Resume of Robert K. Logan **Winter 2014**

logan@physics.utoronto.ca

See www.physics.utoronto.ca/Members/logan for more details and access to selected articles and book chapters

Bob Logan has a variety of experiences as an academic involved in research in complexity theory, information theory, biology, environmental science, linguistics, industrial design and media studies. He published with and collaborated with Marshall McLuhan and continues his McLuhan studies research. He was also active in the business world operating a computer training company 1982-2000 and a Web development company from 1994 to 2000 through which he did extensive consulting in knowledge management. He was active in politics from 1974 to date. Among his many activities he served as an advisor to PM Pierre Eliot Trudeau, policy chair of the Ontario wing of the federal Liberal Party and an advisor to various federal cabinet ministers. He is also an author or editor of 12 books listed below and many articles in refereed journals. He continues to teach The Poetry of Physics at the U. of Toronto where he is Prof. Emeritus. He also teaches the Think Tank course at OCAD U. where he is the Chief Scientist of the Strategic Innovation Lab. He is a Fellow at University of St. Michael's College where he teaches a course simply entitled McLuhan. He is also a Sr. Fellow at the Origins Institute, McMaster U. and Sr. Fellow at the Institute of Biocomplexity and Informatics, U. of Calgary. In June 2011 he was presented with the Walter J. Ong Award for Career Achievement in Scholarship by the Media Ecology Association.

Born August 31, 1939 in Brooklyn, New York, USA

Education
B.Sc., M.I.T. (1961)
Ph.D., M.I.T. (1965).

Academic Positions
Research Associate, Dept. of Physics - University of Illinois, 1965-1967.
Research Associate, Dept. of Physics - University of Toronto, 1967-1968.
Assistant Professor, Dept. of Physics - University of Toronto, 1968-1975.
Associate Professor, Dept. of Physics - University of Toronto, 1975- 2005.
Professor Emeritus, Dept. of Physics - University of Toronto, 2005-.
Associate Professor, Cross Appointed to OISE, Dept. of Curriculum. 1984-2005.
Visiting Professor, Institute of Communications, Hebrew University, Jerusalem, 1982.
Member of the Pugwash Conferences on Science and World Affairs.1979-
Summer Visitor Los Alamos Labs 1963 & 1964.
Summer Visitor Aspen Institute 1967.
Summer Visitor Lawrence Berkeley Labs 1968.
Sabbatical Visitor Technion 1973.

Foreign Member of Soviet Academy of Human Pursuits on Creativity, Akademia Tborchestra, 1989-.

Honours and Awards
• Recipient of the Walter J. Ong Prize for Career Achievement in Scholarship. This award was presented by the Media Ecology Association. June 2011.
• Nominated as one of the top 30 lecturers in Ontario by TVOntario 2005.
• Recipient of the Susan K. Langer Prize for outstanding scholarship in the Ecology of symbolic form. This award was presented by the Media Ecology Association based on the book, The Sixth Language: Learning a Living in the Internet Age. June 2000.
• Foreign Member of Soviet Academy of Human Pursuits on Creativity, Akademia Tborchestra, 1989-.

Academics Activities
• IIDEX presenter 2013
• Member of Terrence Deacon's Research Team – UC Berkeley 2013-
• Member of International Network of the Extended Knowledge (2013-15) project, The Edinburgh Centre for Epistemology, Mind and Normativity, University of Edinburgh
• Fellow of the University of St. Michael's College at the U. of Toronto, 2012-
• Chief Scientist – Strategic Innovation Lab, OCAD U, 2007-.
• Sessional Instructor – OCAD, U 2008-
• Senior Fellow - Beal Institute, OCAD, 2006-2007.
• Senior Fellow Origins Institute, McMaster University, 2007-.
• Sessional Instructor - McMaster University, 2009-.
• Member of the Board of Science of Information Institute 2007-
• Discussion Leader – Foundation of Information Science – 2007.
• Senior Fellow Institute of Biocomplexity and Informatics, University of Calgary, 2006-.
• Senior Fellow Faculty of Environment Studies, York University 1993-5.
• Member of Editorial Board of the journal MDPI Information 2009-
• Associate Editor of Journal EME which is the Journal of the Media Ecology Assoc (MEA) – 2001-2003.
• Member of Board of Media Ecology Association – 2001-2004.
• Member of the Editorial Board of EME (Explorations in Media Ecology —2001-2006.
• Member of the Editorial Board – New York State Communication Assoc – 2001-2002.
• Co-principal Investigator U. of T./OISE Technology in Education Group 1982-1990.
• Project Leader in the Self Reliance Program of the International Federation of Institutes for Advanced Study, 1978-1980.
• Member of Advisory Board of "Human Futures", a Journal published by the public Enterprise-Centre for Continuing Education, New Delhi in collaboration with the

International Council for Centre for Continuing Education, New Delhi in collaboration with the International Council for the Quality of Working Life, 1979.
• President, Education Futures Ontario, 1974-76.
• Associate Program Director, New College, University of Toronto, 1974-76.
• Co-ordinator of Club of Gnu, University of Toronto, 1974-1981.
• Associate of Institute for Environmental Studies, University of Toronto, 1975-1980.
• President, Non-Partisan committee for Canadian Unity through Diversity, 1976-1984.
• Member of Educational Council for Health and the Environment, 1977.
• Member of Canadian Associates for the Club of Rome, 1976.
• Member of Canadian Science Writers Association, 1979.

Chief Scientist at the Strategic Innovation Lab at Ontario College of Art and Design
In his role as Chief Scientist at the Strategic Innovation Lab he is engaged in the following projects:
1. The SmartBook project to develop a framework and platform for the hybrid of the printed book and the e-book,
2. The Greening My Hotel project to work with hotels in Canada to encourage their staff to adopt sustainability practices,
3. The 2020 Future of Media project funded by OMDC in which we will identify opportunities for Ontario's entertainment and cultural industries vis-a-vis the Internet,
4. MaRS Design Research project to discover ways that MaRS clients in the ICT and Health ICT can better commercialize their technological breakthroughs to create viable products and services in the market place.
5. Theoretical studies with Greg Van Alstyne of the role of emergence in design and the nature of the design ecosystem.

New Media Experience

• Guest Blogger – PBS Mediashift – 2007.
• Second Life TV – First lecture televised by SLCN. http://www.slcn.tv/media-ecology-dr-robert-k-logan.
• Lecture delivered on Skype from Toronto to University of Copenhagen – Dept. of Media, Cognition and Communication.

Business Experience as Entrepreneur

This includes founding and operating a number of companies from 1982 to 2000 including a computer training centre (Logan Design Systems Ltd.), a desktop publishing operation (Desktop Training Centre), a Web development company specializing in knowledge management (Gutenberg Internet Services Inc.) and a Web-based portal company PM Rentals Ltd.

Consultations 1982 -2000 included Siemens, Intel, Aetna, The Life Insurance Marketing Research Association, Nortel, Tycho Electronics, Standard Life, Electronic Corporation of Israel, Government of Canada (Min of Communications, Min. of National Defense, Science Council and Min of State for Science and Technology), Government of Ontario (Min. of Education), and many others.

Business Experience as an Independent Consultant, 2000-
• Associate – Elenchus Consulting, 2010-
• Chief Academic Officer – Sir Adam Beck Academy, 2010-2011
• Chief Scientist – Transitions Plus, 2008-2010
• Workshop presenter MaRS Discovery District 2010-2011

 Research

   1) Linguistics: the origin and evolution of language

The Extended Mind Model for the origin of language has been developed and a number of papers presented and published. (Logan 2000, 2005a & 2007).

This research has led to two philosophical papers, one co-authored with John Schumann on dualistic nature of the brain and the mind, one dealing with the symbolosphere (Logan and Schumann 2005) and the other with the mediasphere (Logan 2006).

The evolution of notated language has been developed in a number of articles and two books, The Fifth Language (Logan 1995) and The Sixth Language (2004b). The Sixth Language details the history of information processing work and education and their impact on each other. Speech, writing, math, science, computing and the Internet are shown to form a co-evolutionary chain of languages.

2) Social impact and history of media

A study was made of the impact of the alphabet on Western civilization and published in 1986 and reissued in 2004 in a second edition published by Hampton Press under the title The Alphabet Effect (Logan 2004a). The impact of computing and the Internet on work and education were presented in The Fifth Language (Logan 1995) and The Sixth Language (Logan 2004b). A new study is being made of the social impacts and history of the "new media" is a project called Understanding New Media: Extensions of Marshall McLuhan. The impact of the "new media" on the media McLuhan studied in Understanding Media: Extension of Man like radio, TV and the movies as well as the impact of "new media" themselves like the Internet, the World Wide Web, Blogs, Cell Phones, I-pods, etc.

3) Science Education

Explorations of the way science can be taught to non-scientists based on my course the Poetry of Physics and the Physics of Poetry. The course has run from 1971 and I am still teaching it.

4) Use of computers in education

Work in this area can be found in The Fifth Language (Logan 1995) and The Sixth Language (Logan 2004a). Implications for education of the use of computers and the Internet are developed. The ways in which computers will change our educational goals and curriculum and their relationship to commerce and work are explored. Other studies include Logan et al. 1983 and Logan and Padro 1985.

5) Knowledge Management and Strategic Foresight

The ways in which knowledge can be shared and collaborations established have been treated in a book co-authored with Louis Stokes entitled Collaborate to Compete (Logan and Stokes 2004). Knowledge succession planning in the electricity sector.

Designed a knowledge network for Siemens AG used world-wide. My company hosted the Millenium Project in which Siemens, Intel, CIBC, a number of SMEs and a number of KM experts participated.

Presented and organized two workshops at MaRS Discovery District with a team of colleagues and participated in strategic foresight consulting team for two MaRS DD clients.

Authored two papers on design thinking:

Design Thinking, Strategic Foresight, Business Model Generation and Biology: A Mashup for use in my workshops at MaRS and in the Think Tank course at OCAD U

Design Thinking, Governance and Public Policy: A Green Position Paper for use in two workshops held at the sLab. This paper has been circulated to a number of civil servants and policy analysts with by and large positive feedback.

6) Biocomplexity

In association with Stuart Kauffman, founding director of The Institute of Biocomplexity and Informatics (IBI) at the University of Calgary where I am a senior fellow I have worked on the nature of information in biotic systems showing it differs from Shannon information. This work has led to my project and book – What is Information?

Publications – Books

• Robert K. Logan & Domenico Pietropaolo (eds). Proceedings of the Conference: McLuhan - Social Media Between Faith and Culture. Forthcoming by Ottawa: Legas Publishing.

• Corey Anton, Robert K. Logan, & Lance Strate (eds). *Taking Up McLuhan's Formal Cause: Essence and Emergence.* Forthcoming by Toronto: The Key Publishing House.

• Robert K. Logan. 2013. McLuhan Misunderstood: Setting the Record Straight. Toronto: The Key Publishing House.

• Robert K. Logan and Greg Van Alstyne (with a Foreward by Peter Jones). 2013. Design Thinking, Strategic Foresight and Innovation Employing Biological Models of Emergence and Ecology. Toronto: DEMO Publishing (in press - forthcoming)

• Robert K. Logan. 2014. What is Information? - Propagating Organization in the Biosphere, the Symbolosphere, the Technosphere and the Econosphere
Toronto: DEMO Publishing. The translation by Adriana Braga into Portuguese (Que E Informacao?) has been published in 2012 in Rio de Janiero by Editora PUC-Rio.

• Robert K. Logan. 2010. The Poetry of Physics. Singapore: World Scientific

• Robert K. Logan. 2010. Understanding New Media: Extending Marshall McLuhan. New York: Peter Lang Publishing (Translated into Mandarin and published in China ISBN 978-7-309-08953-0).

• Robert K. Logan. 2007. The Extended Mind: The Emergence of Language, the Human Mind and Culture. Toronto: U.of Toronto Press.

• Robert K. Logan. 2004a. The Alphabet Effect. Cresskill NJ: Hampton Press (1st edition 1986. New York: Wm. Morrow).

• Robert K. Logan. 2004b. The Sixth Language: Learning a Living in the Internet Age. Caldwell NJ:Blackburn Press (1st edition 2000. Toronto: Stoddart Publishing; Mandarin Edition ISBN 986-7964-05-5).

• Robert K. Logan and Louis W. Stokes. 2004. Collaborate to Compete: Driving Profitability in the Knowledge Economy. Toronto and New York: Wiley (Mandarin Edition ISBN 7-5080-3669-7).

• Robert K. Logan. 1995. The Fifth Language: Learning a Living in the Computer Age. Toronto: Stoddart Publishing.

• Edmund Sullivan, Paul Olson and Robert K. Logan.1986. The Development of Policy and Research Projections for Computers in Education : A Comparative Ethnography. Ottawa, SSHRC.

• Robert K. Logan and Susan Padro. 1986. Research Questions on the Impact of Computers in the Classroom. Toronto: Ontario Ministry of Education.

• Robert K. Logan and Steven.D. Berkowitz (eds). 1978. Canada's Third Option. Toronto: MacMillan Canada.

• Robert K. Logan (ed). 1977. The Way Ahead for Canada. Toronto: Lester and Orpen.

• Marshall McLuhan and Robert K. Logan. 1980. The Future of the Library: An Old Figure in a New Ground. Canada National Library Archives (This book which was commissioned by Bowker Publications went unpublished but a new edition is in preparation with Eric McLuhan and Kathy Kawasaki in which the original manuscript plus a update of the original manuscript will be published together).

Articles: Selected Major Publications in the Humanities and Social Sciences

Unpublished

• Logan, Robert K. Review of Rushkoff's Present Shock[**SUBMITTED to EME**] 4/14

• Logan, Robert K. Feedforward, I. A. Richards, Cybernetics and Marshall McLuhan [**SUBMITTED to systems/wolf?**] 12/13

• Logan, Robert K. The Teleodynamics of Culture, Language, Organization, Science, Economics and Technology (CLOSET) [submitted to systems/wolf] 12/13

• Logan, Robert K. Ulanowicz's Process Ecology, McLuhan's Media Ecology and Kauffman-Logan's Notion of Biotic Information [submitted to EME] 12/13

• Logan, Robert K. and Greg Van Alstyne. In preparation. The Design Ecosystem: Designing for Emergence and Innovation II [preprint] 8/07

• Logan, Robert K. Design Thinking, Strategic Foresight, Business Model Generation and Biology: A Mashup [preprint] 8/10

• Logan, Robert K. Design Thinking, Governance and Public Policy [preprint] 9/11

• Logan, Robert K. Internet Futures, Strategic Foresight: Envisioning the Long-Term Resolution of the Financial Crisis [preprint] 9/11

• Logan, Robert K. Seven Levels of Biosemiosis and Life as the Propagation of Organization [preprint] 8/11

• Logan, Robert K. Propagating Organization, Neo-Duality and Material and Non-

Material Emergence 8/08

published

• Logan, Robert K. 2014. Que es un libro? Pasado, presente y futuro! De la tabla de arcilla al Smartbook. In Mario Carlon and Carlos A. Scolari (eds) El Fin: De Los Medios Masivos. Buenos Aires: La Crujia Ediciones

• Logan, Robert K. 2014. Did McLuhan's Deeply Held Roman Catholic Convictions Bias His Scholarship? Second Nature Online Journal. March 31, 2014.

• Logan, Robert K. 2013. MCLUHAN, ENERGY EXPLOITATION AND THE OVEREXTENSIONS OF MAN. Razon y Palabra
http://www.razonypalabra.org.mx/N/N84/V84/01_Logan_V84.pdf

• Logan, Robert K. 2013. Media ecology, the Biology of Stuart Kauffman and Terrence Deacon's *Incomplete Nature*: Much ado about nothing. EME 12.3&4.

• Logan, Robert K. 2013. McLuhan Extended and the Extended Mind Thesis (EMT). Avant IV, #2.
https://www.academia.edu/5430828/McLuhan_Extended_and_the_Extended_Mind_Thesis_EMT_

• Logan, Robert K. 2013. Marshall McLuhan' Lessons for Design and Architecture Practitioners. Belas Artes Magazine- ARTE 21 (July)

• Logan, Robert K. 2013. Ulanowicz's Process Ecology, Duality and Emergent Deism. Open Journal of Philosophy 2013. Vol.3, No.3, 422-428; Published Online August 2013 in SciRes (http://www.scirp.org/journal/ojpp).

• Braga, Adriana and Robert K. Logan. 2013. Mobile Guerrilla: Subversive Uses of Cell Phones in Brazil. Chapter In Hakikur Rahman and Rui Dinis (eds) *Information Systems and Technology for Organizational Agility, Intelligence and Resilience.*

• Braga, Adriana and Robert K. Logan. 2013. Exploring the Freud–McLuhan connection. Explorations in Media Ecology 12.3&4

• Logan, Robert K. 2013. Understanding Energy Exploitation Media: The Overextensions of Man. E-Compos (forthcoming)

• Logan, Robert K. 2013. The Teleodynamics of Language, Culture, Technology and Science (LCT&S). *Information* **2013**, *4*(1), 94-116; doi:10.3390/info4010094

Logan, Robert K. 2012. Why is McLuhan Misunderstood. Revista da ALAIC – n. 14 – Dossiê 100 ANOS DE MCLUHAN, 38-49
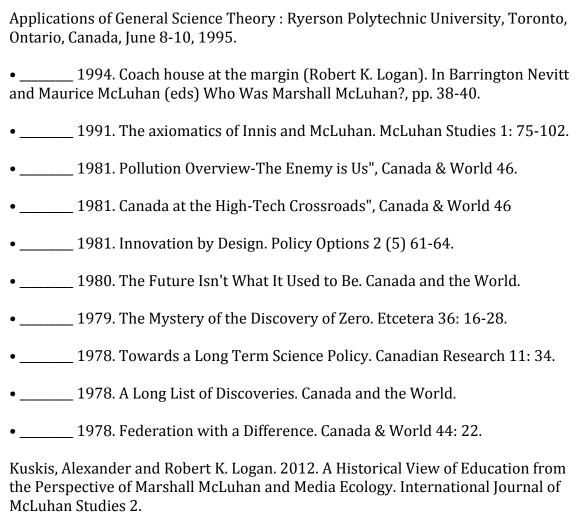
• Logan, Robert K. 2012. A Review of Douglas Rushkoff's Program or Be Programmed: Ten Commands for a Digital Age. EME 11 (3-4); DOI: 10.1386/eme.11.3-4.351_5

• Logan, Robert K. 2012. Review and Précis of Deacon's *Incomplete Nature: How Mind Emerged from Matter. Information* **2012**, *6*, 1-x; doi:10.3390/inf30x000x

• Logan, Robert K. 2012. "What Is Information?: Why Is It Relativistic and What Is Its Relationship to Materiality, Meaning and Organizat**ion."** *MDPI Information* 2012, *3*, 1-x; doi:10.3390/inf30x000x

• Logan, Robert K. 2012. Review of *The Recursive Mind: The Origins of Human Language, Thought and Civilization* by Michael Corballis. Journal of Multilingual and Multicultural Development. Journal of Multilingual and Multicultural Development 33 (3): 319-21.

• Logan, Robert K. 2011. McLuhan Misunderstood: Setting the Record Straight. International Journal of McLuhan Studies 1: 27-47.

• Logan, Robert K. 2011. A Origem, Evolução e Limites da Antevisão, Planejamento e *Design*, o Ecossitema do *Design,* e a Exploração do Adjacente Possível translated from the English version The Origin, Evolution and Limits of Foresight, Planning and Design,the Design Ecosystem, and the Exploration of the Adjacent Possible translated by Daniel Morais Paschoalin. V!RUS Journal 6 (Decemeber 2011).

• Logan, Robert K. 2011. Figure/Ground: Cracking the McLuhan Code. E-compós, Brasília, v.14, n.3, pp. 1-13, (Deember 2011).

• Logan, Robert K. and Duncan McEwan. 2011. *The Emerging of New Business Culture: Key Issues Pertaining to Open Economy and Marketing.* The International Journal of China Marketing 1 (1).

• Logan, Robert K. 2010. Mind and Language Architecture. The Open Neuroimaging Journal 4: 81-92.

• Logan, Robert K. 2010. Altruism and the origin of language and culture. In Corey Anton (ed) Valuation and Media Ecology: Ethics, Morals, and Laws. New York: Hampton Press.

• Logan, Robert K. 2010. Digitally Augmented Books: The sBook Platform for Books That Are Smart, Readable, Searchable, Networked, Updatable, and Promote Active Reading. Explorations Media Ecology 9 (3).

• Logan, Robert K. 2010. The biological foundation of media ecology. Explorations Media Ecology 9 (3).

• Logan, Robert K. 2010. The emergence of language as an autocatalytic set of the elements or mechanisms that make speech possible: An enquiry. Explorations Media Ecology 9 (3).

• Logan, Robert K. and Carlos Scolari. 2010. mCommunication: the Emergence of Mobile Communication within the Media Ecosystem. Explorations Media Ecology 9 (3).

• Logan, Robert K. 2009. *The Convergence of the Codex Book and the e-Book* 2009 NEM Summit: Towards Future Media Internet Conference Proceedings, pp.

• Logan, Robert K. 2009. *Human Futures, Internet Futures, Strategic Foresight, Envisioning and the NEM Initiative.* 2009 NEM Summit: Towards Future Media Internet Conference Proceedings, pp.

• Logan, Robert K. 2009. The Extended Mind and The Emergence of Language and Culture. International Journal on Humanistic Ideology 2 (1), pp 105-28.

• Logan, Robert K. 2009. The convergence of the codex book and the e-book. tripleC: Cognition, Communication and Cooperation 7(1): 89-93

• _____2007. The biological foundation of media ecology. Explorations Media Ecology 6: 19-34.

• _____2007. The origin and evolution of language and the propagation of organization. TripleC: Cognition, Communication and Cooperation 5(2): 75-81.

• _____2007. Biosemiosis, Propagating Organization, and the Origin and Evolution of Language. In Guenther Witzany (ed) Proceedings of the Gathering in Biosemiotics 6 (Biosemiotics in Transdisciplinary Contexts), pp. 213-20.

• _____2006.   Neo-dualism and the bifurcation of the symbolosphere into the mediasphere and the human mind. Semiotica 160: 229-42.

• _____2006.   The extended mind model of the origin of language and culture. In Nathalie Gontier. Jean Paul Van Bendegem and Diederik Aerts (eds). Evolutionary Epistemology, Language and Culture, pp. 149-168.

• _____ 2005. Making Sense of the visual – Is google the seventh language? Semiotica 157 (1/4): 345-352.

• _____ 2005. The origin and evolution of language and the transformation of meaning, identity and relationships in CMC. In Adriana Braga (ed) CMC, Identidades E Genero: Teoria e Metodo., 235-62.

• _____ 2004. The origin of language and the co-evolution of literacy and conceptualization. Chapter in: Light Onwords/Light Onwards. Toronto: Coach House Press.

• _____2004. The emergence of language and culture out of the complexity of hominid existence. *InterJournal* Complex Systems 737.

• _____ 2003. Science as a Language: The non-probativity theorem and the complementarity of Complexity and Predictability. In Daniel McArthur & Cory Mulvihil (eds) Humanity and the Cosmos, pp 63-73.

• _____ 2003. The Extended Mind: Understanding language and thought in terms of complexity and chaos theory. In Daniel McArthur & Cory Mulvihil (eds) Humanity and the Cosmos, pp 273-88.

• _____ 2002. The five ages of communication. Explorations Media Ecology 1:13-20.

• _____ 2002. Wissensmanagement Erfordert einen neuen Lernstil. In Matthias Bellmann, Helmut Krcmar, Tom Sommerlatte (eds) Praxishandbuch Wissensmanagement, 761-78.

• _____ 2002. Sustainability, Knowledge Management and the Internet. In David Bell (ed) Introduction to Sustainable Development. UNESCO Encyclopedia of Life Support Systems.

• _____ 2000. The extended mind: understanding language and thought in terms of complexity and chaos theory. In Lance Strate (ed), 2000 Communication and Speech Annual Vol. 14. New York: The New York State Communication Association.

• _____ 2000. Science as a Language, Non-probativity Theorem, and the Complimentary of Complexity and Predictability. Proceedings of Humanity and the Cosmos Symposium, Brock University.

• _____ 1999. The social, economic, and educational impacts of notational systems. Semiotica 125-1/3: 15-20.

• _____ 1997. The Extended Mind: Understanding Language and Thought in Terms of Complexity and Chaos Theory. Presented at the 7th Annual Conference of The Society for Chaos Theory in Psychology and the Life Sciences at Marquette U., Milwaukee, Wisconsin, Aug. 1, 1997.
 http://www.upscale.utoronto.ca/GeneralInterest/Logan/Extended/Extended.html

• _____ 1995. Sustainability, knowledge tools and the ethos of the Internet.
In Ken Burckhardt (ed) Proceedings : interdisciplinary conference : knowledge tools for a sustainable civilization : Fourth Canadian Conference on Foundations and

Applications of General Science Theory : Ryerson Polytechnic University, Toronto, Ontario, Canada, June 8-10, 1995.

• _____ 1994. Coach house at the margin (Robert K. Logan). In Barrington Nevitt and Maurice McLuhan (eds) Who Was Marshall McLuhan?, pp. 38-40.

• _____ 1991. The axiomatics of Innis and McLuhan. McLuhan Studies 1: 75-102.

• _____ 1981. Pollution Overview-The Enemy is Us", Canada & World 46.

• _____ 1981. Canada at the High-Tech Crossroads", Canada & World 46

• _____ 1981. Innovation by Design. Policy Options 2 (5) 61-64.

• _____ 1980. The Future Isn't What It Used to Be. Canada and the World.

• _____ 1979. The Mystery of the Discovery of Zero. Etcetera 36: 16-28.

• _____ 1978. Towards a Long Term Science Policy. Canadian Research 11: 34.

• _____ 1978. A Long List of Discoveries. Canada and the World.

• _____ 1978. Federation with a Difference. Canada & World 44: 22.

Kuskis, Alexander and Robert K. Logan. 2012. A Historical View of Education from the Perspective of Marshall McLuhan and Media Ecology. International Journal of McLuhan Studies 2.

• Kauffman, Stuart, Robert K. Logan, Robert Este, Randy Goebel, David Hobill and Ilya Smulevich. 2007. Propagating Organization: An Inquiry. Biology and Philosophy 23: 27-45.

• Logan, Robert K. and Burleigh T. Wilkins. 1962. The science of absolute presuppositions. Bucknell Review X(3): 175-85.

•Logan, Robert K. and Gale Moore (eds). 1978. French English Relations: A Sense of Canada, kit #1. Toronto: NCCUD.

• Logan, Robert K. and Norman W. White. 1981. Energy and health. In Norman W. White (ed) The Health Conundrum. Toronto: TV Ontario, 113-22.

• Logan, Robert K. and Norman W. White. 1981. Environment unusual and unforseen. In Norman W. White (ed) The Health Conundrum. Toronto: TV Ontario, 195-205.

• Logan, Robert K. and S. Padro. 1985. The Impact of Computers in the Classroom.

Toronto: Ontario Ministry of Education.

• Logan, Robert, S. Padro, L. Miller, R. Ragsdale, E. Sullivan, J. Brine, E.M. Johnston, B. McKelvey, and H. Wideman. 1983. Research Questions on the Impact of Computers in the Classroom. Ont. Min. of Education. Ed. and Tech. Ser. ONO 4268.

• Logan, Robert K. and John Schumann. 2005. The symbolosphere, conceptualization, language and neo-dualism. Semiotica 155 (1), pp. 201-14.

• Tracy, Christine M. and Logan, Robert K. 2008. "A Biological Approach to the Rhetoric of Emergent Media." 2008 Conference Proceedings of the Media Ecology Association. Available at http://www.media-ecology.org/publications/MEA_proceedings/.

• Logan, Robert K. and Christine Tracy. 2010. The Biology, Universality and Quantum Properties of Rhetoric. Unpublished.

• Logan, Robert K. and Al Waxman. 1996. An Electronic Monument to Marshalll McLuhan: Recapturing Canadian Identity. McLuhan Studies #3.

• Logan, Robert K. and Burleigh T. Wilkins. 1962. The science of absolute presuppositions. Bucknell ReviewX(3): 175-85.

• Baranoff, R., M. Logan, R. Logan, P. Michalak, P. Ryan. 1997. The *Strategic Uses of the Internet as a Business Tool*. Hartford: LIMRA International.

• McLuhan, Marshall & Robert K. Logan. 1977. Alphabet, mother of invention. Etcetera 34: 373-83.

• _____ 1979. The double bind of communication and the world problematique. *Human Futures* (Summer 1979): 1-3.

• Steele, Robert and Robert Logan. 1964. "Report on a Study of Light Variables Measured as a Function of Time in the Cinema". *The Journal of the Society of Cinematologists*. Vol. 4/5, (1964/1965), pp. 37-54

• Van Alstyne, Greg and Robert K. Logan. 2007. Designing for Emergence and Innovation: Redesigning Design. Artifact 1: 120-29.

Refereed Publications in Physics

There are 35 articles published in refereed physics journals spanning the years 1965 to 1982. For the sake of brevity only the first and the last papers are reported:

Logan, Robert K. "Single Regge pole Analysis of π⁻ p cex Scattering", Phys. Rev. Lett. **14** pp. 414-416 (1965).
F
Logan Robert K., S. Kogitz and M. Bates, "Statistical Bootstrap Duality", Phys. Rev. vol. **D25**, 2441-4 November 9, (1982).

Conferences and Invited Talks and Media Contributions

Logan has given talks, conference presentation and keynote addresses too numerous to detail throughout his career at locations all across the globe including North America, Latin America, Europe and Asia. He has spoken at academic conferences and colloquia and business meetings. His media work includes radio, TV, newspapers and magazines.