistic: the problem of negation'," *Western Canadian Philosophical Association*, October 2008.
58. Raymond, D. "Commentary on David Deviti's paper on logical pluralism," *Western Canadian Philosophical Association*, October 2007.
59. Raymond, D. "Commentary on E. Katz's 'Does Aristotle have Plato's number?'," *Canadian Philosophical Association*, May 2007.
60. Raymond, D. "Commentary on Phill Corkum's 'Aristotle on Consequence'," *Canadian Philosophical Association*, May 2004.
61. Raymond, D. "Commentary on Louis Groarke's 'Aristotle and Michelangelo: induction as *techne* or art'," *Ontario Philosophical Society*, November 2003.
62. Raymond, D. "Commentary on Anthony Willing's 'Aristotle on possessive paradoxes'," *Canadian Philosophical Association*, May 2003.
63. Raymond, D. "Commentary on Dan Ryder's 'Theory of Representation'," *Graduate Student Philosophy of Mind Conference, University of Western Ontario*, June 2001.

Honours and Awards:

President's Award for Academic Advising, Nomination 2016.

Guest Coach, Texas A&M Football, Oct 2014.

Ph.D. with distinction, 2006.

Special University Scholarship, University of Western Ontario: Summer, 2003; Fall, 2002; Summer, 2002; Fall, 2001; Summer 2001, Fall, 2000; Summer, 2000.

Graduate Student Teaching Award Nomination, University of Western Ontario, Fall/Winter, 2000/2001

Graduate Student Teaching Award Nomination, University of Western Ontario, Fall/Winter, 1999/2000

Graduate Research Scholarship Department of Philosophy, University of Calgary, Fall, 1994; Summer, 1994

Graduate Teaching Assistantship Department of Philosophy, University of Calgary, Winter, 1993.

Undergraduate Honours Thesis Supervised

Virginia Neese (2015/2016)

Thesis: Clinical Placebo Use: Ethical and Unjustified

1st Place Undergraduate Oral Presentation in the *Student Research Week* Category: *History, Literature, Fine Arts Communication, Languages, Philosophy*

Admitted to Medical School 2016

Alfredo Garcia (2014/2015)

Thesis: Culture and Opportunity: Can Group Differentiated Rights be Justified?

Admitted to *Harvard Divinity School* 2015

Courses Taught (2006-2016)

Texas A&M University, College Station Texas, USA

Fall 2018

PHIL 240 — Introduction to Logic (Enrolled:88)

PHIL 410 — Classical Philosophy (Enrolled: 22)

Spring 2018

PHIL 240 — Introduction to Logic (Enrolled:212)

PHIL 611 — Classical Philosophy (Enrolled: 6)

Fall 2017

PHIL 240 — Introduction to Logic (Enrolled:163)

PHIL 410 — Classical Philosophy (Enrolled: 32)

Spring 2017

PHIL 240 — Introduction to Logic (Enrolled:234)

Fall 2016

PHIL 240 — Introduction to Logic (Enrolled:205)

Spring (Jan –April) 2016

PHIL 240 — Introduction to Logic (Enrolled:207)

PHIL 240 — Introduction to Logic (Enrolled: 24)

Huma 304 — Indian & Oriental Religion (Enrolled: 34)

Phil 497 — Honors Research Thesis: Placebo and the AMA Policy (Enrolled: 1)

Fall 2015

PHIL 240 — Introduction to Logic (Enrolled: 215)

PHIL 240 — Introduction to Logic (Enrolled: 19)

PHIL 410 — Classical Philosophy (Enrolled: 20)

PHIL 497 — Honors Research Thesis: Placebo and the AMA Policy (Enrolled: 1)

PHIL 497 — Honors Research Thesis: Empedocles (Enrolled: 1)

Spring (Jan–April) 2015

PHIL 240 — Introduction to Logic (Enrolled: 328)

PHIL 240 — Introduction to Logic Special Section with tablets (Enrolled: 20)

CSCE 482 (Faculty Mentor) Computer Science Capstone course to 4 Comp. Sci. Majors

Huma 304 — Indian & Oriental Religion (Enrolled: 28)

PHIL 111 — Contemporary Moral Issues (Enrolled: 40)

PHIL 497 — Honors Research Thesis: Multi-culturalism and the Moral Self (Enrolled: 1)

Fall 2014

PHIL 240 — Introduction to Logic (Enrolled: 324)

PHIL 111 — Contemporary Moral Issues Philosophy (Enrolled: 38)

PHIL 497 — Honors Research Thesis: Multi-culturalism and the Moral Self (Enrolled: 1)

Spring (Jan–April) 2014

PHIL 240 — Introduction to Logic (Enrolled: 295)

Phil 410 — Classical Philosophy (Enrolled: 25)

Fall 2013

PHIL 240 — Introduction to Logic (Enrolled: 269)

PHIL 111 — Contemporary Moral Issues Philosophy (Enrolled: 27)

Spring (Jan–April) 2013

PHIL 240 — Introduction to Logic (Enrolled: 262)

Phil 410 — Classical Philosophy (Enrolled:)

Fall 2012

PHIL 240 — Introduction to Logic (Enrolled: 289)

Huma 304 — Indian & Oriental Religion (Enrolled: 33)

Spring (Jan–April) 2012

PHIL 240 — Introduction to Logic (Enrolled: 309)

PHIL 111 — Contemporary Moral Issues Philosophy (Enrolled: 32)

Fall 2011

Huma 304 — Indian & Oriental Religion (Enrolled: 44)

PHIL 111 — Contemporary Moral Issues Philosophy (Enrolled: 51)

Spring (Jan–April) 2011

Phil 410 — Classical Philosophy (Enrolled: 33)

PHIL 111 — Contemporary Moral Issues Philosophy (Enrolled: 46)

Campion College, University of Regina, Saskatchewan, Canada

Winter (Jan–April) 2010

Introduction to Philosophy (Enrolled: 15)

Critical Thinking (Enrolled: 35)

Presocratic Philosophers and Plato (Enrolled: 15)

Fall 2009

Plato's Later Dialogues (upper undergrad/honors) (Enrolled: 8)

Introduction to Philosophy (Enrolled: 25)

St. Thomas More College, Saskatoon, Saskatchewan, Canada

Winter (Jan –April)2008

Ethics for Business and the Professions (Enrolled: 40)

Fall 2007

Ethics for Business and the Professions (Enrolled: 55)

Winter (Jan –April)2007

Later Medieval Philosophy (Enrolled: 15)

Fall 2006

Cultivating Humanities (Enrolled: 20)

The University of Saskatchewan, Saskatchewan, Canada

Fall 2007

Introduction to Symbolic Logic (Enrolled: 55)

Winter (Jan –April)2007

Introduction to Symbolic Logic (Enrolled: 55)

Knowledge, Mind and Metaphysics (Enrolled: 55)

Informal Logic (Enrolled: 140)

Fall 2006

Introduction to Symbolic Logic (Enrolled: 55)

Winter (Jan –April)2006

Introduction to Symbolic Logic (Enrolled: 55)

Service

At Texas A&M

Department

1. Associate Director Undergraduate Studies (2019- current)
2. Undergraduate Program Advisory Committee (2016 - current)
3. Steering Committee (2015 - 2019)
4. Computer and Equipment Committee (2016 -2019)
5. Curriculum Committee (2015 - 2016)
6. Director Undergraduate Studies (2015 - 2016)
7. Chair, Undergraduate Program Advisory Committee (2015 - 2016)
8. Student Relations Committee (2015 - 2016)
9. Advisor to Philosophy Club (2015 - 2016)
10. Undergraduate Advisor (2014 - 2016)
11. Organizer of International Virtual Colloquium for UG Philosophers: IvCup 2016
12. *De facto* Director of Philosophy Honors Program (2015-2016)
13. *De facto* advisor to Undergraduate Journal (2015)
14. Associate Director of Undergraduate Studies (2014 - 2015)
15. Library Committee (2014 - 2015)
16. Secured Glasscock funding to bring in a guest speaker in 2013

College

17. Aggie Agora, Board Member (2016-2017)
18. Liberal Arts Advisory Council, Member at Large (2014 - 2017)
19. Undergraduate Instructional Committee, Member (2015 - 2016)
20. Glasscock Advisor Committee (2014 - 2016)
21. RELS Review Committee (2014-2016)
22. Hiring Committee for a joint appointment in Religious Studies and African Studies (2014- 2015)

University

1. Committee to explore and develop a degree program in REGULATORY AFFAIRS
2. Judge, *The Raymond Ideas Challenge 2016*, Mays Business School
3. Judge, *The Raymond Ideas Challenge 2017*, Mays Business School
4. Judge, *The Raymond Ideas Challenge 2016*, Mays Business School
5. Faculty Mentor CSCE 482 (2015)
6. On the committee that developed a *Critical Thinking Rubric* for recertification of mathematics courses in TAMUs Core Curriculum (2014-2015)
7. On the committee that developed a *Communication Rubric* for recertification of mathematics courses in TAMUs Core Curriculum (2014-2015)
8. On the committee that developed a *Empirical Quantitative Skills Rubric* for recertification of mathematics courses in TAMUs Core Curriculum (2014-2015)
9. Presidential Debate Bid Working Committee (2014 - 2015)
10. Chair, International Subcommittee for the Presidential Debate Bid (2014 -2015)

Profession

1. Reviewer for journals: *Journal in the History of Philosophy*, *History and Philosophy of Logic*, *Pacific Philosophical Quarterly*, *British Journal for the History of Philosophy*

Prior to TAMU

1. Funding Committee, Humanities Research Institute, University of Regina, SK September 2009-2010.
2. Faculty Coordinator, 2010 Joint University of Regina and University of Manitoba Graduate Philosophy Symposium.
3. Organizing a visiting speaker, Department of Philosophy and Classics, Campion College, University of Regina, March 2010.
4. Referee for entry into an MA (Regina).
5. Organized a visiting speaker, Department of Philosophy and Classics, Campion College, University of Regina, November 2009.
6. Lead a graduate student reading group in contemporary philosophy of mind at TAMU, 2009. Text: Martin, C.B. *The Mind in Nature* (Oxford, 2008).
7. Referee for *Canadian Philosophical Association*, 2008.

Visiting Scholar / Post Doc

Inseparability and Polarity: At the Root of Ancient Reasoning

Texas A&M University

Supervisor: Robin Smith

Abstract

Aristotle conceptualized logic's key ingredients such as predication, truth and falsity, negation, contraries, contradictories, and logical consequence in terms of combinations and separations. Of these, contraries and contradictories emerged out of clarifications

concerning the most extreme form of separation: things that never combine (Polarity). Logical consequence emerged out clarifications concerning the most extreme form of combination: things that never separate (Inseparability). The extremes of Polarity and Inseparability contain the seeds for formal logic and they contain the seeds for fallacies prevalent in ancient Greece. The project traces Aristotle's development of Inseparability and Polarity though his treatment of logical fallacies into his modal logic.

Ph.D. Thesis

Qua

University of Western Ontario

Supervisor: John Thorp
Committee: John Bell
 Karen Margrethe Nielsen

Examiners: Joseph A Novak
 John Bell
 David Bellhouse
 Chris Viger

Abstract

Aristotle's modal syllogistic, with his controversial use of a single notion of necessity and two notions of possibility, is reconstructed as a sound system. The reconstruction begins with a study of the pre-theoretical assumptions implicit in logical systems. Four discursive essays probe Aristotle's treatment of a) expressions making existential or non-existential claims; b) the system of reference, types of reference and associated fallacies; c) the role of modal operators; d) notational properties and the associated style of deduction. The results are developed into a formal system, complete with metalogical proofs. It follows Aristotle's practice of relying upon positive and negative tests to determine the validity of actual arguments: the positive test concerns perfection and perfectibility (Aristotle's version of deduction); the negative test involves counterexamples and a narrow notion of logical form. The reconstruction argues for a robust system of reference/denotation enabling reference to individuals as well as the direct and indirect reference to an attribute by employing Aristotle's two uses of '*qua*': subject-*quas* ('*qua*' modifies the subject term) and predicate-*quas* ('*qua*' modifies the predicate term). These uses of '*qua*' are shown to inform Aristotle's treatment of certain fallacies that fall outside of language: ignoring qualifications, accident and consequent. The formal system is sound.

M.A. Thesis

Information Conveyance: A Critique of Claude E. Shannon's Noise/Signal Distinction

University of Calgary

Supervisors: John Baker / C. B. Martin

Abstract

The Stomatogastric Nervous System (*e.g.*, the network controlling a crab's stomach) is used to show that Claude E. Shannon's notion and measure of information are inapplicable to dynamic biological networks. Specifically, the technical notion and the measure require systemic conditions that are routinely violated by such common features as neuro-modulation. Moreover, Shannon's account of information conveyance (a central feature of the notion of information) necessarily implies a necessary noise/signal distinction. While the conditions and the noise/signal distinction appear to exist in some physical systems, they are shown not to be present in biological neural systems. Hence, Shannon's information theory is limited in its scope of application. If the claim that neurons convey information is to hold, then the notion of information must be other than Shannon's notion. Right now, there is no other technical notion of information.