Selmer Bringsjord

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(Most-recent cv and bio available via url immediately above.)

Cuprins

Education

- PhD, Philosophy. Brown University, Providence, RI, 1987. Supervisor: Roderick Chisholm.
- BA, Philosophy. University of Pennsylvania, Philadelphia, PA, 1981, *magna cum laude*.

Employment History

Administrative

- 2002–2016, Chair, Department of Cognitive Science, Rensselaer Polytechnic Institute (RPI).

  Guided the Department of Cognitive Science through: multiple hires of and contracts for senior, world-class faculty, starting tenure-stream faculty, and research and instructional faculty; explosive growth in sponsored research from a point of $0 annual research expenditures at the start of my services to expenditures ≈ $3.5M in FY15; establishment of a new PhD program in Cognitive Science, and a new BS in Cognitive Science; and renovation of its still-current building and associated spaces. Needless to say, none of this would have been possible without the spectacular productivity of and help from faculty in the Department, and the support of administrative superiors, Deans, VPs, Provost, and President. Have repeatedly overseen faculty hiring and P&T cases inside and out, at all levels.

- 2002–present, Director, Rensselaer AI & Reasoning (RAIR) Lab.

  At founding, the lab started at zero, with seed funding from RPI for some robotics equipment. R&D has now been made possible by outside support from many sponsors, including DARPA, ARDA/DTO/IARPA, ONR, SAIC, AFRL, AFOSR, NSF, IBM, the John Templeton Foundation, and others. Much R&D in the lab has been featured in the media.

- 1997–2002, Director, Minds & Machines Lab & Program, RPI.
- 1996–2002, Associate Chair, Department of Cognitive Science, RPI.
- Acting Co-Chair, Dept. of Philosophy, Psychology & Cognitive Science, Spring 1996, RPI.
- Acting Chair, Department of Philosophy, Fall 1993, RPI.

Professorial

- 1997–present, Full Professor, Department of Cognitive Science, Rensselaer Polytechnic Institute (RPI).
- 2001–present, Full Professor, Department of Computer Science, RPI.
- 2010–present, Full Professor, Lally School of Management
- 1987–2000, Affiliated Professor of Computer Science, Department of Computer Science, RPI.
- 1992–1997, Associate Professor, Department of Philosophy, Psychology & Cognitive Science, RPI.
- 1987–1992, Assistant Professor, Department of Philosophy, RPI.
- 1985–1987, Teaching Fellow, Department of Philosophy, Brown University.

Core Research Areas

- Artificial Intelligence & Cognitive Science (CogSci), including
  - reasoning (computational, empirical, logico-mathematical, educational dimensions)
  - logico-mathematical foundations of AI & CogSci
  - computational creativity (esp. literary), narrative, story generation
  - computational economics, finance, and fraud detection
- Philosophy of Mind, including
  - philosophical and psychological foundations of AI & Cog Sci

Additional Research Areas

- Mathematical and Philosophical Logic; Computability Theory
- Psychology of Reasoning
- Digital Teaching/Educational Technology, including distance education
- Formal Epistemology
- Philosophy of Psychology
- Philosophy of Religion
- Ethics (esp. machine ethics & robot ethics)

Publications

- Books

  Authored:

  - Bringsjord, S. (forthcoming) *Gödel's Great Theorems* (Oxford, UK: Oxford University Press).
  - Two symbiotic books, the first rather hefty and technical, the second a non-technical, short companion book whose intellectual "lauchpad" is *Stark Trek TOS*:
    - Bringsjord, S., Govindarajulu, N.S. & Licato, J. (forthcoming) *Logic-Based Engineering of Ethically Correct AI and Robots • Making Morally Machines* (Springer).
    - Bringsjord, S., Govindarajulu, N.S. & Licato, J. (forthcoming) *Only Logic Can Save Us . . . From Powerful-and-Autonomous AI & Robots • Making Morally Machines* (Springer).
  - Bringsjord, S. & Zenzen, M. (2003) *Superminds: People Harness Hypercomputation, and More* (Dordrecht, The Netherlands: Kluwer).
  - Bringsjord, S. and Ferrucci, D. (2000) *Artificial Intelligence and Literary Creativity: Inside the Mind of Brutus, A Storytelling Machine* (Mahwah, NJ: Lawrence Erlbaum).
  - Bringsjord, S. (1997) *Abortion: A Dialogue* (Indianapolis, IN: Hackett).

– Bringsjord, S. (1992) *What Robots Can and Can't Be* (Dordrecht, The Netherlands: Kluwer).

– Bringsjord, S. (1991) *Soft Wars* (New York, NY: Penguin USA). A novel.

Edited:

– Chella, A., Cangelosi, A., Metta, G. & Bringsjord, S. (2019) *Consciousness in Humanoid Robots* (Lausanne, Switzerland: Frontiers). ISBN: ISBN 978-2-88945-866-0. ISSN 1664-8714. DOI 10.3389/978-2-88945-866-0.

- Papers/Chapters

1. Bringsjord, S., Bringsjord, A. & Govindarajulu, N.S. (forthcoming) "What Would Poe Say About Today's Social Robots?" in Seibt, J., Hakli, R. & Nørskov, M., eds., *Robophilosophy: Philosophy of, for, and by Social Robotics* (Cambridge, MA: MIT Press). A preprint is available here:

   http://kryten.mm.rpi.edu/SB_AB_NSG_PoeSocialRobots_0712171200NY.pdf

2. Bringsjord, S., Giancola, M. & Govindarajulu, N.S. (forthcoming) "Logic-Based Modeling of Cognition," in Sun, R., ed., *The Cambridge Handbook on Computational Cognitive Sciences* (Cambridge, UK: Cambridge University Press). A preprint can be obtained via the link immediately following.

   http://kryten.mm.rpi.edu/SBringsjord_etal_L-BMC_121521.pdf

3. Bringsjord, S. & O'Neill (forthcoming) "Third-Millennium Computational Logic" *Minds and Machines*.

4. 'Bringsjord, S., Licato, J., Ghosh, R., Bello, P., Bridewell, W., Payne-Joyce, J. (forthcoming) "The Interrogation Room" *Minds and Machines*.

5. Bringsjord, S., Hendler, J., Govindarajulu, N.S., Ghosh, R. & Giancola, M. (forthcoming) "The (Uncomputable!) Meaning of Ethically Charged Natural Language, for Robots, and Us, From Hypergraphical Inferential Semantics" in Ferreira, Isabel, ed., *Trustworthy Artifical-Intelligent Systems* (Cham, Switzerland: Springer). This book is Vol. 102 in the Series *Intelligent Systems, Control and Automation: Science and Engineering*. A preprint is obtainable via the link immediately following.

   http://kryten.mm.rpi.edu/UncomputableNLURobots032421.pdf

6. Giancola, M., Bringsjord, S., Govindarajulu, N.S. & Varela, C. (forthcoming) in Ferreira, Isabel, ed., "Making Maximally Ethical Decisions via Cognitive Likelihood & Formal Planning" in *Trustworthy Artifical-Intelligent Systems* (Cham, Switzerland: Springer). This book is Vol. 102 in the Series *Intelligent Systems, Control and Automation: Science and Engineering*. A preprint is obtainable via the link immediately following.

   http://kryten.mm.rpi.edu/MG_SB_NSG_CV_Hudson_Chapter.pdf

7. Rozek, B., Bringsjord, S., Giancola, M. & Govindarajulu, N.S. (2022) "A Framework for Testimony-Infused Automated Adjudicative Dynamic Multi-Agent Reasoning in Ethically Charged Scenarios" in *ICRES 2022: 7th International Conference on Robot Ethics and Standards*, Seoul, South Korea (London, UK: CLAWAR). A preprint is obtainable via the link given here:

   http://kryten.mm.rpi.edu/

8. Banerjee, S., Bringsjord, S., Giancola, M. & Govindarajulu, N. S. (2022) "Qualitative Mechanical Problem-Solving by Artificial Agents: Further Progress, Under Psychometric AI" *The 35th International FLAIRS Conference* (FLAIRS-35). A penultimate draft is obtainable via the link given immediately below:

   http://kryten.mm.rpi.edu/BMCT_FLAIRS35_0314221730.pdf

9. Bringsjord, S. (2022) "The Argument for God's Existence from AI" *European Journal of Science and Theology* **18.1**: 77–100. A preprint is available here:

   http://kryten.mm.rpi.edu/TheArgGodExistsFromAI.pdf

10. Bringsjord, S. (2021) "Absent Logic-based Precision, Hancock's Desired Avoidance is Just Wishful Thinking" *Human-Computer Interaction* **37.3**: 237–239.

    – DOI: https://doi.org/10.1080/07370024.2021.1977130.

    Both a (somewhat condensed) abstract, and links to the paper, follow respectively:

    > Without bringing to bear the precision that only formal logic can provide, seeking to avoid adverse behavior on the part of any type of artificial agent, however otherwise commendable, is simply proto-scientific wishful thinking. In particular, absent a formal definition specifically of "autonomous artificial computational agent," the category of creature Hancock tries to place centrally before us, mere intuitive discussion in natural language, accompanied by intuitive diagrams (such as Hancock's impressionistic ones), however otherwise elegant, is, at least as I see matters, thoroughly otiose.

    http://kryten.mm.rpi.edu/BringsjordOnHancockOnAutonomousAI.pdf

11. Bringsjord, S., Govindarajulu, N.S. & Giancola, M. (2021) "Automated Argument Adjudication to Solve Ethical Problems in Multi-Agent Environments" *Paladyn, Journal of Behavioral Robotics* **12.1**: 310–335. This paper is open access, and can be read/obtained via the following three links, the first two of which are direct links to the pdf of this open-access paper, the third link being a DOI.

    https://www.degruyter.com/document/doi/10.1515/pjbr-2021-0009/pdf
    http://kryten.mm.rpi.edu/Bringsjord_etal_AutomatedArgumentAdjudication.pdf
    DOI: https://doi.org/10.1515/pjbr-2021-0009

12. Bringsjord, S., Angel, J., Govindarajulu, N.S., Giancola, M. & Bringsjord, E. (2021) "Artificial Agents to Help Address the U.S. K–12 Math Gap Between Economically Disadvantaged vs. Advantaged Youth" *AAAI Spring Symposium: AI4ED* (= AI for Education). The links below go to the paper; the second is maintained by the symposium organizers and editors, the first to a version made available by Bringsjord directly.

    http://kryten.mm.rpi.edu/TIPPAE_CommonCoreMathAgent031721.pdf
    https://drive.google.com/file/d/19VD0iz2vdgr1NvzZ63TU2o5ZlisghUUq/view

13. Bringsjord, S., Govindarajulu, N.S. & Bringsjord, A. (2021) "Meeting the Challenge of Implementing Ethical Tax Agents" *AAAI Spring Symposium: Implementing AI Ethics*. Links to paper will be made available when IP discussions/filings completed.

14. Bringsjord, S., Giancola, M. Govindarajulu, N.S. (2020) "Culturally Aware Social Robots That Carry Humans Inside Them, Protected by Defeasible Argumentation Systems" in *Culturally Sustainable Social Robotics • Proceedings of Robophilosophy 2020, August 18–21 2020*, edited by Marco Nørskov, Johanna Seibt, & Oliver Santiago Quick (Amsterdam, The Netherlands: IOS Press), pp. 440–456, as Volume 335 in the book series *Frontiers in Artificial Intellligence and Applications*, edited by Breuker, J., Guarino, N., Hitzler, P., Kok, J., Liu, J., López de Mántaras, R., Mizoguchi, R., Musen, M., Pal, S. & Zhong, N. Preprint:

http://kryten.mm.rpi.edu/CulAwareSocRobotsDefArgSysRP2020CoverandTOC.pdf
http://kryten.mm.rpi.edu/SB_MG_NSG_HumanCarryingSocialRobots08072020.pdf

15. Bringsjord, S. & Govindarajulu, N.S. (2020) "The Theory of Cognitive Consciousness, and Λ (Lambda)" *Journal of Artificial Intelligence and Consciousness* **7.1**: 155–181. Preprint (uncorrected):

    http://kryten.mm.rpi.edu/sb_nsg_lambda_jaic_april_6_2020_3_42_pm_NY.pdf

16. Bringsjord, S. & Govindarajulu, N.S. (2020) "Rectifying the Mischaracterization of Logic by Mental-Model Theorists" *Cognitive Science* **44.12**: e12898. A preprint is available here:

    http://kryten.mm.rpi.edu/RectifyingCharacterizationLogicByMMT.pdf

17. Bringsjord, S., Govindarajulu, N.S., Licato, J. & Giancola, M. (2020) "Learning *Ex Nihilo*" in *Proceedings of the 6th Global Conference on Artificial Intelligence* (GCAI 2020), within International Conferences on Logic and Artificial Intelligence at Zhejiang University (ZJULogAI), in Danoy, G., Pang, J. & Sutcliffe, G., eds., *EPiC Series in Computing* **72**: 1–27 (Manchester, UK: EasyChair Ltd), ISSN: 2398-7340. Links to paper (the 3rd a preprint):

    DOI: https://doi.org/10.29007/ggcf
    https://easychair.org/publications/paper/NzWG
    http://kryten.mm.rpi.edu/SBringsjord_etal_LearningExNihilo040620.pdf

18. Giancola, M., Bringsjord, S., Govindarajulu, N.S. & Licato, J. (2020) "Adjudication of Symbolic & Connectionist Arguments in Autonomous Driving AI" *Proceedings of the 6th Global Conference on Artificial Intelligence* (GCAI 2020), within International Conferences on Logic and Artificial Intelligence at Zhejiang University (ZJULogAI), in Danoy, G., Pang, J. & Sutcliffe, G., eds., *EPiC Series in Computing* **72**: 28–33 (Manchester, UK: EasyChair Ltd), ISSN: 2398-7340. Links to paper:

    DOI: https://doi.org/10.29007/k647
    https://easychair.org/publications/paper/Vtl4

19. Bringsjord, S. (2020) "Computer Science as Immaterial Formal Logic" Philosophy & Technology **33.2**: 339–347. The first link below is to an offprint. DOI and hotlink to a preprint, resp., follow.

    http://kryten.mm.rpi.edu/ComputerScienceAsImmaterialFormalLogic.pdf
    https://doi.org/10.1007/s13347-019-00366-7
    http://kryten.mm.rpi.edu/CompSciAsImmaterialFormalLogicPreprint.pdf

20. Bringsjord, S., Bringsjord, A. & Govindarajulu, N.S. (2020) "On International Paternalistic Taxation to Address the Mess 'Machine Learning' is Making" in Tokhi, M.O., Ferreira, M.I.A., Govindarajulu, N.S., Silva, M.F., Kadar, E.E., Wang, Jen-Chien, Kaur, A.P., eds., *Smart Living and Quality Health with Robots*, Proceedings of ICRES 2020, Taipai, Taiwan, September 28–29 2020 (London, UK: CLAWAR), p. 3. This is an abstract of the kickoff plenary lecture; a full paper is forthcoming elsewhere, location TBA. An offprint of the abstract is available at the link immediately below.

    http://kryten.mm.rpi.edu/SB_AB_NSG_TaxationCombatMLn_Abstract.pdf

21. Giancola, M., Bringsjord, S., Govindarajulu, N.S. & Varela, C. (2020) "Ethical Reasoning for Autonomous Agents Under Uncertainty" in Tokhi, M.O., Ferreira, M.I.A., Govindarajulu, N.S., Silva, M.F., Kadar, E.E., Wang, Jen-Chien, Kaur, A.P., eds., *Smart*

Living and Quality Health with Robots, Proceedings of ICRES 2020, Taipai, Taiwan, September 28–29 2020 (London, UK: CLAWAR), pp. 26–41. An offprint of the paper is available at the link immediately below.

http://kryten.mm.rpi.edu/MG_SB_NSG_CV_LogicizationMiracleOnHudson.pdf

22. Bringsjord, S., Hendler, J., Govindarajulu, N.S. & Ghosh, R., M. (2020) "What is the Meaning of Culture-Bound Ethical Norms for Robots? The Answer from Hypergraphical Inferential Semantics" in Tokhi, M.O., Ferreira, M.I.A., Govindarajulu, N.S., Silva, M.F., Kadar, E.E., Wang, Jen-Chien, Kaur, A.P., eds., *Smart Living and Quality Health with Robots*, Proceedings of ICRES 2020, Taipai, Taiwan, September 28–29 2020 (London, UK: CLAWAR), pp. 61–73. An offprint of the paper is available at the link immediately below.

    http://kryten.mm.rpi.edu/SBringsjordetal_HouseholdRobotsHIS.pdf

23. Govindarajulu, N.S., Bringsjord, S., Ghosh, R., & Sarathy, V. (2019) "Toward the Engineering of Virtuous Machines." *AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society* (AIES 2019). The first of the links below goes to the final version of the paper hosted by AAAI/ACM; the second links to a preprint.

    https://dl.acm.org/citation.cfm?id=3314256
    http://kryten.mm.rpi.edu/NSG_SBetal_VirtuousMachines012219.pdf

24. Govindarajulu, N.S., Bringsjord, S. & Peveler, M. (2019) "On Quantified Modal Theorem Proving for Modeling Ethics" in Martin Suda & Sarah Winkler: *Proceedings of the Second International Workshop on Automated Reasoning: Challenges, Applications, Directions, Exemplary Achievements* (ARCADE 2019), *Electronic Proceedings in Theoretical Computer Science* **311**: 43–49. Hotlinks:

    As pdf in *EPTCS*: http://eptcs.web.cse.unsw.edu.au/paper.cgi?ARCADE2019.7.pdf
    ArXived at: http://dx.doi.org/10.4204/EPTCS.311.7

25. Bringsjord, S., Govindarajulu, Elmore C. (2019) "Logicist Computational Cognitive Modeling of Infinitary False-Belief Tasks," In A.K. Goel, C.M. Seifert, & C. Freksa, eds. *Proceedings of the 41st Annual Conference of the Cognitive Science Society* (Montreal, QB: Cognitive Science Society), pp. 43–45. The proceedings are available here:

    https://cognitivesciencesociety.org/wp-content/uploads/2019/07/cogsci19_proceedings-8July2019-compressed.pdf

26. Govindarajulu, N.S., Paquin, J-C., Banerjee, S., Mayol, P. & Bringsjord, S. (2019) "On Datasets for Evaluating Architectures for Learning to Reason" (extended abstract/poster). In Martin, A., Hinkelmann, K., Gerber, A., Lenat, D., van Harmelen, F. & Clark, P., eds., *Proceedings of the AAAI 2019 Spring Symposium on Combining Machine Learning with Knowledge Engineering* (AAAI-MAKE 2019), held at Stanford University, Palo Alto CA, March 25–27, 2019. The proceedings are published CEUR, ISSN 1613-0073, Vol. 2350; this extended abstract can be found within these proceedings here:

    http://ceur-ws.org/Vol-2350/xposter4.pdf

27. Bringsjord, S., Sen, A. Govindarajulu, N.S., Elmore, C. Peveler M. (2019) "Formalization of Continuity/Discontinuity to Settle the Darwin's-Mistake Debate." Poster presented at the 41st Annual Conference of the Cognitive Science Society, Montreal, Quebec, Canada. The poster is available at this link:

http://kryten.mm.rpi.edu/discon_cogsci2019_0723191515NY.pdf

28. Bringsjord, S. & Govindarajulu, N.S. (2019) "Introducing Λ for Measuring Cognitive Consciousness" in Chella, A., Gamez, D., Lincoln, P., Manzotti, R., Pfautz, J., *Proceedings of TOCAIS19* (*Toward Conscious AI Systems*), Stanford, CA, March 25–27, 2019. ISSN 1613-0073, Vol-2287. The paper can be obtained at this hyperlink:

    http://ceur-ws.org/Vol-2287/paper26.pdf

29. Govindarajulu, N.S. & Bringsjord, S. (2019) "Towards a Computable & Harnessable Model of Consciousness" in Chella, A., Gamez, D., Lincoln, P., Manzotti, R., Pfautz, J., *Proceedings of TOCAIS19* (*Toward Conscious AI Systems*), Stanford, CA, March 25–27, 2019. ISSN 1613-0073, Vol-2287. The paper can be obtained at this hyperlink:

    http://ceur-ws.org/Vol-2287/paper27.pdf

30. Govindarajulu, N.S., Bringsjord, S., Ghosh, R. & Peveler, M. (2019) "Beyond the Doctrine of Double Effect: A Formal Model of True Self-Sacrifice" in Ferreira, M.I.A., Sequeira, J.S., Virk, G.S., Tokhi, M.O., Kadar, E.E., eds., *Robots and Well-Being*, in the series *Intelligent Systems, Control and Automation: Science and Engineering* (Basel, Switzerland: Springer), pp. 39–54. A (rathe¡r rough) preprint of the paper is available at the link immediately below.

    http://kryten.mm.rpi.edu/NSG_SB_RG_MP_DDE_SelfSac_110617.pdf

31. Chella A., Cangelosi, A., Metta, G. & Bringsjord, S. (2019) "Consciousness in Humanoid Robots" *Frontiers in Robotics and AI* 6:17. doi: https://doi.org/10.3389/frobt.2019.00017.

32. McShane, M., Bringsjord, S., Hendler, J., Nirenburg, S. & Sun, R. (2019) "A Response to Núñez et al.'s (2019) 'What Happened to Cognitive Science?'" TOPICS (*Cognitive Science*) **11.4**: 914–917. https://doi.org/10.1111/tops.12458

33. Bringsjord, S. & Govindarajulu, N.S. (2018) "Artificial Intelligence," in the *Stanford Encyclopedia of Philosophy*, Zalta, E., ed. The entry, with supplemental content assimilated, makes for a fairly comprehensive, "deep" introduction to AI. To access the entry, visit the following link. (A pdf version of the entry is available from SEP as well.)

    https://plato.stanford.edu/entries/artificial-intelligence

34. Bringsjord, S. (2018) "Logicist Remarks on Rapaport on Philosophy of Computer Science$^+$" *Newsletter on Philosophy and Computers* **18.1**: 28–31. (*Newsletter on Philosophy and Computers* is published by the American Philosophical Association; ISSN 2155-9708. The issue here was edited by Piotr Boltuc.) A preprint is available at the first of the links below; the second goes to the relevant volume of the journal.

    http://kryten.mm.rpi.edu/SBonBR.pdf
    https://cdn.ymaws.com/www.apaonline.org/resource/collection/EADE8D52-8D02-4136-9A2A-729368501E43/ComputersV18n1.pdf

35. Govindarajulu, N.S., Bringsjord, S., Sen, A., Paquin, J., O'Neill, K. (2018) "Ethical Operating Systems" in *Reflections on Programming Systems*, volume 133 in Springer's *Philosophical Studies* series, edited by Liesbeth De Mol and Giuseppe Primiero, pp. 235–260. (We provide this paper's abstract in a footnote given here.[1]) A preprint is

[1] "A well-ingrained and recommended engineering practice in safety-critical software systems is to separate safety concerns from other aspects of the system. Along these lines, there have been calls for operating systems (or computing substrates, termed *ethical operating systems*) that implement ethical controls in an ethical layer separate from, and not amenable to tampering by, developers and modules in higher-level intelligence or cognition layers. There have been no implementations that demonstrate such a marshaling of ethical principles into an ethical layer. To address this, we present three different tracks for implementing such systems, and offer a prototype implementation of the third track. We end by addressing objections to our approach." —NSG & SB

available at the first of the links immediately below; an earlier preprint, but with the book's excellent Preface by eds. L De Mol & G Primiero, is available at the second of these links.

http://kryten.mm.rpi.edu/EthicalOperatingSystems_preprint.pdf
http://kryten.mm.rpi.edu/NSG_SB_extracted_HistoryPhilosophyOS_submitted.pdf

36. Bringsjord, S. & Govindarajulu, N.S. (2018) "The Epistemology of Computer-Mediated Proofs" in Hansson, Sven Ove, ed., *Technology and Mathematics: Philosophical and Historical Investigations* (Berlin, GE: Springer), pp. 165–183. This book appears in the series *Philosophy of Engineering and Technology* (as Volume 30) edited by Pieter Vermass. ISBN is 978-3-319-93778-6. An early preprint is available here:

    http://kryten.mm.rpi.edu/SB_NSG_EpistComp-MediatedProofs_0516172200NY.pdf

37. Bringsjord, S., Govindarajulu, N. S., Banerjee, S., & Hummel, J. (2018) "Do Machine-Learning Machines Learn?" in Müller, V., ed., *Philosophy and Theory of Artificial Intelligence 2017* (Berlin, Germany: Springer SAPERE), pp. 136–157, Vol. 44 in the book series. The paper answers the question that is its title with a resounding No. A preprint of the paper can be found via the link given immediately below.

    http://kryten.mm.rpi.edu/SB_NSG_SB_JH_DoMachine-LearningMachinesLearn_preprint.pdf

38. Bringsjord, S., Govindarajulu, N.S., Sen, A., Peveler, M., Srivastava, B. & Talamadupula, K. (2018) "Tentacular Artificial Intelligence, and the Architecture Thereof, Introduced" in *Proceedings of the Architectures and Evaluation for Generality, Autonomy & Progress in AI Workshop (AEGAP 2018)*, Stockholm, Sweden, July 15 2018. (The pre-proceedings are available here.) A preprint of the paper can be found here:

    http://kryten.mm.rpi.edu/TAI_AEGAP2018_cc.pdf

39. Bringsjord, S. & Govindarajulu, N.S. (2018) "Are Autonomous-and-Creative Machines Intrinsically Untrustworthy?" in Hussein Abbass, H., Scholz, J., Reid, D., eds., *Foundations of Trusted Autonomy* (Springer: Cham, Switzerland), pp. 317–335. DOI:

    https://doi.org/10.1007/978-3-319-64816-3.

    Preprint and pdf of the entire book available, resp., here:

    http://kryten.mm.rpi.edu/SB_NSG_aut2dishon.pdf
    https://link.springer.com/content/pdf/10.1007%2F978-3-319-64816-3.pdf

40. Bringsjord, S., Govindarajulu, N.S. & Sen, A. (2018) "Demystifying "Value Alignment: Formally Linking Axiology to Ethical Principles in a Deontic Cognitive Calculus" in S. Bringsjord, M. Osman Tokhi, M. Isabel Aldinhas Ferreira, N.S. Govindarajulu, eds., *Hybrid Worlds: Societal and Ethical Challenges; Proceedings of the International Conference on Robot Ethics and Standards (ICRES) 2018*, ISBN 978-1-9164490-1-5, London, UK: CLAWAR, pp. 139–143. The first of the links below goes to the entire ebook in which the official version of this paper appears; the second goes to a (rough) preprint.

    http://kryten.mm.rpi.edu/HybridWorlds.pdf
    http://kryten.mm.rpi.edu/Axiology2EthicsICRES2018_pre.pdf

41. Peveler, M., Govindarajulu, N.S. & Bringsjord, S. (2018) "Toward Automating the Doctrine of Triple Effect" in S. Bringsjord, M. Osman Tokhi, M. Isabel Aldinhas Ferreira, N.S. Govindarajulu, eds., *Hybrid Worlds: Societal and Ethical Challenges; Proceedings of the International Conference on Robot Ethics and Standards (ICRES) 2018*, ISBN 978-1-9164490-1-5, London, UK: CLAWAR, pp. 82–88. The link below goes to the entire ebook in which the official version of this paper appears.

http://kryten.mm.rpi.edu/HybridWorlds.pdf

42. Sen, A., Mayol, P., Srivastava, K., Talamadupula, B., Govindarajulu, N.S. & Bringsjord, S. (2018) "For AIs, Is it Ethically/Legally Permitted that Ethical Obligations Override Legal Ones?" in S. Bringsjord, M. Osman Tokhi, M. Isabel Aldinhas Ferreira, N.S. Govindarajulu, eds., *Hybrid Worlds: Societal and Ethical Challenges; Proceedings of the International Conference on Robot Ethics and Standards (ICRES) 2018*, ISBN 978-1-9164490-1-5, London, UK: CLAWAR, pp. 26–32. The first of the links below goes to the entire ebook in which the official version of this paper appears; the second goes to (rough) preprint.

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- Book Proposals Under Development

  - Bringsjord, S. *Are Humans Rational?*. This book is being developed in conjunction with the course of the same name, taught primarily to first-year undergraduates at RPI; web site for the course is here.

- Papers in Progress (favorite one selected)
  - "Finally, A Proof of the Church-Turing Thesis." With Naveen Sundar G.
- Fiction in Progress
  - *Three Putt Lie*, a novel
  - *The Final Case*, a novel
  - *Steel Nerves*, a novel, with Dr. Kenneth Burchard.
- *Selected* Unpublished Works (most of my writings are unpublished)
  - Bringsjord, S. (2019) "Accessing and Harnessing the Infinite Makes us Unique." Available at

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  - Bringsjord, S. (2020) "Cognitive Nanorobotics for Killing Viruses." Abstract and presentation "killed" by the COVID-19 pandemic when then the 2020 IEEE 2020 Albany Nanotechnology Symposium had to be cancelled.

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  - Bringsjord, S., Shilliday, A., Taylor, J., Clark, M. & Khemlani, S. (2006) "Slate: An Argument-Centered Intelligent Assistant to Professional Reasoners." Accepted for CMNA06 at ECAI06, Riva Del Garda, Italy. Paper can be found online at

    http://kryten.mm.rpi.edu/bringsjord_cmna06.pdf
  - These days I'm too busy to publish the short stories I write, so generally I only write for my own pleasure in this arena. A recent short story is "He Tells Me Lots of Things," available at

http://kryten.mm.rpi.edu/he_tells_me_lots6.pdf

- Bringsjord, E. & Bringsjord, S. (2001)"Exploring the Relationship Between Logic Background and Performance on the Analytical Section of the GRE." Full paper available at

  http://kryten.mm.rpi.edu/bringsjordx2-1.logic.gre1.doc

- Bringsjord, S. (unpublished manuscript) "Artificial Life: AI's Immature Brother?" A review article of the 1,509 page volumes *Artificial Life* and *Artificial Life II*, published by Addison-Wesley, which comprises the Proceedings of the 1987, 1990 International Workshops on Artificial Life. Written for and made available to students at Rensselaer, but also available for others.

Patents

- Provisional Patent Filing (Feb 9 2021): U.S. Patent Application #: 63/147,356 Title: "Artificial Intelligence System And Method For Automatic Personalized Training For Standardized K-12 Math Tests."

- Full Patent Filing to USPTO: "Artificial Intelligence Platform for Auto-Generating Reasoning Problems and Assessing Proposed Solutions." Application #: 16272403. Inventors: S Bringsjord, NS Govindarajulu, A Bringsjord.

- *Counter Fraud System.* #11379732. Issue Date: July 5 2022. Inventors: S Bringsjord, A Bringsjord, NS Govindarajulu, J Johnson

- *Interactive, Expressive Music Accompaniment System.* #10,032,443. Issue date: July 24 2018. Inventors: Jonas Braasch, Nikhil Deshpande, Pauline, Oliveros, Selmer Bringsjord. Abstract:

  > Systems and methods capable of providing adaptive and responsive accompaniment to music with fixed chord progressions, such as jazz and pop, are provided. A system can include one or more sound-capturing devices, a signal analyzer to analyze captured sound signals, and an electronic sound-producing component that produces electronic sounds as an accompaniment.

- *Automated Spear Phishing System.* #9,882,932. Issue date: Jan 30 2018. Inventors: Selmer Bringsjord & Alexander Bringsjord. Abstract:

  > A system, method, and program product for spear phishing. A system is disclosed for automatically constructing a background story using computational logic that includes true declarative content associated with a target; a system for automatically constructing an expanded story using computational logic that includes deceptive declarative content; and a communication generator that generates a communication including the true declarative content, the deceptive declarative content, and an actionable element.

- *Method and System for the Theme-Based Automatic Creation of Stories.* #7,333,967. Issue date: 2.19.08. Co-invented with Dr. David Ferrucci of IBM, this patent describes a generic system architecture for automatic story generation. It represents a hybrid of classical approaches uniquely integrated around the concept of a theme-driven approach to capturing the concept of "interestingness." It submits several claims that capture a series of novel enhancements for implementing story generation systems that exhibit literary creativity.

Honors

- Elected IEEE Senior Member, 2020.
- Elected Fellow of the British Computer Society (BCS), 2015.
- Recipient of 2014 Covey Award, from the International Association for Computing and Philosophy, for "Excellence in the Area of Research in Computing and Philosophy." Description of award, and prior awardees, available at http://www.iacap.org/awards.
- 2014 IBM Faculty Fellow Award For "enabling the practical application of a variety of artificial intelligence techniques."
- 2011 Research Excellence Award, Annual Rensselaer Trustees Celebration of Faculty Achievement. (Shared award with team-members Jonas Braasch and Pauline Oliveros.)
- 2008 Undergraduate Research Program Mentor Award
- 2007 Best Paper Award, "Provability Based Semantic Interoperability." from IARPA/IC. (With PhD-student-at-the-time Andrew Shilliday. In addition, work marks a debt to PhD-student-at-the-time Joshua Taylor.][5]
- 2005 Best Paper Award, GameOn2005.[6]
- 2004 Trustees (Annual) Outstanding Achievement Award (scholarly productivity)
- 1996 Simon Newcomb Award

  > I won this award for reasons given by Ken Ford and Pat Hayes in their . . . lively "The 1996 Simon Newcomb Award" *AI Magazine* **17.3**: 13–14, having beaten other nominees Sir John Ecles, and Jerry Fodor, among others. Roger Penrose was the previous year's winner. My reply essay to Ford & Hayes is "Strong AI is Simply Silly" *AI Magazine* **18.1**: 9–10, which includes a characteristically able rejoinder from Ford & Hayes, and is available online via the link immediately below.
  > http://kryten.mm.rpi.edu/SBringsjord_StrongAISimplySilly.pdf

- The 1995 Hesburgh Award (Member of winning Rensselaer team; for excellence in undergraduate education, specifically for computer-based interactive learning.)
- Recipient of the Annual Rensselaer Early Career Award (for "outstanding scholarly activity"; awarded by faculty, 1993)
- "Albany Author of the Year" (Friends of the Albany Public Library; 23^{rd} annual award, William Kennedy a previous winner), 1991.
- Teaching Fellowships and University Scholarships, Brown University
- *Magna Cum Laude*, University of Pennsylvania
- Dean's List all semesters, University of Pennsylvania
- Philomathean Society, University of Pennsylvania

[5] This paper later evolved into this expanded one, cited herein under Publications.

[6] Paper itself is available here. Coverage of the research reported in this paper, written by Larry Greenemeier, is apparently the most-read article in *Scientific American* online. Greenemeier's article is available here.

- New York State Regents Scholarship

Teaching[7]

- **Graduate Seminars, Rensselaer**[8]
  - Guest lectures in ProSem for PhD in Cognitive Science. I tend to lecture on logic, and logic as it intersects with AI. Material used for recent lectures:
    - "Gödel's Incompleteness Theorems." Slides available online as pdf and tar.gz of underlying keynote.
  - *Engineering Human-Level Artificial Cognitive Agents.* This new course (taught for the first time in 2014) is led and primiarily taught by John Licato, whose "PAGI World" simulator anchors student work in the course.
  - *Logic and Artificial Intelligence*
    - This is the grad seminar I generally teach each Spring, when not charged out. The specific topic of the course is new each year, and corresponds to R&D I'm working on that year.
  - *Philosophy of Mind*
  - *Logic Programming and Artificial Intelligence*
    - Ancient, yes, but gives a sense: `http://www.rpi.edu/~brings/ilogprog.html`
  - AI & Text Generation
  - Action Theory
  - Topics in Natural Language and AI
- **Undergraduate, RPI**
  - *Are Humans Rational?.* This is my new (first taught Fall 2014) undergraduate course, taught in the first-year program in the School of Humanities, Arts, and Social Sciences as an *Inquiry* courses. The course revolves around a sustained defense of an affirmative answer to the question that is the course's name; the defense is being developed and articulated in collaboration with Alexander Bringsjord. The web page for the course is available here:

    http://kryten.mm.rpi.edu/COURSES/AHR/ahr.html
  - *Gödel's Great Theorems.* This is a course based on my forthcoming book of the same name from Oxford University Press.
  - *Heroes of the Hudson Valley*

    I am an amateur historian of the Hudson Valley and New York City. This course is co-taught with Chris Lindsay, JD. It focuses on the intellectual history of the area, and — as can be readily deduced from the course title — emphasizes key individuals (e.g., van der Donck, Melville, Emma Willard, Teddy Roosevelt, etc.). The course specifically applies certain "structures" from cognitive science (broadly construed)

[7] Significant portions of many of the courses listed below are are available on my web site — but, confessedly, the information is rather old, because I was charged out for most of the time from 2003–2012.

[8] Most (all after $\approx$ 1995) graduate seminars cross-listed in computer science, philosophy, cognitive science, and in some cases in psychology as well.

to these "heroes," in order to see if, according to these structures, the heroes are indeed extraordinary, and if so, how it is that they are. In accordance with master teacher Lindsay's approach, students are to know themselves by knowing these and other heroes.

  - *Paradox and the Mind*
  - *Philosophy of Artificial Intelligence*
    * Old, but gives a flavor of the fun: `http://www.rpi.edu/~brings/pai.html`
  - *Psychology of Reasoning*
  - *Cognitive Psychology*
  - *Introduction to Philosophy*
  - *Philosophy of Mind Through Film*
  - *Introduction to Artificial Intelligence*[9]
    * Old, but gives a sense of the fun: `http://www.rpi.edu/~brings/intai.html`
  - *Introduction to Logic*
    * `http://www.rpi.edu/~brings/logarg.html`
  - *Intermediate Mathematical Logic* (*Computability & Logic*)
  - *Introduction to Cognitive Science*

- **Sample Independent Studies, Rensselaer**
  - *Risk^{TM} in LISP*
  - *Propositional Modal Logic*
  - *Quantified Modal Logic*
  - *Doxastic AI and Logic-Based AI*
  - *Trial & Error Machines & the Arithmetic Hierarchy*
  - *Church's Thesis*
  - *Intermediate Mathematical Logic*
  - *Advanced Computability Theory*

- **Thesis Supervision and Membership, Rensselaer**
  - Currently supervising:
    * John Angel, doctoral student in computer science.
    * Shreya Banerjee, doctoral student in computer science.
    * Mike Giancola, doctoral student in computer science. (Mike is simultaneously working toward the MS in cognitive science.)
    * John Slowik, doctoral student in computer science.
    * James Oswald, doctoral student in computer science.
    * Brandon Rozek, doctoral student in computer science.
  - Past:

[9] This course was taught as a computer science course to students across the country through RSVP, Rensselaer's distance learning division.

* Saswata Paul, PhD, Computer Science, Committee Member. Spring 2022. "Formal Verification of Decentralized Coordination in Autonomous Multi-Agent Aerospace Systems."
* Travis Peterson, MS, Computer Science, Supervised. Fall 2021. "Automated Identification & Classification of Initially Unidentified Aerial/Underwater/Land Agents: The Logicist Case."
* Mathew Peveler, PhD, Computer Science. Supervised. December 2020. "Building Cognitive and Immersive Systems: Architecture, Implementation, and Formalization."
* Rikhiya Ghosh, PhD, Computer Science. Supervised. December 2020. "Countermasquerading : A Logicist-AI Approach to Interventionist Strategies."
* Sean Welsh, PhD, Philosophy. Member, and Oral Examiner at the dissertation defense, University of Canterbury, New Zealand. "Exploratory Moral Code: Formalizing Normative Decisions Using Non-Modal Deontic Logic and Tiered Utility." August 2019. Jack Copeland, Professor at Canterbury, Supervisor.
* Max Wang, MS, Computer Science. Supervised. May 2019. Thesis: "Enhanced VQA: Numerical Quantification."
* Chandler Dunn, MS, Computer Science. Supervised. May 2018. "Extending the Integration of ARCADIA and ShadowProver for Numerical Quantification."
* Justin Buergi, MS, Computer Science. Supervised. December 2018. "Using Deep-Q Neural Networks To Simulate Human Motivation."
* Petr Babkin, PhD, Cognitive Science. May 2018. "Incorporating Contextual Anticipation Into Incremental Semantic Analysis."
* Atriya Sen, PhD, Computer Science. Supervised. December 2017. "Computational Axiomatic Science."
* Dan Arista, PhD, Computer Science. Supervised. December 2017. "Relevance-Based Updates to Contexts Memorized during Implicit Statistical Learning."
* Joseph Johnson, PhD, Computer Science. Supervised. August 2016. "Intelligent Agent Development Using Unstructured Text Corpora and Multiple Choice Questions."
* John Licato, PhD, Computer Science. Supervised. May 2015. "Analogical Constructivism: The Emergence of Reasoning Through Analogy and Action Schemas."
* Jinrong Li, PhD, Cognitive Science. Supervised. December 2014. Cognitive Science. "Explorations in the Cognitive Science of Computer Programming."
* Joshua Taylor, PhD, Computer Science. Supervised. December 2014. "Explorations in Fluid Logics."
* J.R. Scally, PhD, Cognitive Science. Supervised, 2014. "Worlds as a Unifying Element of Knowledge Representation."
* Alex Haig, MS, Computer Science, 2014. Supervised. "Translating Natural Language to the Game Description Language."
* Evan McCarty, MS, Computer Science, 2014. Supervised. "Reason and Rationality in Nuclear Deterrence: Implementing an Approach to Nuclear Crisis Resolution Using Meta-Game Theory."
* Naveen Sundar G., PhD, Computer Science. Supervised. August 2013. "Uncomputable Games: Games for Crowdsourcing Formal Reasoning."

* Joseph Valerio, MS, Computer Science, 2013. Supervised. "Heuristic for Multi-Variable Music State Recommendations."
* Danny Coretti, MS, Computer Science, 2010. Supervised. "Toward a Robust Theory of Personality for Advanced Synthetic Characters."
* Micah Clark, PhD, Cognitive Science. May 2010. Supervised. "Cognitive Illusions and the Lying Machine."
* Sean Barnes, MS, Cognitive Science. May 2010. Supervised. "Toward Automated Generation of Psychometric Tests."
* Nicole Wardle, MS, Computer Science. May 2010. Secondary supervisor to Nicholas Cassimatis. "Usage-Based Model of Auxilliary Verb Acquisition."
* Evan Gilbert, MS, Computer Science. 2009. Supervised. "Advances in AI and Poker, with a Special Focus on Social Information and Bluffing."
* Deepa Mukherjee, PhD, Cognitive Science. Supervised. 2009. "A Formal and Neuroscientific Investigation of the Distinction Between Normatively Correct and Incorrect Human Reasoning."
* Andrew Shilliday, PhD, Computer Science. Supervised. May 2009. " A New System for AI-Assisted Scientific Discovery Incorporating Novel Techniques in Infinite Model Finding."
* Dan Werner, MS, Computer Science, 2007. Supervised. "KVASIR: Explorations in Machine Learning by Seeing."
* Steven Nerbetski, MS, Computer Science, 2007. Supervised. "Towards Conversational Capacity in Synthetic Characters."
* Owen Kellett, MS, 2005 Computer Science. Supervised. "A Multi-Faceted Attack on the Busy Beaver Problem."
* Bettina Schimanski, PhD, 2006, Computer Science. Supervised. "Psychometric AI and Story Arrangement: Progress of a Test-based Approach Towards an Achievable Artificial Intelligence."
* Paul Bello, PhD Cognitive Science, 2005. Supervised. "Toward A Logical Framework for Cognitive-Effects Based Operations: Some Empirical and Computational Results."
* Jason Wodicka, "BARD: A System for Dynamic Interactive Storytelling." MS Cognitive Science, 2004. Supervised.
* Gerwin Schalk, "Towards a Clinically Practical Brain-Computer Interface." PhD Computer & Systems Engineering, 2006. Membership.
* Greg Smith, PhD, Mathematics, 2000. Membership."A General Symbolic Method with Physical Applications."
* David Ferrucci, PhD, Computer Science, 1999. Membership. "Towards Effective Interactive Configuration in the Logic-Programming Framework"
* Krzysztof Kryszczuk, MS Psychology, 2001, Membership. "Detection of Slow Light Level Reduction,"
* Patricia Molhot, PhD, 1996. Membership. "A Model for Standardization in the Definition and Form of Associative, Interconcept Links."
* Kostas Arkoudas, MS, 1995, Philosophy. Supervised. "Computation and Relative Computation."
* Fergus Duniho, MS, 1991, Philosophy. Supervised."The Mind-Body Problem and Its Solution."

* Jennifer Dunn, MS, Philosophy. Supervised. "Hobbes' Political Theory Simulated in LISP."

- **Teaching Fellow, Brown**
  - Computers from the Mathematical Point of View
  - Introduction to Mathematical Logic
  - The Logic and Ethics of Nuclear Deterrence
  - Introduction to Informal Logic
  - Critical Reasoning
  - Introduction to Philosophy

Awards/Grants/Sponsored Projects

- "A Platform for Engineering Meta-Cognitively Perceptive Artificial Teammates." Sponsor: ONR. Amount: $1,424,125.00. PI: S Bringsjord. Period: 5.1.22–4.30.2025.
- "Hardware to Enable Unprecedentedly Powerful Cognitive Robot Manipulation by Visual Question-Answering (VQA) for Advanced Micro-Environments." Sponsor: AFOSR. Program: DURIP. Awards announced in Dec 2020 here. Amount: $226,792. PI S Bringsjord. Period: 5.1.21–4.30.22.
- "Surmounting Arrow's Impossibility Theorem$^+$ via Revolutionary Logicist AI." Sponsor: ONR. Amount: $\sim$ $299,361. PI: S Bringsjord. Start date 7.29.2019–08/31/2021.
- "What is a (computer) program?" (PROGRAMme) Sponsored by ANR (The French National Research Agency); launched late 2017, with a plan to go for over five years; and led by Dr Liesbeth De Mol. Information re. the program, including a list of its researchers, can be found here. Bringsjord's role in the present project includes developing a novel logicist paradigm for computer programs and computer programming he has called 'Pure General Logic Programming,' or just 'PGLP' for short.
- "Great Computational Intelligence, Mature and Further Applied." Sponsor: AFOSR. Amount: $\sim$ $1,622,569. PI: S Bringsjord; Co-PIs: J Licato and J Hummel. Five years in duration. Start date 3.15.17; end date 3.14.22. (NCE request filed.)
- "Advanced Logicist Machine Learning (Phase 1)." Sponsor: ONR. Amount: $1,069,829.00. Three years in duration. PI: S Bringsjord; Co-PI: Naveen Sundar Govindarajulu. Consultants: J Licato & M Scheutz. Duration: three years: 1.1.17–12.31.21.
- Cognitive Immersive Systems Laboratory. Sponsor: IBM Corporation, $8,000,000. 3.8.16–3.8.21. Bringsjord, Co-PI; PI: Jon Dordick. (There are a number of other Co-PIs at RPI & IBM, but I was not privy to that information.). My specific portion of the award for research expenditures to cover my hourly contribution was $\sim$ $390,000.
- Phase 2 of: "Great Computational Intelligence in the Formal Sciences via Integration of Analogical and Deductive Reasoning." AFOSR, $459,942. 10.15.15–10.15.17. Bringsjord PI. Co-PIs: John Hummel (UIUC) & John Licato (Indiana U/Purdue U FW). Lead graduate research assistant at RPI: Atriya Sen.

- "Moral Competence in Computational Architectures for Robots: Foundations, Implementations, and Demonstrations." MURI; ONR. The two additional "optional years" were secured; hence the grant will ran from 1.1.14–12.31.19, for total expenditures of $\approx$ \$9M. M. Scheutz PI (Tufts); S. Bringsjord & M. Si Co-PIs (RPI); B. Malle Co-PI (Brown); Consultants: J. Mikhail (Georgetown Law School) & J. Knobe (Yale).

- IBM Faculty Award, 2014: "Cognitive Computing." \$—.

- After a number of years of fruitful collaboration and discussion, IBM and RPI announced on 1/30/13, to much media fanfare, that IBM's Watson system, of *Jeopardy!* fame, would be made available to RPI under one of IBM's *Shared University Research Awards*, in order to enable RPI r&d designed to make Watson smarter. Bringsjord's RAIR Lab and the Hendler-McGuinness-Fox Tetherless World Constellation house the investigators in this project on the RPI side.

- "Demonstrations of Intelligent Tutors in Culture Learning (& Other Domains)." 7.1.13–8.15.14. Seed Grant, Office of Research at Rensselaer, with contributions from School of Humanities, Arts, and Social Sciences. PI: S. Bringsjord; Co-PI: M. Sei; Consultant: J. Hendler. $\approx \$100,000$.

- "Psychometric Analogico-Deductive Moral Reasoning in CLARION." ONR \$789,926. 9.15.12–9.14.15. R. Sun PI; Bringsjord Co-PI.

- "Great Computational Intelligence in the Formal Sciences via Integration of Analogical and Deductive Reasoning." AFOSR, \$610,419. 11.1.11–10.15.15. Bringsjord PI. Co-PIs: John Hummel (UIUC) & Ralph Wojtowicz (Baker Mtn Research). Lead graduate research assistant at RPI: John Licato; additional graduate research assistants at RPI: Naveen Sundar G. & Joshua Taylor.

- "Toward a Markedly More Accurate Geography of Minds, Machines, and Math." John Templeton Foundation, \$250,000. 2.15.11–6.30.13. Bringsjord PI. Lead graduate research assistant: Naveen Sundar G.

- "CAIRA — A Creative Artificially-Intuitive and Reasoning Agent in the Context of Ensemble Music Improvisation." NSF, \$650,000. 5.1.10–4.31.13. Bringsjord Co-PI. PI: J. Braasch. Other Co-PI: P. Oliveros.

- "Social Robotics." NSF, \$326,752. 7.31.2007–12.31.2010. Bringsjord Co-PI. PI: N. Webb; other Co-PIs: V. Barr, R. Salkin, I. Frank.

- Two grants, one in the AQUAINT program, one originally in the ARIVA program, which became A-SpaceX; together they totaled (\$-,—,—); both are DTO (now under IARPA) programs. Bringsjord PI in both cases. There are no Co-PIs. (The funder requested that dollar amounts of FOUO grants not be made public.) The project under A-SpaceX was known as AKRRIV; the system built under AQUAINT was Solomon. Two add-on projects have been funded. Some information is available at

  http://www.cogsci.rpi.edu/research/rair/projects.php.

- "Toward Cognitively Robust Synthetic Characters." IBM. \$100,000. 10.1.08–10.1.09. PI: S. Bringsjord; Co-PI: K. Arkoudas.

- "Creativity and Computer Programming: A New Research Program." PI: Bringsjord. Co-PI: K. Arkoudas. $90,000 SGER in the CreativeIT program. 10.1.07–9.30.08.

- "Toward Cognitively Robust Synthetic Characters." 7.1.07–7.1.08. Seed Grant, Office of Research at Rensselaer. PIs S. Bringsjord and K. Arkoudas. $50,000.

  – This seed grant has led to the above grant from IBM for more extensive R&D along the same lines.

- "Micro-PsyPre: Toward Computing the Future." PI: S. Bringsjord. (Winning proposal written along with Micah Clark. Clark and Bettina Schimanski PhD students centrally involved. Trevor Housten principal programmer.) $50,000. 6 months, started 4.15.06. Sponsor: AFOSR.

- "Poised-For Learning and the Mechanization Thereof (through marmml)." PI: S. Bringsjord; Co-PI: K. Arkoudas. $600,000. Started 10.1.04, concluded 10.1.06. Sponsor: DARPA IPTO. This project gave rise to the Vivid system (see above paper by Arkoudas & Bringsjord in *Artificial Intelligence*), available here:

  http://kryten.mm.rpi.edu/KA_SB_Vivid_offprint_AIJ.pdf

- "New Architectures, Algorithms, and Designs that Lead to Implemented Machine Reasoning over Knowledge in Epistemic & Deontic Formats, in the Service of Wargaming." PI: Yingrui Yang; Co-PIs: S. Bringsjord, K. Arkoudas. $75,000. Sponsor: AFRL. June 10, 2004–November 4, 2005.

- Gift from SAIC (Science Applications International Corporation) in the amount of $50,000 as an unrestricted gift (used to support a PhD student at RPI). Contribution provided as followup to presentations by Bringsjord and Wayne Gray on AI and CogSci at RPI to Dr. Clinton Kelly, Senior VP Advanced Technology Programs.

- "Simulation and Analysis of Large Scale Complex Systems." NSF CISE-RR, Award ID 0323324. $100,032. Co-PI with Malik Magdon-Ismail, Boleslaw Szymanski, Randolph Franklin. (This grant is to support my RAIR Lab's attack on the Σ ("busy beaver") function. Preliminary results were reported by Bringsjord to the American Mathematical Society.) 2003–2005. Up-to-date information on the RAIR Lab's efforts can be found at

  http://www.cs.rpi.edu/~kelleo/busybeaver

- "The SAGE Environment in Support of Novel Intelligence from Massive Data (NIMD Program)." Booz Allen Hamilton is general contractor. Total award was approximately $-,—,— from ARDA. Rensselaer's portion is $-,—,— with Selmer Bringsjord (the RAIR Lab) and Wayne Gray (CogWorks Lab) Co-PIs at RPI. (The funder requests that award amounts be kept undisclosed.) Bringsjord's focus was on modeling the reasoning of human intelligence analysts so that this reasoning can be supported by and offloaded to artificial agents, who power the system known as Slate, information about which can be found at

  http://www.cogsci.rpi.edu/research/rair/slate

  2002–2005 (40 months). Andrew Shilliday and Joshua Taylor lead developers of Slate.

  - Was also an independent contractor in a related DTO program — IKRIS — devoted to producing an operational standard for ARDA in the area of knowledge representation and reasoning. (Much NIMD R&D is knowledge-based, and IKRIS is designed to specifically enable interoperability among systems produced by NIMD contractors. Bringsjord's NIMD team has produced the Slate system, and one near-term proof-of-concept in IKRIS is to build a translator capable of taking knowledge in Slate's multi-sorted logic, and automatically producing a version of this knowledge in so-called Common Logic.) The technical leads in IKRIS are Chris Welty and Richard Fikes, with Mitre managing the project. The project was 18 months long, and kicked off in April 2005.

- "A Computational Theory of Psychological Time Within a Cognitive Architecture Framework," ONR, $266,000. PI: Frank Lee, Co-PI: Selmer Bringsjord. 2002–2003.

- "The Mental Metalogic Research and Development Program: A New, Comprehensive Approach to Human and Machine Reasoning," sponsored by Rensselaer's 2001 seed money program, $50,000. PI: Selmer Bringsjord, Co-PIs: Kostas Arkoudas (MIT), Frank Lee (RPI), Bram van Heuveln (RPI), Yingrui Yang (RPI).

- "Stage 1 of the *e*WRITER Project," sponsored by the Educational Testing Service (ETS), $175,000. PI: Selmer Bringsjord, Co-PI: Yingrui Yang. Consultant: Princeton's P.N. Johnson-Laird. 2000–2001.

- Corporate sponsorship of the Minds *&* Machines Laboratory, which I directed, obtained from SGI, Apple Computer, Vicarious Visions, Legal Knowledge Systems, Logic Programming Associates, Document Development Corporation.

- "Proof-of-Concept for Solving the Distance Learning Problem with 'Super-Teaching'," NSF, $105,000. Bringsjord PI, Ron Noel Co-PI. 1999–2001.

- *Development of BS in Information Technology.* $280,000, Rensselaer Strategic Investment Program. With Jennifer Bowie, Frances Bronet, Michael Danchak, Teresa Duffy, Gary Gabriele, Cheng Hsu, William Jennings, Deborah Johnson, John Kolb, Brian Lonsway, Harry McLaughlin, David Musser, and David Spooner.

- *Broadcasting an Interactive* Introduction to Artificial Intelligence *Course Via Internet2.* This was my sub-proposal under a proposal submitted by NYSERNet, in conjunction with 8 member universities[10], to the National Science Foundation in July 1997. The proposal obtained NSF support for vBNS high-speed network connections (part of "Internet 2") for each of the universities.

- *Boltzmann's World.* $3,500, 1995, AT&T. BW was a courseware system for learning certain evolutionary programming techniques. Ron Noel the other PI.

- *Machine Generated Fiction.* $300,000, 1991–95, Henry R. Luce Foundation. A team ("Autopoeisis") project the ultimate goal of which was to create a genuinely creative computer system capable of autonomously writing sophisticated fiction. David Porush the other PI.

- *The Creative Writing Workstation.* $6,000, 1992, IBM. The project centered around the adaptation of intelligent computer programs which autonomously generate stories to systems which can be used in the classroom to teach creative writing. David Porush was the other PI.

[10] RPI, Columbia, NYU, SUNY Albany, SUNY Binghamton, SUNY Buffalo, Cornell, Clarkson.

- *Charting, Formally, the Possible Uncomputable Component of Human Thought.* $1,000, 1991–92, Beer Trust Foundation. A study of those aspects of human thought claimed in the philosophical literature to be beyond the ability of a Turing Machine (and other equivalent automata) but nonetheless demonstrably amenable to formalization using the concepts of technical philosophy and theoretical computer science. Led to the monograph *Superminds: A Defense of Uncomputable Cognition*; see "Books."

- *Hardware for Startup of the Autopoeisis Project.* $15,000, 1991, Apple Computer. Additional funds of approximately $20,000, also for hardware startup, came from Rensselaer itself, and went, among things, toward purchase of two additional workstations. David Porush is the other PI.

- *Cognitive Science and Hypermedia: A Classroom Experiment.* $6,500, 1990–91, Lilly Fellowship. Supported the design and implementation of an electronic hypertextbook introducing students to philosophy of mind and cognitive science.

- *Defeasible Reasoning and Artificial Intelligence.* $3,500, 1988–89, Paul Beer Trust Foundation. An enquiry that led to Chapter IX of *What Robots Can and Can't Be* (see "Books").

Grant Proposals Under Development

- A proposal will be made to XXXX for a system intended to address the US "Math Gap" at the level algebra ($7^{th}/8^{th}$ grade). First draft of proposal complete.

Corporate/Consulting

- Independent consultant to many companies and government agencies, in the areas of intelligent agents and AI, automated document production, gaming, and other areas.

- Chief Scientist, Document Development Corporation, 1223 Peoples Avenue, Troy, NY, 1999–2002.

Presentations

- External, Refereed

  - "A Solution to an Insoluble Problem," Bringsjord, S. (presenter), Govindarajulu, N.S. & Sen, A. July 16 2021, *Logic, Relativity, and Beyond* (LRB 20).[11] The slide deck, in pdf and Keynote respectively, are offered immediately below.

    http://kryten.mm.rpi.edu/SELPAP/NOTINSOLUBLE/NotInsoluble_LRB2021.pdf
    http://kryten.mm.rpi.edu/SELPAP/NOTINSOLUBLE/NotInsoluble_LRB2021.key

  - "Extracting Creatures of Fiction for Story-Based QA (S-BQA)," Bringsjord, S., Ghosh, R., Govindarajulu, N.S., Licato, J. (Ghosh presented). August 2 2019, Boston, MA, at *Story-Enabled Intelligence*, a workshop (organized by L. Gilpin, D. Holmes, and J. Macbeth) at the 2019 edition of *Advances in Cognitive Systems*. The first link below leads to the pdf version of the presented slide deck, and the second to a Keynote version (which contains video demos of automated reasoning over two extracted fictional detectives: Poe's Dupin, and a 21st-century Sherlock Holmes).

[11] While held in 2021, this was a conference planned for Hungary in 2020.

http://kryten.mm.rpi.edu/PRES/S-EI2019/extractcreaturesfictionS-EI2019_v4.pdf
http://kryten.mm.rpi.edu/PRES/S-EI2019/extractcreaturesfictionS-EI2019_v4.key

– "A Formalization of Cognitive Continuity/Discontinuity, to Settle the Darwin's-Mistake Debate," S. Bringsjord, N.S. Govindarajulu, A. Sen, C. Elmore, M. Peveler (Elmore presented). July 27 2019, Montreal, Canada, at *CogSci 2019*. Immediately following, please find the abstract for this poster presentation, and then a link to the poster itself in pdf form.

Abstract

Darwin's *Origin* doesn't discuss the evolution of the human mind. He saved treatment of this topic for the subsequent *Descent of Man*, in which he advanced two claims: (C1) If the cognitive powers of nonhuman animals are discontinuous with those possessed by humans, then the human mind isn't the product of evolution by mutation and natural selection. (C2) The cognitive powers of nonhuman animals, including specifically reasoning powers, are continuous with those enjoyed by humans; continuity is established. Penn, Holyoak, and Povinelli (2008) have in *BBS* written "Darwin's Mistake," in which they purport to refute (C2) by establishing discontinuity [they don't affirm (C1)]. Many vehemently disagree with PHP, and the debate remains intense, and unresolved. Yet, (1) the hitherto informal concept of continuity can be formalized, and (2) that formalization, applied to the debate, settles it. We provide the formalization, and with it settle the debate (in favor of PHP).

∗ http://kryten.mm.rpi.edu/discon_cogsci2019_0723191515NY.pdf

– "Logicist Computational Cognitive Modeling of Infinitary False-Belief Tasks," S. Bringsjord, N.S. Govindarajulu, & C. Elmore; Elmore presented. Delivered on July 25 2019, Montreal, Canada, at CogSci 2019. In this presentation we do something that hasn't been done before: model and computationally simulate the *infinitary* false-belief task. The second of the links below, a Keynote file, contains a video of the simulation; the pdf of course doesn't.

http://kryten.mm.rpi.edu/PRES/COGSCI2019/infinitaryfalsebeliefprezCogSci2019.pdf
http://kryten.mm.rpi.edu/PRES/COGSCI2019/infinitaryfalsebeliefprezCogSci2019.key

– "Tentacular AI, and the Architecture Thereof, Introduced," S. Bringsjord, N.S. Govindarajulu, A. Sen, M. Peveler, B. Srivastava, K. Talamadupula, at AEGAP, Stockholm, Sweden, July 15, 2018. (Bringsjord presented.)

http://kryten.mm.rpi.edu/PRES/AEGAP2018/IACAP_2018_v2.key
http://kryten.mm.rpi.edu/PRES/AEGAP2018/IACAP_2018_v2.pdf

– "Toward a Smart City Using Tentacular AI," Sen, A., Bringsjord, S., Govindarajulu, N.S., Mayol, P., Ghosh, R., Srivastava, B. & Talamadupula, K., November 14, 2018, Larnaca, Cyprus. (Sen presented.) *The 14th European Conference on Ambient Intelligence (AMI)*. Slides (pdf) available immediately below.

http://kryten.mm.rpi.edu/AMI.pdf

– Two presentations at IACAP 2018, in Warsaw Poland, in June 2018:

∗ "Learning ~~and~~ Virtue Ethics," N.S. Govindarajulu, S. Bringsjord, R. Ghosh, A. Sen, & S. Banerjee, June 22, 2018. (Bringsjord presented.) The slide deck, Keynote first and then pdf, is provided via the following links.

http://kryten.mm.rpi.edu/PRES/IACAP2018LEARNVE/IACAP_2018_v2.key
http://kryten.mm.rpi.edu/PRES/IACAP2018LEARNVE/IACAP_2018_v2.pdf

∗ "Remarks on Theory of Rationalist Action (ToRA)," S. Bringsjord, N.S. Govindarajulu, A. Sen, & E. Olive, June 22, 2018. (Bringsjord presented.) This was part of a symposium organized and run by Paul Bello. The slide deck, Keynote first and then pdf, is provided via the following links.

http://kryten.mm.rpi.edu/PRES/IACAP2018TORA/ToRAatIACAP2018.key
http://kryten.mm.rpi.edu/PRES/IACAP2018TORA/ToRAatIACAP2018.pdf

– "Making Morally Competent Robots Meets Artificial *Phronēsis*: Some Key Issues" Group presentation with demonstrations at *Robophilosophy 2018*, February 14 2018, Vienna, Austria. Group presentation by the ONR-sponsored MURI team (Matthias Scheutz, Bertram Malle, Selmer Bringsjord, Naveen Sundar Govindarajulu), along with Paul Bello on perception, attention, and virtue ethics. The group used a pdf slide deck for speed; it's available at the first link below. The second link goes to the initial portion of a video demo of robotics capability from the MURI team.

http://kryten.mm.rpi.edu/PRES/PHRONESISROBOPHIL2018/SB_Phronesis_Robophil_021418f.pdf
http://kryten.mm.rpi.edu/PRES/PHRONESISROBOPHIL2018/MURI2017_subtitles.mp4

– "Beyond the Doctrine of Double Effect: A Formal Model of True Self-Sacrifice." Naveen Sundar Govindarajulu, Selmer Bringsjord, Rikhiya Ghosh, Matt Peveler. (Peveler presented.) Paper presented at the *International Conference on Robot Ethics and Safety Standards* 2017 (ICRESS 2017), Lisbon, Portugal, November 7 2017. The slide deck used by M. Peveler can be obtained here (as first a pdf and then a Keynote file):

http://kryten.mm.rpi.edu/PRES/ICRESS2017/ICRESS_2017.pdf
http://kryten.mm.rpi.edu/PRES/ICRESS2017/ICRESS_2017.pdf

– "Toward a Computational Study of Time Travel." Atriya Sen, Naveen Sundar Govindarajulu, Selmer Bringsjord. Atriya Sen presented, at "Logic, Relativity, and Beyond." (This was the 3rd LRB, this one honoring Hajnal Andréka's 70th birthday.) Conference held August 23–27 2017, Budapest, Hungary. The slide deck (in pdf and Keynote forms, resp.) can be obtained here:

http://kryten.mm.rpi.edu/PRES/LRB3/LRB17.pdf
http://kryten.mm.rpi.edu/PRES/LRB3/LRB17.key

– "On Automating the Doctrine of Double Effect." Naveen Sundar Govindarajulu & Selmer Bringsjord. The latter presented, at the International Joint Conference on Artificial Intelligence (IJCAI–17), Melbourne, Australia, August 24 2017. The presentation files, in Keynote and pdf forms resp., can be found here:

http://kryten.mm.rpi.edu/PRES/IJCAI2017/IJCAI_DDE_v2.key
http://kryten.mm.rpi.edu/PRES/IJCAI2017/IJCAI_DDE_v2.pdf

– "Strength Factors: An Uncertainty System for Quantified Modal Logic," Naveen Sundar Govindarajulu & Selmer Bringsjord (latter presented). IJCAI Workshop *Logical Foundations for Uncertainty and Machine Learning* (LFU-2017), Melbourne, Australia, August 20 2017. The presentation files, in Keynote and pdf forms resp., can be found here:

http://kryten.mm.rpi.edu/PRES/STRENGTHIJCAI17/2017_IJCAI_LFU_Talk_C.key
http://kryten.mm.rpi.edu/PRES/STRENGTHIJCAI17/2017_IJCAI_LFU_Talk_C.pdf

– "Exactly How Smart Can the Human-Machine Dyad Get?" Presented at IBM's Cognitive Colloquium: Augmenting Human Intelligence, September 20 2016, TJ Watson Research Center, Yorktown, NY. Immediately below find first the abstract, and then the slide deck [first in Keynote and then as a movie file (m4v)]:

http://kryten.mm.rpi.edu/PRES/AUGHUMANCOGNITION/Bringsjord_Logic_of_Augmentation_0908161209NY.pdf
http://kryten.mm.rpi.edu/PRES/AUGHUMANCOGNITION/bringsjord_aug_human_cog.key
http://kryten.mm.rpi.edu/PRES/AUGHUMANCOGNITION/bringsjord_aug_human_cog.m4v

– "*Toward* Ethical Operating Systems." Bringsjord presented. Joining him in the work presented and demonstrated here, in its inaugural phase, are: Atriya Sen, Naveen Sundar Govindarajulu, Jean-Claude Paquin, and Kevin O'Neill. The presentation was given June 25 2016, in Paris, at the Third Symposium for the History and Philosophy of Programming (HaPoP–3). Immediately below find first the extended abstract, and then the slide deck (first in Keynote and then as a pdf):

  http://kryten.mm.rpi.edu/PRES/HAPOP3062516/sb_as_nsg_j-cp_ko_ethical_os_ab_0619162100NY.pdf
  http://kryten.mm.rpi.edu/PRES/HAPOP3062516/SB_NSG_JC_KO_ethical_OS.key
  http://kryten.mm.rpi.edu/PRES/HAPOP3062516/SB_NSG_JC_KO_ethical_OS.pdf

– At the symposium "New–Millennium Logic, Computing, and the Mind" at the International Association for Computing and Philosophy (IACAP) Annual Conference 2016 (Ferrara, Italy, June 15, 2016), three presentations:

  * "Third-Millennium (Computational and/or Cognitive) Logic: (Humble) Context," an overview provided by Bringsjord, S. Slide deck, with — in the Keynote version — video demons, available at:

    http://kryten.mm.rpi.edu/PRES/IACAP2016SYMPROP/SBringsjord_3rdML.pdf
    http://kryten.mm.rpi.edu/PRES/IACAP2016SYMPROP/SBringsjord_3rdML.key

  * "Solving the Lottery Paradox in a Cognitive Calculus," with Kevin O'Neill. O'Neill presented.

  * "The Interrogation Room," with John Licato, Rikhiya Ghosh, Paul Bello, Will Bridewell, and James Payne-Joyce. Bringsjord presented.

– Bringsjord, S., Licato, J., Sen, A., Payne-Joyce, J. & Kassimis, P. "A 21st-Century Ethical Hierarchy for Humans and Robots" at *International Conference on Robot Ethics* 2015 (ICRE 2015), Lisbon, Portugal, Pavilhão do Conhecimento, October 24 2015. Bringsjord presented. The presentation slide deck, in both Keynote and pdf, is available via the links provided immediately below. Please note that the pdf version doesn't carry the five video demonstrations that are included in the Keynote file.

  http://kryten.mm.rpi.edu/PRES/ICRE2015/Bringsjord_etal_ICRE2015.pdf
  http://kryten.mm.rpi.edu/PRES/ICRE2015/Bringsjord_etal_ICRE2015.key

– Govindarajulu, N.S., Licato, J., Bringsjord, S. "Toward a Formalization of QA Problem Classes" at AGI 2014, Quebec City, Canada. The presentation slide deck, in both (zipped) Keynote and pdf, is available via the links below:

  http://kryten.mm.rpi.edu/PRES/AGI2014/AGI_2014_Formal_QA_V1.key.zip
  http://kryten.mm.rpi.edu/PRES/AGI2014/AGI_2014_Formal_QA_V1.pdf

– Bringsjord, S., Sundar G., N. & Si, M. "A Robot that Knows What It's Like to Live in Fear?" at IACAP 2013, College Park, MD, July 15 2013. (Bringsjord presented.) The presentation slide deck, in both Keynote and pdf (with a video demo included in the former file type), is available via the first two links below, and the extended abstract of the paper in question (pdf) can be obtained by the third hotlink beneath them.

  http://kryten.mm.rpi.edu/PRES/IACAP2013ROBOTFEAR/iacap_2013_Version3.key
  http://kryten.mm.rpi.edu/PRES/IACAP2013ROBOTFEAR/iacap_2013_Version3.pdf
  http://kryten.mm.rpi.edu/PRES/IACAP2013ROBOTFEAR/SB_NSG_MS_robot_fear_MS_0517130031.pdf

– Bringsjord, S. & Sundar G., N. "Toward a Modern Geography of Minds, Machines, and Math," at *The Philosophy and Theory of Artificial Intelligence* 2011 (PT-AI 2011), Anatolia College/ACT, Thessaloniki, Greece, October 3 2011. The presentation, in both Keynote and pdf, is available at:

http://kryten.mm.rpi.edu/PRES/PTAI2011/MGMMM_PT-AI_2011_short.key
http://kryten.mm.rpi.edu/PRES/PTAI2011/MGMMM_PT-AI_2011_short.pdf

– Bringsjord, S. & Sundar G., N. "Toward a Mechanically Verified Non-Justificatory Proof of the Church-Turing Thesis," at *The Philosophy and Theory of Artificial Intelligence* 2011 (PT-AI 2011), Anatolia College/ACT, Thessaloniki, Greece, October 3 2011. The presentation, in both keynote and pdf, is available at:

http://kryten.mm.rpi.edu/PRES/PTAI2011/SB_NSG_Proving_CTT.key
http://kryten.mm.rpi.edu/PRES/PTAI2011/SB_NSG_Proving_CTT.pdf

– Sundar G., N. & Bringsjord S. "The Myth of 'The Myth of Hypercomputation' ," at The Third Workshop on Hypercomputation at *Unconventional Computing 2011*, Turku, Finland, June 9 2011. The presentation, in both keynote and pdf forms, is available at:

http://kryten.mm.rpi.edu/PRES/TURKUHYPER/NSG_SB_MoMoH_presentation_v3.key
http://kryten.mm.rpi.edu/PRES/TURKYHYPER/NSG_SB_MoMoH_presentation_v3.pdf

– Bringsjord, S. & Sundar G., N. "In Further Defense of the Unprovability of the Church-Turing Thesis," at Trends in Logic IX – *Studia Logica* International Conference, Kraków, Poland, June 4 2011. In-person presentation by Bringsjord. The presentation, in both keynote and pdf forms, is available at:

http://kryten.mm.rpi.edu/PRES/KRAKOWCT0611/SB_NSG_Refutation_D-G_on_CT_v2.key
http://kryten.mm.rpi.edu/PRES/KRAKOWCT0611/SB_NSG_Refutation_D-G_on_CT_v2.pdf

– Bringsjord, S., Sundar G., N., Taylor, J., Yang, Y., Eberbach, E. "On the Rescue of Economics by Logico-Computational Cognitive Science," at the workshop *Grounding the Social Sciences in Cognitive Sciences?*, at *CogSci 2010*, Portland, OR, August 11 2010. Workshop chaired and edited by Ron Sun. In-person presentation by Bringsjord.

– Bringsjord, S. & Taylor, J. "The Cognitive Path to Universal Logic." Bringsjord presented. The abstract appeared in: *World Congress and School on* ***Universal Logic*** *(3rd edition)*. Monte Estoril, Portugal. April 18–25, 2010. *UniLog 2010 Book of Abstracts*. J-Y. Béziau, C. Caleiro, A. Costa-Leite, J. Ramos, eds. Group editing provided as well by the Departamento do Matemática. ISBN: 978-972-99289-2-5. p. 61. Abstract itself (as it originally appeared, here):

> One path to universal logic (and aspects and components thereof) is to focus on logics themselves. We give specifically the metaphor of the universal logician working in a library whose volumes are logics, where he or she reads and processes the content in those books in various ways (merging them, etc.). The cognitive path is different. It is based on an attempt to figure out how human beings populated the library to begin with: How do we create logics in the first place? In words some may find a bit more helpful: What is "background logic," formally speaking, and how do human cognizers problem-solve, reason, and make decisions in and on the basis of background logic? An answer to this question would, we claim, enable significant progress in universal logic. We report on our research intended to answer this question, and on a working computational system — Slate — designed to assist humans reasoning in background logic.

– Bringsjord, S. "A Vindication of Program Verification." Presentation given at ECAP 2009 (the VIIth European Computing and Philosophy conference), July 2 2009, Barcelona, Spain. The presentation, in both keynote and pdf forms, is available at:

http:/kryten.mm.rpi.edu/PRES/ECAP2009/SB_ecap09_progver.key
http:/kryten.mm.rpi.edu/PRES/ECAP2009/SB_ecap09_progver.pdf

– Bringsjord, S. (presenter), Wojtowicz, R., Taylor, J., Arkoudas, K., Clark, M., Gilbert, E., Housten, T., van Heuveln, B.,"Piagetian Roboethics via Category Theory: Moving Beyond Mere Formal Operations to Engineer Robots Whose Decisions are Guaranteed to be Ethically Correct." Presentation given at the Roboethics Workshop, May 17 2009 Kobe, Japan.

  The presentation file includes a number of video demonstrations; only the wmv, Quicktime (mov), and Keynote (key) formats include the demos, since they are videos. A "still" pdf version is also available. The urls:

  http:/kryten.mm.rpi.edu/PRES/SB_etal_RoboethicsWatICRA09.wmv
  http:/kryten.mm.rpi.edu/PRES/SB_etal_RoboethicsWatICRA09.pdf
  http:/kryten.mm.rpi.edu/PRES/SB_etal_RoboethicsWatICRA09.key
  http:/kryten.mm.rpi.edu/PRES/SB_etal_RoboethicsWatICRA09.mov

– Bringsjord, S. "Logic, General Intelligence, Hypercomputation ... and Beyond." Presentation session given at the Second Conference on Artificial General Intelligence (AGI 2009), 3.8.09, Arlington VA. The presentation file (in pdf and key formats) is available at

  http://kryten.mm.rpi.edu/PRES/AGI09/sb_hyper_agi09.pdf
  http://kryten.mm.rpi.edu/PRES/AGI09/sb_hyper_agi09.key

– Arkoudas, K., Bringsjord, S. "The History of Automatic Programming." Presentation in the Automatic Programming Track of the 2008 North American Computing and Philosophy Conference, July 12 2008, University of Indiana, Bloomington, IN. The presentation file is available at

  http://kryten.mm.rpi.edu/PRES/NACAP08/ka_sb_autprogatNACAP08.pdf

– Bringsjord, S. "Philosophical Computer Science; Philosophical X." European Computing and Philosophy (ECAP) Conference, June 16, 2008, Montpellier, France.

– Bringsjord, S., Taylor, J., Shilliday, A. (presenter), Clark, M. & Werner, D. "Provability-Based Semantic Interoperability via Translation Graphs." Presentation at 26^{th} International Conference on Conceptual Modeling (ER 2007), in the ONISW 2007 workshop. The presentation file is available at

  http://kryten.mm.rpi.edu/PRES/as_jt_sb_20071106_ONISW.pdf

– Bringsjord, S., Arkoudas, K., Mukherjee, D. (presenter), Shilliday, A., Taylor, J., Clark, M. & Bringsjord, E. "The Multi-Mind Effect." Presentation at the 2007 *International Conference on Artificial Intelligence*, in the *Extending Computational Cognitive Modeling to Issues of Multi-agent Interaction* workshop, Las Vegas, Nevada, June 28, 2007. The presentation file is available at

  http://kryten.mm.rpi.edu/PRES/ICAI07/ICAI_Pres_v06.pdf

– Bringsjord, S. "Aligning Computer Programming with Clear Thinking." Presentation at the 2007 European Computing and Philosophy (ECAP) conference, June 22, 2007, University of Twente, Enschede, The Netherlands. The main presentation file is available online (without corresponding demonstrations) at

  http://kryten.mm.rpi.edu/PRES/ECAP07/reason_ecap07.pdf

– Bringsjord, S., Arkoudas, K., Clark, M., Shilliday, A., Taylor, J., Schimanski, B. & Yang, Y. "Some Remarks on Logic-Based Machine Reading Research." Presentation at the 2007 Association for the Advancement of Artificial Intelligence Spring Symposium on Machine Reading, March 27, 2007, Stanford University, Palo Alto, CA. (Bringsjord and Taylor presenters.) The presentation file is available online at

  http://kryten.mm.rpi.edu/PRES/AAAISSS07MR/RAIR_Lab_AAAISSS2007MR.pdf

– Bringsjord, S. & Schimanski, B. "If Free Will is Necessary to to Behave Immorally, Robots are Off the Hook." Presentation at the 2006 North American Computing and Philosophy Conference, at RPI, August 12. The presentation is available online in video at

  http://www.cogsci.rpi.edu/conferences/cap/schedule.php

– Bringsjord, S. "The Logicist$^+$ Manifesto," *AI@50*, Dartmouth College, July 14, 2006. Presentation file can be found at

  http://kryten.mm.rpi.edu/PRES/AIat50/sb_AIat50.pdf
  http://kryten.mm.rpi.edu/PRES/sb_AIat50.key.tar.gz

– Arkoudas, A. & Bringsjord, S. "Computer Proofs and Justification" *European Computing and Philosophy Conference (ECAP) 2006*, Norwegian University of Science and Technology, June 23, 2006. Presentation file can be found at

  http://kryten.mm.rpi.edu/computer_proofs_justification_ecap06.pdf

– Two @ *Between a Hard Place: CogSci Principles Meet AI-Hard Problems*, AAAI Spring Symposium, March 27 & 28, 2006, Stanford CA:

  * Bringsjord, S. (presenter) & Clark, M., "For Problems Sufficiently Hard . . . AI Needs CogSci."
  * Plenary Presentation for the Symposium.

  The two presentations available at:

  http://kryten.mm.rpi.edu/PRES/AAAISS06/ai_progress_wrt_th89_aaaiversion.pdf
  http://kryten.mm.rpi.edu/PRES/AAAISS06/ai_progress_wrt_th89_aaaiversion.tar.gz
  http://kryten.mm.rpi.edu/PRES/AAAISS06/sb_rock_plenary.pdf
  http://kryten.mm.rpi.edu/PRES/AAAISS06/sb_rock_plenary.key.tar.gz

– Arkoudas, A., Bringsjord, S. & Bello, P., "Toward Ethical Robots via Mechanized Deontic Logic." Presented (by Bringsjord) at AAAI 2005 Fall Symposium on Machine Ethics, November 5, 2005, Washington, DC.

– "Slate: An Intelligent Assistant for Argument/Hypothesis Checking and Generation," at the Annual U.S. Computing and Philosophy Conference, Carnegie Mellon University, Pittsburgh, PA, August 5, 2004. Selmer Bringsjord & Andy Shilliday (Shilliday presenter).

– "Why Military Simulation Needs Formal Models of Reasoning and Decision-Making" [OR04-OR31-45], Bello, P., Bringsjord, S., % Yang, Y., at *Enabling Technology for Simulation Science VIII* (SPIE Defense and Security Symposium VIII), Orlando, FL, April 13, 2004. (Bello presented.)

– "Introducing CHOGIC: A Primitive Part of the MARMML Machine Reasoning System," Selmer Bringsjord, Konstantine Arkoudas, Yingrui Yang, Bram van Heuveln, Paul Bello, Joshua Taylor (Bello presenter). Delivered at the University of Pavia, Pavia, Italy, June 4, 2004.

– "Why Current K–12 Math Textbooks are Fundamentally Deficient in the Area of Formal Reasoning — and What To Do About It." One paper in the symposium: *A New Response to the 'Math Gap' Plaguing the United States: Teach Formal Reasoning*, with other papers presented by: Kostas Arkoudas, Yingrui Yang, Bram van Heuveln, and Paul Bello (researchers in the Rensselaer AI & Reasoning Lab, which gave this symposium). October 23, 2003, Kerhonkson, NY.

– "What is Artificial Intelligence? Psychometric AI as an Answer," *IJCAI–03*, Acapulco, Mexico, August 15, 2003. With Bettina Schimanski.

– Yang, Y. & Bringsjord, S. "Mental Metalogic and its Empirical Justifications: The Case of Reasoning with Quantifiers and Predicates." In R. Alterman & D. Kirsh, eds. Presentation (by Yang) at the 25^{th} Annual Conference of Cognitive Science Society (Boston), Summer 2003. Abstract appears in *The Proceedings of the 25^{th} Annual Conference of the Cognitive Science Society* (Mahwah, NJ: Lawrence Erlbaum Associates). Prior work was "Mental Metalogic and its Initial Empirical Justifications: The Case of Reasoning with Quantifiers and Monadic Predicates." In W. Gray & C. Schunn, eds., (2002) *The Proceedings of the 24^{th} Annual Conference of the Cognitive Science Society* (Mahwah, NJ: Lawrence Erlbaum), 1054.

– Yang, Y. (presenter), Zhao, Y., Zeng, J., Guo J., Ju, S. & Bringsjord, S. "A Cross-language Validation of Mental Logic and Mental Models." Presentation at the Fourth International Conference on Cognitive Science, Sydney, Australia, July 15 2003. Appears in P. Slezak, ed., *The Proceedings of the Fourth International Conference on Cognitive Science* (Sydney, Australia: University of New South Wales), 760–765.

– Bringsjord, S. "The Fragility of Evolution," CAP[12]–Europe, University of Glasgow, Scotland, March 29, 2003.

– "Agent-Based Real-Time Pedagogy for Proof Construction," *Computing and Philosophy Conference*, August 10, 2002, Carnegie-Mellon University, Pittsburgh, PA.

– Bello, P. & Bringsjord, S. "Realtime Agents in Support of Proof Construction," *2002 ASEE Annual Conference and Exposition*, June 18, 2002, Montreal, Canada.

– Bringsjord, E. & Bringsjord, S. "Exploring the Relationship Between Logic Background and Performance on the Analytical Section of the GRE," at NERA 2001, Kerhonkson, NY, October 25, 2001. Full paper available at

http://kryten.mm.rpi.edu/bringsjordx2.logic.gre1.doc

– Rinella, K. (presenter), Bringsjord, S., Yang, Yingrui "Efficacious Logic Instruction: People Are Not Irremediably Poor Deductive Reasoners," at CogSci 2001, University of Edinburgh, Scotland.

– "Mental Mental Metalogic: A New Paradigm in Psychology of Reasoning," The Third International Conference on Cognitive Science (ICCS2001) August 27-31, 2001, Beijing, China, with Yingrui Yang presenting.

– "The Lovelace Test," *The Future of the Turing Test: The Next Fifty Years*, Dartmouth College, January 29, 2000.

– "Story is . . .," thematic address for Fall Symposium on Narrative and Intelligence, American Association of Artificial Intelligence, November 7, 1999, Cape Cod, Massachusetts.

– "Hard Data in Defense of Logical Minds," *Annual International Conference on Computing and Philosophy*, Carnegie-Mellon University, August 6, 1999.

– "Scientifically Informative Discovery of (Gödel's) Model-Based Mathematical Discovery," MBR '99, University of Pavia, Pavia/Milan, Italy.

– "A Pilot Study on the Effectiveness of Hyperproof," with Elizabeth Bringsjord, annual meeting Northeast Educational Research Association, October 29, 1998, Ellenville, New York.

– "In Defense of Logical Minds," 20^{th} Annual Conference of the Cognitive Science Society, Madison, WI, August, 1998.

[12]International **C**omputing **a**nd **P**hilosophy Conference.

– "Chogic: Teaching Logic as Chess," annual meeting Northeast Educational Research Association, October 23, 1997, Ellenville, New York (with E. Bringsjord).

– "Chess Isn't Tough Enough: Better Games for Mind-Machine Competition," Deep Blue vs. Kasparov Workshop at the (July) 1997 annual meeting of the American Association of Artificial Intelligence, Providence, Rhode Island.

– "Explaining Phi Without Dennett's Exotica: Good Ol' Computation Does Just Fine," Bringsjord, S., Bringsjord, E., Noel, R., Daraio, J. & Viaggi, C. presented at the 1997 Annual Meeting of the Society for Philosophy and Psychology, New York, NY, June 5-8.[13]

– "Explaining Phi Without Dennett's Exotica: Good 'Ol Computation Works Just Fine," at *Annual International Conference on Computing and Philosophy*, Carnegie-Mellon University, August, 1996.

– "Consciousness, Phi, and Dennett," 1996 Annual Meeting of the Cognitive Science Society, UCSD, San Diego, CA, July 12, 1996, with Ron Noel, Geoff Ginader, and Elizabeth Bringsjord.[14]

– "Can Betrayal be Defined?" at *Annual International Conference on Computing and Philosophy*, Carnegie-Mellon University, August, 1995.

– "Mathematizing the Concept of Betrayal," Annual Meeting of American Association of Artificial Intelligence, Spring Symposium, Stanford, CA, March 27, 1995.

– "Dennett vs. Searle on Cognitive Science: It All Boils Down to Zombies, and Searle is Right," December 30, 1994, Annual Eastern Division Meetings of the American Philosophical Association, Boston, MA.

– "Is AI Provably Inconsistent with Recursion Theory?" 1994 Annual Computing and Philosophy Conference, Los Angeles, CA, August.

– "Can AI Accommodate Imagistic Expertise?" March, 1994, 1994 International Conference on Expert Systems, Asian Institute of Technology, Bangkok, Thailand. With E. Bringsjord.

– "Church's Thesis, *Contra* Mendelson, is Unprovable ... and Worse: It May Be False," December 30, 1993, Annual Eastern Division Meetings of the American Philosophical Association, Atlanta, Georgia.

– "Non-Algorithmic Expertise," May 14, 1993, Third Biennial Human & Machine Cognitive Workshop, Seaside, Florida, hosted by University of West Florida.

– "Toward Non-Algorithmic AI," September 10, 1992, AICS '92, Ireland's Biennial National Conference on AI and Cognitive Science, University of Limerick, Limerick, Ireland.

– "Quantum Computing and the Search for the Non-Algorithmic," August 13, 1992, with Michael Zenzen, '92 International Computing & Philosophy Conference, Orlando, Florida, University of West Florida.

– "Does AI Imply Dualism?," August, 1991, Sydney, Australia, International Joint Conference on Artificial Intelligence.

[13] A poster presentation done by Daraio, one of my graduate students.

[14] This presentation was accepted under the extended abstract track offered to members of the Cognitive Science Society, and presented by Ginader, one of my students at the time. Ginader's Java applet showing phi can be seen at

`http://www.rpi.edu/~brings/PHI/phiexp.html`

- "Could, How Could We Tell If, and Why Should–Robots Have Inner Lives?," May 10, 1991, Second Annual Workshop on Human and Machine Cognition, Institute of Human and Machine Cognition, University of West Florida, Pensacola, Florida.
- "Is Connectionism a Challenge to Traditional AI?," June 27, 1990, delivered at AI: Emerging Science or Dying Art Form?, workshop sponsored by the American Association for Artificial Intelligence and the State University of New York at Binghamton.
- "On the Introspective Impotence of Robots," April 27, 1990, Annual Meeting, Central Division, American Philosophical Association, New Orleans.
- "Christian Doctrine, Pacifism, and Nuclear Deterrence." The 1987 Midwestern Meeting of the Society of Christian Philosophers, October 9, 1987, Minneapolis, Minnesota.
- "The Puzzle of Split-Brain Phenomena." At the Annual Meeting of the Society for Philosophy and Psychology, May 17, 1985, University of Toronto, Toronto, Ontario, Canada.

- External, Invited

  - Bringsjord, S., two presentations, each with respondents, at the final symposium (June 14 & 15 2022, Lille, France) of the ANR-sponsored PROGRAMme project, directed by Liesbeth De Mol. The first was an expasion and update of "Are Computer Programs Uniformly Finite? A Size-based Progression of Programs Says 'No"'; the second an explansion and update of "Toward Transcedent Programs." The former presentation is devoted to setting out and defending a progression (viz. $\mathscr{P}$, see next entry) of ever-larger computer programs, from those that are finite and drive machines with architectures that are finite (e.g. finite state automata), to those that are infinitely long and drive machines whose architectures are infinite.and beyond the physical architectures of Turing machines and their equivalents.
  - Bringsjord, S.,"Are Computer Programs Uniformly Finite? A Size-based Progression of Programs Says 'No'," September 17 2021, during a week-long workshop ("Autumn workshop III) in the ANR-sponsored PROGRAMme "What is a (computer) program?" project, led by Liesbeth De Mol. The workshop was (thankfully!) held again in Bertinoro, Italy.

    Are Computer Programs Uniformly Finite?
    A Size-based Progression of Programs Says 'No'
    (abstract)

    People unfamiliar with the science, philosophy, history, and engineering of (computer) programs generally believe, it seems, that if anything is finite, a computer program is. They often not unreasonably view algorithms as recipes, know well that such a thing is seemingly nonsensical if not finite (a recipe for baking a cake that goes on forever isn't likely to please those who want to consume a piece), and regard programs as things that crisply capture recipes in rigorous "do this, do that" fashion. This we call "the received view." We explain that, as a matter of fact, the situation is rather more nuanced than the received view, despite it's being broadly affirmed. It is more accurate to conceptualize programs as falling into a progression $\mathscr{P}$ that starts with finitely long programs that drive finite (computing) machines smaller than the physical architecture of Turing machines and of their equivalents (e.g. unlimited random-access registers), and eventually reaches infinitely long programs that drive infinite machines more powerful than Turing machines. To keep things simple and digestible for those readers who hitherto have subscribed to the received view but are not familiar with technical details that will ultimately further analyze $\mathscr{P}$ into a finer-grained progression (e.g., transfinite numbers), we set $\mathscr{P}$ out in five steps I–V, ranging from the class of the "smallest" programs to the "largest" ones.

    Here's the link to the slides used (pdf):

    * http://kryten.mm.rpi.edu/PRES/BERTINORO2021/AreProgramsUniformlyFinite.pdf

– Bringsjord, S.,"Can the Right Math Foil Superhuman, Unethical AGIs? Yes," September 17 2021, as part of PHAEDE II Panel, chaired by Viorel Guliciuc and overseen by Piotr Boltuc.

Can the Right Math Foil
Superhuman, Unethical AGIs? Yes
(abstract)

> You, the reader of this sentence, as a member of *H. sapiens sapiens*, are not only intelligent, but *general*-intelligent. That is to say, you are a human, and your intelligence is general purpose, not narrow. You can: communicate in natural and formal languages, apprehend what's ethical vs. what's evil, create things (poems, essays, operas, paintings, etc.), do math, feel things (you have phenomenal consciousness), reflect upon the contents of your own mind, and so on. In stark contrast, so far the discipline of AI has brought forth only artificial agents having narrow intelligence, not general intelligence. In short, we have AIs, but not AGIs. But, some are absolutely convinced that superhuman AGIs will arrive, and fairly soon at that, and some also hold that, unless we act in certain ways now, superhuman AGIs, behaving unethically, will mean our doom. [Stuart Russell, for instance, is of this two-part opinion, and lucidly defends it (and what to do about the arrival of such machines), in his must-read recent book *Human Compatible*.]
>
> I provide here, gratis, a mathematical recipe for preventing the arrival of superhuman AGI that behaves in ways counter to the (cleverly-affirmed-by-us) rock-bottom non-negotiable ethical principle that our species should not be eliminated: viz.,
>
> Mathematically define superhuman AGI and, following on that, unethical superhuman AGI. Then, prove that such AGI is impossible. After that, sit down and have a libation of your choice (perhaps some Aquavit with herring; my selection is confessedly biased), and thoroughly relax, your job done, and hence humanity saved.

Here's the link to the slides used (pdf):

* http://kryten.mm.rpi.edu/PRES/IS4SI2021/MathAsProtectionAGI.pdf

– Bringsjord, S., "Poe's Detective Dupin in Porto, or: Is Inferred Data Private?", July 26 2021, ICRES 2021. Abstract for the talk:

> A certain rather small declarative database **Y** holds plenty of personal information about you. What information? Someone you happened to meet briefly by chance at a restaurant built **Y** after this meeting. The man you met was a pleasant French gentleman, a most polite and refined Monsieur Dupin, of Paris. You were with your spouse, and the two of you were invited to have a seat at the bar for an aperitif while your table was cleared and configured for the start of a gourmet dinner in Porto, Portugal, overlooking the great river itself. Dupin happened to be at the bar already, and you sat down next to him, with your spouse at your side; these were the last two available seats. You volunteered your full name to Dupin, and he knew immediately from that that while your residence at present isn't necessarily New York, you grew up there in large measure. When your spouse volunteered her name, only her first, he knew that the two of you both grew up within a relatively short distance of each other. Dupin also later installed in **Y** that your spouse took your last name upon marrying you. Dupin's **Y** also contains your age and that of your spouse as well, plus or minus (as noted in **Y**) five years. Dupin observed that both your spouse's purse and her shoes were designer brands, and that your watch was an Omega Speedmaster. Dupin generously insisted upon buying the both of you your apertifs, and asked what your preference would be between a glass of A versus a glass of B, both from — as he put it — his "backyard" back in France, and both, as Dupin knew, on the menu for the first time tonight — a menu he knew neither of you had looked at. Dupin started an internal timer running as he awaited your reply. Almost instantaneously and without missing a beat, you replied that this offer was very kind, and that you both would have B — which Dupin knew to be markedly less expensive than A; still quite dear, but much, much less.
>
> Dupin was later able to in fact add to **Y** an astonishing amount of data that he inferred from what as noted above he learned during your brief time together at the bar. (Do you see how?)
>
> Now, is what **Y** holds private data regarding you and your spouse? Is Dupin's assembling **Y** a violation of your privacy? I shall answer these questions both firmly in the negative, and in defense of these answers employ a sorities-style argument, one that begins from a particular Dupin-inferred fact in **Y**, namely that you know the aperitif (wonderful) options on the menu from north of the great river are "fizzy" because of added carbonation.

Here's the link to the slides used (pdf):

* http://kryten.mm.rpi.edu/PRES/ICRES2021_DUPIN/PoesDupinInPorto.pdf

– Bringsjord, S. (presenter), Govindarajulu, N.S. & Giancola, M., "The Deontic Logic of East-Asian Moral Cognition, for Robots," July 7 2021, CEPE/IACAP 2021, "The Philosophy and Ethics of Artificial Intelligence," Hamburg, Germany. Immediately below can be found the abstract for the talk, from the *Book of Abstracts* provided by the conference organizers, and then directly after that a link to a pdf version of the slide deck can be found.

> In a sizable body of work, Nisbett et al. claim there is a fundamental difference between Occidental versus East-Asian human reasoning. Encapsulated, the idea is that in the former case reasoning is often highly sensitive to classical inconsistency (which revolves around contradictions of the shape P & not-P), while in the latter case things are — and here we quote — "dialectical." Now, taking note of the fact that, over the past two decades, more than a few researchers — in what is variously e.g. called 'machine ethics' or 'robot ethics' — have toiled toward the production of machines/robots that are *themselves* ethically correct (or at least competent), we ask the following question: What would it take to build such a robot that is ethically correct within the East-Asian dialectical paradigm? Under the assumption that the ethical theory to be used in such building in Confucian in nature, we answer this question, after first showing how the Nisbettian East-West dichotomy is dissolved by way of a novel kind of logic-based adjudication that captures dialectical reasoning (including the Nisbettian/East-Asian variety) through time. Computational simulations that support and concretize our answer are provided.

  Here's the link to the slides used (pdf):

  * http://kryten.mm.rpi.edu/PRES/FOURSTEPSCONFUCIAN/FourStepsConfucianMachineEthics.pdf

– Bringsjord, S.,"Rodin's The Gates of Hell as a Computer Program, and an Exemplar of the Class," part of a roundtable at *Society of Philosophy & Technology* (SPT) 2021, Lille, France, June 28 2021. (This is work enabled by the PROGRAMme project, L. De Mol, sponsor: ANR.) The first of the links below will take you to a video-lecture version by yours truly; the second will give you a pdf of my slides.

  * http://kryten.mm.rpi.edu/PRES/RODINPROGRAMMINGSPT062821/SelmerBringsjordRodinAsProgrammerv2.mov
  * http://kryten.mm.rpi.edu/PRES/RODINPROGRAMMINGSPT062821/SB_ProgrammingQuaRodin.pdf

– Bringsjord, S., moderator of "PROGRAMme Roundtable on Free Software,"[15] June 9, 2021. Participants included: Henri Sepheanou (organizer and creator of the five questions that drove discussion/debate; for that quintet please see that deck available via the link immediately below), Martin Carlé, Gaël Duval, and Bastien Guerry.

  * http://kryten.mm.rpi.edu/PRES/FREESOFTRT060921/freesoftwareelements.pdf

– Bringsjord, S., Bringsjord, A. & Govindarajulu, N.S., "On International Paternalistic Taxation to Address The Mess That 'Machine Learning' is Making,"keynote lecture to open the conference, September 28 2020, ICRES 2020,Taipei, Taiwan. (S Bringsjord presented.) This was a hybrid conference: part virtual, part face-to-face (for those in Taipei). A video of the lecture can be viewed by using the the first link that immediately follows; the subsequent two links go to the slide deck in Keynote, and then in pdf, resp.

  http://kryten.mm.rpi.edu/PRES/PATAX_ICRES2020/SBringsjord_etal_TaxML.mov
  http://kryten.mm.rpi.edu/PRES/PATAX_ICRES2020/SBringsjord_etal_TaxML.key
  http://kryten.mm.rpi.edu/PRES/PATAX_ICRES2020/SBringsjord_etal_TaxML.pdf

– Bringsjord, S., "The Argument for God's Existence from AI," keynote presentation at PHEADE 2019, October 18 2019, "Ştefan cel Mare" University of Suceava, Suceava, Romania. Below please find the abstract immediately below, and then, following that, a link to slides in pdf form.

[15] This isn't software that's free of charge; rather, this is software that satisfies the "axioms" of the Free Software movement. See the slide deck made available immediately below for details.

The Argument for God's Existence From AI (abstract)

Selmer Bringsjord
Keynote Talk for PHEADE 2019
"Ștefan cel Mare" University of Suceava
Suceava, Romania
October 17 2019

When languishing on what he thought was his deathbed, Kurt Gödel shared with his student (at the time) Dana Scott a handwritten, purported proof of God's existence that built upon prior effort along the same general line by Leibniz, who was in turn was building upon original work by Descartes and (originally) Anselm. Decades later, 21st-century AI, led by Benzmüller et al., vindicated the reasoning of Gödel (& Scott & Leibniz). (I leave aside the twist that the Scott-copied-from-Gödel's-notebook version turned out to be formally valid, while apparently the version Gödel intended is not.) However, the class of arguments here did not make crucial use of the overall field of AI, and its impressive progress. (As I explain, only the narrow sub-area automated reasoning within contemporary AI bolstered Gödel et al.) In contrast, I argue that AI's progress as a field, which is slow but inexorable, implies (given some very reasonable additional information) that God exists. How does my reasoning run? In a nutshell, it's really quite simple: AI's progress shows that artificial agents will soon arrive that have the ability to do most things most humans do for work, and certainly with the ability to do what nonhuman animals do. But these artificial agents will be fundamentally simple, intellectually speaking, compared to us. As I explain, of the two co-discoverers of evolution, this vindicates theist Wallace over atheist Darwin. In short, AI confirms that Wallace was right, and Darwin wrong: the power of the human mind was not produced by the needs of mere survival operating on mutations. Such a mechanism of production can produce AI, but not us.

http://kryten.mm.rpi.edu/PRES/ROMANIA2AIARGGOD/SBringsjordArgGodExistsAI.pdf

– Bringsjord, S., "AI is Idolatry," keynote presentation at EPHES 2019, October 17 2019, "Ștefan cel Mare" University of Suceava, Suceava, Romania. Below please find the abstract, and then slides in pdf form.

AI is Idolatry (abstract)

Selmer Bringsjord
Keynote presentation for EPHES 2019
"Ștefan cel Mare" University of Suceava
Suceava, Romania
October 17 2019

With some help from formal logic (and *Star Trek TOS*), I define idolatry, an accomplishment that turns out to be surprisingly hard-won. Definition in hand, I then show, by taking stock of "Strong" AI (SAI; pronounced — suggestively? — "sigh") of yesterday, today, and (as projected by SAIniks themselves) tomorrow, that — abbreviating — SAI is indeed a form of idolatry. If I'm right, those who take The Ten Commandments seriously will take SAI less so, and even those who are not of a Judeo-Christian persuasion should, I claim, have deep reservations about "Strong" AI. I end by recommending a sensible, non-idolatrous form of AI: a particular form of "Weak" AI, which I, on the side of the angels, pursue.[16]

http://kryten.mm.rpi.edu/PRES/ROMANIA2IDOLATRY/SBringsjord_AI_Idolatry.pdf

– Bringsjord, S.,"Transcendent Programs," October 5 2019, during a week-long workshop ("Autumn workshop II: Programming Languages and Notations") in the ANR-sponsored PROGRAMme "What is a (computer) program?" project, led by Liesbeth De Mol. The workshop was held in Bertinoro, Italy.

Transcendent Programs (abstract)

I introduce the concept of a *transcendent computer program*, so called because it rises above any particular, familiar sort of computer program in an established programming paradigm, such as the familiar procedural, functional, and logicist ones. The door to the space of transcendent programs is, I explain, the Church-Turing Thesis (CTT); the door is opened by relatively simple reflection upon CTT; and the first few steps for passing into this new space are to be sought by examination of some attempts to prove or disprove CTT. I consider the possibility that the space of transcendent programs has been to a degree anticipated by others in earlier work not connected to CTT.

[16]This perhaps best termed 'Weak Strong AI,' which can be distilled to the position that AI can engineer machines that match the *behavior* of human persons, but can't possibly engineer human persons themselves. This position is articulated and defended in *What Robots Can and Can't Be* (Bringsjord, 1992).

– Bringsjord, S., Govindatajulu, N.S, Sen, A. & Giancola, M., "Toward Smart Cities at the Mental Level via Tentacular AI," July 29 2019, London, UK. (Giancola presented.) Smart Cities Workshop at ICRES 2019; workshop run by Isabel Ferreira.

Abstract

Tentacular AI, or for short simply 'TAI' (rhymes with 'tie'), is a new form of distributed, multi-agent AI. Of the six distinguishing marks of a TAI agent[17] one is that it's able to recruit interconnected, subsidiary, "lesser" agents in order to achieve goals in the realm of the purely mental, in the minds of human persons. (Often this realm is said to be at the level of "Theory of Mind.") For instance, a TAI agent might strive to bring it about that a human person for whom it works has certain knowledge, or emotions, or certain beliefs about the mental states of other people (where those other people in turn might well have particular mental states themselves). When people speak of "smart cities," almost invariably the goals to be obtained by relevant AI agents are non-mental. For instance, in non-smart cities, car parking is chaotic, public transportation is less coördinated, energy use is wasteful, and so on; all these negative things to be rectified are indeed bad, but are in the realm of the inanimate/non-mental. Now, what might it be like for a human person, say Alfred, to live in New York City, supported by powerful TAI agents able to bring it about that Alfred has the states of mind that he seeks? This is the question explored in this presentation. The exploration is based on the availability of certain tailor-made-for-TAI computational logics, and cutting-edge automated-reasoning and automated-planning technology that brings these logics to life.

– Bringsjord, S., "Must (Computing) Machines Be Mechanical? If So, Can They Be 'Naked'? And What are Brains/Persons, Mathematically Speaking?" June 7 2019, Lille, France, in *Spring Workshop I* in the ANR PROGRAMme project led by Liesbeth De Mol.[18] The abstract for the presentation is given immediately below, after which links to the slide deck in Keynote and pdf forms (resp.) are provided.

Abstract

Certainly anyone schooled in classical computability theory, at least if that schooling happened at some point in the last few decades, has at some point been told, or read, that computational solvability can be formally cashed out as *mechanical* solvability, where by 'mechanical' is meant something akin to interacting macroscopic gears and levers. Hence we have e.g. a longstanding, authoritative, representative treatment of mechanical solvability of the Turing-machine variety, from Boolos and Jeffrey**, in which, explicitly, the machines in question are identified with such contraptions as a simple pump-action mechanical boxcar riding on a rail track. In this regard, B&J are far from alone, since there are myriad depictions along this line; and in addition, those who are said to have "come close" to designing and building a general-purpose machine before, say, 1930 (Leibniz, e.g.), seemed to be without question tinkering with mechanical movement a la B&J et al. Of course, this raises the question: Must machines, including specifically (and given present purposes, most importantly) machines that compute, be mechanical? If the answer is Yes, then can the machines in question be "naked" or "unaided" machines, i.e. machines without a helpful connection to the world outside them, which supplies e.g. a program? The second of these questions has of late risen up because of the view, recently advanced by Richard Granger and colleagues*** , that the human brain is a machine, and one that computes, but should be classified as a "naked" or unaided-by-outside-it-elements machine, in which case it turns out to have even less power than a linear-bounded automaton. This would be a shocking result, since it certainly appears that we can simulate Turing machines (let alone LBAs), an apparent fact that grows all the more undeniable when our simulation is thought of as our merely moving a mechanical contraption, such as the aforementioned boxcar.

$**$: Multi-edition textbook: *Computability & Logic*.

$***$: E.g. see paper in *Theoretical Computer Science*: "The Grammar of Mammalian Brain Capacity" (2015).

http://kryten.mm.rpi.edu/PRES/NAKEDMACHINES/SB_NakedMachines.key

[17] See http://kryten.mm.rpi.edu/TAI/tai.html.

[18] This presentation relates to a project to which Naveen Sundar G and Qigeng Li are contributing, and Bringsjord is grateful to them for conversations.

http://kryten.mm.rpi.edu/PRES/NAKEDMACHINES/SB_NakedMachines.pdf

– Bringsjord, S., "Logic, AI, and (Pure General) Logic Programming: The Disastrous Disunion," April 10 2019, for Séminaire Histoire et Philosophie de l'Informatique et du Calcul, at Institut d'Histoire et Philosophie des Sciences et des Techniques, Paris [The Institute for the History and Philosophy of Science and Technology (IHPST)]. Following immediately below, please find the abstract for the talk, and Bringsjord's slide deck in both pdf and Keynote forms (resp.).

Abstract

Relevant history being what is, humanity missed its first great chance to maintain the triadic union of logic, AI, and logic programming that Leibniz erected; and to, standing firmly upon that triad, reach great heights that are in fact now at best pipe dreams. In 1956, the pinnacle of AI at its very dawn was Logic Theorist (LT), an automated theorem prover created by Simon and Newell; soon thereafter the best AI on the planet was their even-better artificial reasoner: General Problem Solver (GPS) of 1959. LT and GPS exemplified the triad. But today, while cutting-edge automated reasoning is in fact impressive and soldiers on, the triad is broken apart and its pieces have been cast aside as remnants of a carcass; and AI is identified not with stunning automated reasoning, but rather with silly and humble black-box systems that for example recognize objects in pictures courtesy of massive amounts of data provided beforehand, and high performance in easy games (like Go) that is based on little more than what a calculator does. Hence all we have today is — and yes, this is an oxymoron if ever there was one — unintelligent AI. On the programming front, the history is a parallel one, and just as disastrous. Programming had a chance to embrace and build upon the triad of logic, AI, and computation, in order to program computers elegantly, powerfully, and transparently. Cordell Green pointed to how to use the triad in 1969, and while Prolog and its variants are somewhat related and have survived, they are both decidedly impure (contaminating declarative content with procedure), and, by any metric, if not carcasses, then certainly marginalized in favor of inscrutable code that perhaps even God can't verify.

http://kryten.mm.rpi.edu/PRES/DISUNIONIHPST041019/SBringsjord_Disunion_IHPST.pdf
http://kryten.mm.rpi.edu/PRES/DISUNIONIHPST041019/SBringsjord_Disunion_IHPST.key

– Bringsjord, S., panelist in "AI, Ethics, Society & Policy," at the AI Policy Forum, November 28 2018, at the Rockefeller Institute of Government, hosted by the Office of Research & Economic Development (in SUNY System) and the Rockefeller Institute of Government.

– Bringsjord, S.,"Introducing Pure General Logic Programming (PGLP), a Leibnizian Paradigm." October 2018, during a week-long workshop ("Formalisms at the Interface with Machines, Languages and Systems") in the ANR-sponsored "What is a (computer) program?" project, led by Liesbeth De Mol.[19]

Abstract

I introduce a new programming paradigm: PGLP. The introduction includes coverage of logic programming (LP), including specifically its earliest, debate-filled days, as well as what has been and is called "pure" LP, in which of course control, which infects e.g. Prolog, is banished. Along the way, I remind listeners that so-called "computational thinking," at least in the United States, is invariably taken to be co-extensive with a kind of thinking bound inseparably to procedural/imperative, and/or functional, and/or object-oriented thinking. Nothing could be more ironic than this state-of-affairs, in which LP is nowhere to be seen in descriptions of computational thinking in the literature, nor in recent calls for schoolchildren to learn "programming" early on. The reason is that systematic thinking, by definition, is all and only logic in action. Hence, for little Johnny or Sally to write, say, a simple procedural program is nothing less than for him/her to first write a (mental) logic program, and to then express that program procedurally.

Why is PGLP Leibnizian? We don't give Leibniz credit for discovering programs and programmability in the modern sense of these terms. In light of the relevant evidence (E) hitherto examined, this is probably wise restraint, for while Leibniz invented the binary number system, and while the Step Reckoner is impressive, it appears that on the basis of E Leibniz didn't quite get there first. [Church

[19]The syntax of PGLP was expanded on July 12 2019.

(or Post?), presumably did, with Turing not far behind.] Alas, this is incorrect. E is simply incomplete, as I explain. My claim is that on the broader evidence, at a minimum, Leibniz unconsciously had a kernel of a *bona fide* conception of programs and programmability — but to modern, myopic eyes, this conception is camaflouged by logicist content. The introduction of PGLP serves to explain my claim. Even if the claim is wrong, I think PGLP would please Leibniz, greatly.

http://kryten.mm.rpi.edu/PRES/PGLPBERTINORO/SBringsjord_PGLP_Bertinoro.key
http://kryten.mm.rpi.edu/PRES/PGLPBERTINORO/SBringsjord_PGLP_Bertinoro.pdf

– Bringsjord, S., (with generous help from Atriya Sen) "Could an AI Ever be The World's Best Crossword Puzzle Solver?" Hearst Media Center, *Times Union* Building, Albany NY, September 22 2018. A recording (after the live performance) is available at the first of the three links immediately below, followed by a link to the slides in Keynote, and then those slides in pdf:

http://kryten.mm.rpi.edu/PRES/AICROSSWORDPUZZLESTU/Bringsjord_CrossPuzzTU.m4v
http://kryten.mm.rpi.edu/PRES/AICROSSWORDPUZZLESTU/Bringsjord_CrossPuzzTU.key
http://kryten.mm.rpi.edu/PRES/AICROSSWORDPUZZLESTU/Bringsjord_CrossPuzzTU.pdf

– Bringsjord, S., Govindarajulu, N.S., & Angel, J. "AI, Education, & ... the Logic of Teleportation." (Bringsjord presented.) Presentation at "The Inspiration of AI on Education and Scientific Research," a symposium generously sponsored by GTCOM, and co-located with AERA 2018, April 14 2018, Manhattan, NY. A full slide-and-audio recording of Bringsjord giving the presentation is available at the first of the links below, after which follows Keynote, and then a static pdf version of the slides.

http://kryten.mm.rpi.edu/PRES/TELEAERA2018/AI_Ed_Teleportation.m4v
http://kryten.mm.rpi.edu/PRES/TELEAERA2018/AI_Ed_Teleportation.key
http://kryten.mm.rpi.edu/PRES/TELEAERA2018/AI_Ed_Teleportation.pdf

– Bringsjord, S., Govindarajulu, N.S., Licato, J. Presentation at The Rock Institute, at Penn State University, State College PA, March 16 2018, in the workshop "Developing Implicitly Ethical and Norm Competent Robots:" "Artificial Phronēsis in Morally Virtuous Robots."

– Bringsjord, S., Govindarajulu, N.S., Malle, B., Scheutz, M. "Contextual Deontic Cognitive Event Calculi for Ethically Correct Robots." (Bringsjord presented.) Presentation was at the International Symposium on Artificial Intelligence and Mathematics 2018 (ISAIM 2018), January 3 2018, Fort Lauderdale, FL. The hotlinks below provide, resp., the slide deck in Keynote and pdf form, and then a movie (`m4v`) showing some key interoperability (in the form of corresponding theorems) between norms as represented by Malle and Scheutz, to/from such propositions as represented by Bringsjord and Govindarajulu in deontic cognitive event calculi.

http://kryten.mm.rpi.edu/PRES/ISAIM2018/SB_NSG_BM_MS_cdl_010218FL.key
http://kryten.mm.rpi.edu/PRES/ISAIM2018/SB_NSG_BM_MS_cdl_010218FL.pdf
http://kryten.mm.rpi.edu/PRES/ISAIM2018/context_interoperability_theorems.m4v

– Bringsjord, S. & Govindarajulu, N.S., "Derailing 'Computational Thinking'." (Bringsjord presented.) Presentation given at the pre-launch roundtable for "What is a (computer) program?" October 20 2017 at CNAM, Paris, France. This is the pre-launch event of the ANR JCJC-funded project "What is a program? Historical and Philosophical Perspectives" (PI: Liesbeth De Mol). The presentation files, in Keynote, pdf, and video (`m4v`) resp., are available here:

http://kryten.mm.rpi.edu/PRES/WiaCPPARISOCT202017/Bringsjord_WiaCP_ParisOct2017.key
http://kryten.mm.rpi.edu/PRES/WiaCPPARISOCT202017/Bringsjord_WiaCP_ParisOct2017.pdf

http://kryten.mm.rpi.edu/PRES/WiaCPPARISOCT202017/Bringsjord_WiaCP_ParisOct2017.m4v

– Bringsjord, S. (with Govindarajulu, N.S., Sen, A. & Ghosh, R.) "Without Artificial General *Moral* Intelligence, We're Dead." TED-style presentation in at "A Symposium on AI and Society," Oct 11 2017, Tokyo, Japan. Organizer: Next Generation Artificial Intelligence Research Center at the University of Tokyo. Partners: Araya Inc, GoodAI, and numerous other institutions. The presentation files, in Keynote, pdf, and video (m4v) resp., are available here:

http://kryten.mm.rpi.edu/PRES/TOKYOAGMI/Bringsjord_AGMI_Tokyo2017.key
http://kryten.mm.rpi.edu/PRES/TOKYOAGMI/Bringsjord_AGMI_Tokyo2017.pdf
http://kryten.mm.rpi.edu/PRES/TOKYOAGMI/Bringsjord_AGMI_Tokyo2017.m4v

– Bringsjord, S. & Govindarajulu, N.S. "The Patent Peril of Facing Future Machines Without the Humanities." (Bringsjord presented.) Invited presentation given August 7 2017 for Symposium on Ethical, Legal, and Political Issues of Computing (ELPIC), within World Humanities Conference 2017, Liège, Belgium. An abstract for the talk is available here. The presentation files, in Keynote and pdf, resp., are available here:

http://kryten.mm.rpi.edu/PRES/HUMANITIESLIEGE/SB_PAID_Humanities_Liege.key
http://kryten.mm.rpi.edu/PRES/HUMANITIESLIEGE/SB_PAID_Humanities_Liege.pdf

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- The following four entries are all in SRI's *Technology & Consciousness* Conference Series. A short document listing the quartet, short abstracts included, is available here.

1 Bringsjord, S., Govindarajulu, N.S., Ghosh, R.. (with Matt Peveler & Gavin Pittelli) "Extremely Emotional Robots; and Extremely Self-Knowledgeable Robots Able to Conquer the Knowability Paradox" Presented at the July 17–21 2017 Focussed Session *Philosophical Perspectives* in the *Technology & Consciousness* conference series sponsored and coördinated by SRI, in Menlo Park, CA. Bringsjord presented, on July 19 2017. The slide deck, in Keynote (which contains the robust video demos) and pdf form, resp., is available here (email S Bringjord directly for the password in these FOUO files):

http://kryten.mm.rpi.edu/PRES/SRITECHCONSCIOUSNESS/SB_Emotions_KnowabilityParadox.key
http://kryten.mm.rpi.edu/PRES/SRITECHCONSCIOUSNESS/SB_Emotions_KnowabilityParadox.pdf

2 Bringsjord, S. & Govindarajulu, N.S. (with Bello, P. & Sen, A.) "Axiomatizing HLC-Consciousness, and & Linking to Axiomatic Physics." Presented at the June 19–23 2017 Focussed Session *Computational, Mathematical, and Physics-Based Formalisms* in the *Technology & Consciousness* conference series sponsored and coördinated by SRI, in Cambridge U.K. Bringsjord presented, on June 20 2017. The slide deck, in Keynote and pdf form, resp., is available here (email S Bringsjord directly for the password for these FOUO files):

http://kryten.mm.rpi.edu/PRES/SRITECHCONSCIOUSNESS/SB_CA_axiom_system.key
http://kryten.mm.rpi.edu/PRES/SRITECHCONSCIOUSNESS/SB_CA_axiom_system.pdf

3 Bringsjord, S., Govindarajulu, N.S., Sen, A. & Angel, J. "Consciousness and *Formalized* Discontinuity." Presented at the June 12–16 2017 Focussed Session *Neuroscience and Cognitive Science* in the *Technology & Consciousness* conference series sponsored and coördinated by SRI, in Menlo Park, CA. Bringsjord presented, on June 13 2017. The slide deck, in Keynote and pdf form, resp., is available here (email S Bringsjord directly for the password for these FOUO files):

http://kryten.mm.rpi.edu/PRES/SRITECHCONSCIOUSNESS/SB_con_formalized_discontinuity.key

http://kryten.mm.rpi.edu/PRES/SRITECHCONSCIOUSNESS/SB_con_formalized_discontinuity.pdf

4 Bringsjord, S., Govindarajulu, N.S., Sen, A. "The Irreversibility of Consciousness, Modernized." Presented at the May 22–26 2017 Focussed Session *Philosophical Perspectives* in the *Technology & Consciousness* conference series sponsored and coördinated by SRI, in Arlington, VA. Bringsjord presented, on May 23 2017. The slide deck, in Keynote and pdf form, resp., is available here (email S Bringjord directly for the password in these FOUO files):

http://kryten.mm.rpi.edu/PRES/SRITECHCONSCIOUSNESS/modernizing_irreversibility_consciousness.key
http://kryten.mm.rpi.edu/PRES/SRITECHCONSCIOUSNESS/modernizing_irreversibility_consciousness.pdf

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– Bringsjord, S., Govindarajulu, N.S., Sen, A., Elmore, C. & Puppala, R. "Inaugurating the Formal Science of Darwin's Mistake." Bringsjord presented, and this was a Keynote talk launching the 28^{th} MAICS conference (MAICS 2017), at IPFW in Fort Wayne IN, April 28 2017. The slide deck, in pdf form, is available here:

http://kryten.mm.rpi.edu/PRES/MAICS2017DISCONTINUITY/SB_etal_formalizing_discontinuity.pdf

– Bringsjord, S. "AI of Today: What Would Leibniz Say?." *At Leibniz's Visions Three Centuries After*, Athenaeum's Aula Magna, University of Turin, Turin, Italy, November 14 2016.

– Bringsjord, S. "Righteous Robots, From Leibniz." Lecture and seminar delivered at Nexa Center for Internet & Society, at Politecnico di Torino (Turin, Italy), November 16 2016. The presentation centered around the ethical hierarchy $\mathscr{EH}$(see "Publications"), and a series of demonstrations of robots that scale this hierarchy, from robots fulfilling their legal obligations, to those fulfilling their moral obligations, to those acting in supererogatory[1] fashion, to — finally — those acting in supererogatory[2] (= heroic) fashion.

– Bringsjord, S. "Can Phronetic Robots be Engineered by Computational Engineers? No . . . and Yes." Plenary talk at *Robophilosophy 2016*, Aarhus University, Aarhus, Denmark. The slide deck, in Keynote form, includes videos of phronetic robots in action, and, along with a pdf version devoid of the video included in the Keynote version, is available here:

http://kryten.mm.rpi.edu/PRES/PHRONESISDENMARK/Bringsjord_Robophilosophy2016.key
http://kryten.mm.rpi.edu/PRES/PHRONESISDENMARK/Bringsjord_Robophilosophy2016.pdf

– Bringsjord, S. & Sen, A. "On Creative Self-Driving Cars: Hire the Computational Logicians." November 26 2015, Vienna, Austria, at the Austrian Research Institute for Artificial Intelligence (OFAI), of the Austrian Society for Cybernetic Studies (OSGK). (Bringsjord presented.) Slide decks are available here:

http://kryten.mm.rpi.edu/PRES/OFAICARS/SB_AS_CreativeSelf-DrivingCars.pdf
http://kryten.mm.rpi.edu/PRES/OFAICARS/SB_AS_CreativeSelf-DrivingCars.key

– Bringsjord, S., Hummel, J., Licato, J., Sen, A. & Wilmer, S. "New Directions in the Great Computational Intelligence in the Formal Sciences via the Integration of Analogical and Unified Deductive-and-Inductive Reasoning." November 17 2015, Arlington, VA. (Bringsjord presented.) Slide decks are available here:

http://kryten.mm.rpi.edu/PRES/PIMTGAFOSR1115/SBringsjord_etal_Prog_Rev_111715.pdf
http://kryten.mm.rpi.edu/PRES/PIMTGAFOSR1115/SBringsjord_etal_Prog_Rev_111715.key

– Bringsjord, S. & Bringsjord, A. "Can Accomplices to Fraud Will Themselves to Innocence, and Thereby Dodge Counterfraud Machines?" November 12 2015, at the Fall AAAI Symposium *Deceptive and Counter-Deceptive Machines* 2015, Arlington VA. (S Bringsjord presented.) Slide deck is available here:

  http://kryten.mm.rpi.edu/PRES/FRAUDBELIEFFSS15/SB_AB_will2innocence.pdf
  http://kryten.mm.rpi.edu/PRES/FRAUDBELIEFFSS15/SB_AB_will2innocence.key

– Bringsjord, S. "Could a Robot be a *Bona Fide* Hero?" A TED_{x} talk in Limassol, Cyprus, October 3, 2015. Video of talk available on YouTube here:

  https://www.youtube.com/watch?v=2Y5eC9Vp5Do

– Bringsjord, S. "Well, *Zombie* Autonomy is Fearsome." CEPE–IACAP 2015 Joint Conference, University of Delaware, June 22, 2015. Slides are available here:

  http://kryten.mm.rpi.edu/PRES/IACAPUDELZOMBIEAUT/WorrisomeEquation_062215.pdf
  http://kryten.mm.rpi.edu/PRES/IACAPUDELZOMBIEAUT/WorrisomeEquation_062215.pdf

– Bringsjord, S., Licato, J., Si, M., Johnson, J. & Ghosh, R. "Morally Competent Robots: Progress on the Logic Thereof," December 18 2014, Symposium on Robot Ethics, Tuft University (HRI Lab), Medford, MA. Update of r&d on MURI grant (Scheutz PI, Bringsjord Co-PI, Malle Co-PI, Si Co-PI; see "Grants.") Slide deck is available via the two links immediately below. (The first link is to a "flat" pdf containing no video; the second to a zipped version of a Keynote file that contains video.)

  http://kryten.mm.rpi.edu/PRES/MURIBOSTON121814/MURI_Slides_SB_JL_121814d.pdf
  http://kryten.mm.rpi.edu/PRES/MURIBOSTON121814/MURI_Slides_SB_JL_121814d.key.zip

– Bringsjord, S., Govindarajulu, N.S., Licato, J., Thero, D., Si, M., Johnson, J. & Ghosh, R. "Morally Competent Robots: Progress on the Logic Thereof," August 15 2014, Tuft University, Medford, MA. Update of r&d on MURI grant (Scheutz PI, Bringsjord Co-PI, Malle Co-PI, Si Co-PI; see "Grants.") Slide deck is available via the links immediately below (first pdf version of the deck, then zipped Keynote version, and then video demonstrations are available by way of the third link).

  http://kryten.mm.rpi.edu/PRES/MURIMEDFORD081513/MURI_Slides_Aug_15_2014_v3.pdf
  http://kryten.mm.rpi.edu/PRES/MURIMEDFORD081513/MURI_Slides_Aug_15_2014_v3.key.zip
  http://kryten.mm.rpi.edu/PRES/MURIMEDFORD081513/Demo_Video_Two_Scenarios.mov

– Bringsjord, S. & Govindarajulu, N.S. "Two Refutations of Hegemonic Bayesianism." Keynote lecture given by Bringsjord on July 2 2014 (Thessaloniki, Greece), in connection with his receiving the Covey Award (for "Excellence in the Area of Research in Computing and Philosophy") from the International Association for Computing and Philosophy. Slide deck is available here:

  http://kryten.mm.rpi.edu/PRES/IACAP2014COVEY/SB_NSG_IACAP2014.pdf
  http://kryten.mm.rpi.edu/PRES/IACAP2014COVEY/SB_NSG_IACAP2014_09.key

– Bringsjord, S. & Govindarajulu, N.S. "Toward 'Invincible' Automated Spear Phishing." Presentation and demonstration at *Cybersecurity Hard Problems Workshop II: Applications and Future Directions*, at the Cyber Research Institute (CRI), within the Griffiss Institute, July 30 2014, Rome, NY.

  http://kryten.mm.rpi.edu/PRES/NWPCRIROME/SB_NSG_Invincible_Spear_Phishing_CRI_09.pdf
  http://kryten.mm.rpi.edu/PRES/NWPCRIROME/SB_NSG_Invincible_Spear_Phishing_CRI_09r.key

– Bringsjord, S. "The Why, Assessment, and 'Virtue Boundary' of Autonomous Agents." CEPE 2014, June 24 2014, Paris, France. Slide deck available here:

  http://kryten.mm.rpi.edu/PRES/CEPE2014/SB_CEPE2014_062414-09.pdf

http://kryten.mm.rpi.edu/PRES/CEPE2014/SB_CEPE2014_062414-09.key

– Bringsjord, S. & Govindarajulu, N.S. "The Computational Logic of Operation Mincemeat, Story Augmentation, and Automated Spear Phishing." Institute for Human & Machine Cognition, Ocala, FL, April 23, 2014. Abstract available here:

http://kryten.mm.rpi.edu/SB_NSG_StoryAug_SpearPhishing_IHMC.txt

– Govindarajulu, N.S., Bringsjord, S., Licato, J. & Pomeranz, M. "First Steps in Going from DeepQA to DynamicQA." Presentation by Bringsjord at *Advances in Cognitive Systems* 2013, Baltimore MD, December 13 2013. Slide deck available here:

http://kryten.mm.rpi.edu/PRES/WATSONACS/ACS_DynamicQA_selmer.pdf
http://kryten.mm.rpi.edu/PRES/WATSONACS/ACS_DynamicQA_selmer.key

– Bringsjord, S., Hummel, J., Wojtowicz, R., Licato, J., Govindarajulu, N.S. & Taylor, J. "Great Computational Intelligence via the Integration of Analogical and Deductive Reasoning." Annual Program Review, AFOSR, Washington DC, December 9, 2013. Bringsjord presented. Slide deck available here:

http://kryten.mm.rpi.edu/PRES/PIMTGAFOSR1213/SBringsjord_etal_Prog_Rev_120913.pdf

– Bringsjord, S. & Govindarajulu, N.S. "What Does Watson 2.0 Tell us About the Philosophy, Theory, and Future of AI?" at *Philosophy and Theory of Artificial Intelligence 2013* (PT-AI 2013), Oxford, UK, September 21, 2013 (Bringsjord presented). Slide deck available here:

http://kryten.mm.rpi.edu/PRES/PTAI2013/SB_NSG_PTAI2013_092113.key
http://kryten.mm.rpi.edu/PRES/PTAI2013/SB_NSG_PTAI2013_092113.pdf

– Bringsjord, S., Govindarajulu, N.S. & Si, M. "Moral Competence in Computational Architectures for Robots: Foundations, Implementations, and Demonstrations." Presentation by Bringsjord at December 14 2013, Georgetown Law School, Washington DC, December 14 2013. Kickoff for MURI. PI: M. Scheutz; Co-PI at Brown University: B. Malle. Co-PIs at RPI: S. Bringsjord & M. Si. Consultants: J. Knobe (Yale) & J. Mikhail (Georgetown Law).[20]

– Bringsjord, S. & Licato, J. "By *Dis*analogy, Cyberwarfare is Utterly New." Presentation at the NATO *Workshop on Ethics of Cyber Conflict* in Rome, Italy (Center for High Defence Studies), November 22 2013, sponsored by the NATO Cooperative Cyber Defence Centre of Excellence in Tallinn, Estonia. Slide deck available here:

http://kryten.mm.rpi.edu/PRES/ROMECYBERWARFARE/SB_JL_CCDCOECyber.key
http://kryten.mm.rpi.edu/PRES/ROMECYBERWARFARE/SB_JL_CCDCOECyber.pdf

– Bringsjord, S., Govindarajulu, N.S., Clark, M. "Toward Mathematizing The Man Who Never Was (and spear-phishing)." Presidential Lecture Series, State University of New York, Institute of Technology (SUNYIT), April 3, 2013. Slide deck available here:

http://kryten.mm.rpi.edu/PRES/NWPSUNYIT/SB_NSG_MC_OpMincemeat.pdf
http://kryten.mm.rpi.edu/PRES/NWPSUNYIT/SB_NSG_MC_OpMincemeat.key

– Bringsjord, S., Hummel, J., Wojtowicz, R., Licato, J., Govindarajulu, N.S. & Taylor, J. "Great Computational Intelligence via the Integration of Analogical and Deductive Reasoning." Annual Program Review, AFOSR, Washington DC, January 28, 2013. Bringsjord presented. Slide deck available here:

http://kryten.mm.rpi.edu/PRES/AFOSRPIMTG0113/SBringsjord_etal_Prog_Rev_013113.pdf
http://kryten.mm.rpi.edu/PRES/AFOSRPIMTG0113/SBringsjord_etal_Prog_Rev_013113.key

[20] Slide deck can be requested from Bringsjord.

– Bringsjord, S. "Can Medicine be (Ethically) Automated?" Lecture at Albany Medical Center (Grand Rounds), Albany NY, November 15 2012.

http://kryten.mm.rpi.edu/PRES/AMCGRANDROUNDS111512/SB_AMC_GrandRounds_111512.pdf
http://kryten.mm.rpi.edu/PRES/AMCGRANDROUNDS111512/SB_AMC_GrandRounds_111512.key

– Bringsjord, S. "Computationally Speaking, Does General Intelligence Require Creativity." Keynote lecture at *Computational Creativity, Concept Invention, and General Intelligence* (C3GI), Montpelier, France, August 27 2012. Presentation files available at

http://kryten.mm.rpi.edu/PRES/C3GI2012/SB_C3GI.pdf
http://kryten.mm.rpi.edu/PRES/C3GI2012/SB_C3GI.key

– Bringsjord, S. & Govindarajulu, N.S. "Logic: The Key to Modeling, Simulating, and (Partially) Replicating Person-Level Artificial General Intelligence." Presentation and demonstrations, with follow-on debate and discussion; August 5 & 6 2012, Reykjavik University, Reykjavik, Iceland. Main presentation file available at

http://kryten.mm.rpi.edu/PRES/SB_NSG_Reykjavik_U_080612.pdf

– Bringsjord, S., Govindarajulu, N.S., Ellis, S., Johnson, J., Haig, A. & Bringsjord, A. "Logic-Based Modeling and Simulation of Human-Level Cognition: Methodology Encapsulated, and Four Examples." Naval Postgraduate School, July 30 2012. Presentation files (minus demonstration videos) available at

http://kryten.mm.rpi.edu/PRES/NPGS_073012/SB_NSG_SE_JJ_AH_AB_NPGS_07 3012_short.pdf

– Bringsjord, S. & Govindarajulu, N.S. "Can a Computing Machine Grasp the Infinite?" Distinguished Lecture Series, School of Computing, Queen's University, Ontario, Canada, March 22 2012. Presentation files available at

http://kryten.mm.rpi.edu/PRES/PRESQUEENS/SB_NSG_QueensUniv_Infinity.pdf
http://kryten.mm.rpi.edu/PRES/PRESQUEENS/SB_NSG_QueensUniv_Infi nity.key

– Bringsjord, S., Johnson, J. & Bringsjord, A. "AI, Watson, and Economics: On the Future of Automated Medicine" Presented at a meeting of the Capital District Medical Decision-making Interest Group, Albany Medical Center, Albany, NY, December 13 2011. Presentation files (minus the extensive videos shown in person) available at

http://kryten.mm.rpi.edu/PRES/CDMDMIG121311/SB_JJ_AB_CDMDIG_121311.pdf

– Bringsjord, S. & Sundar G., N. "Minds, Machines, and Math: A Modern Geography," at *Foundational Questions in the Mathematical Sciences* at Internationale Akademie Traunkirchen, Austria, July 9, 2011. (Naveen Sundar G. presented.) Presentation files available at

http://kryten.mm.rpi.edu/PRES/JTFAUSTRIA/SB_NSG_Templeton_July_2011.pdf

– Bringsjord, S. "Is Cognitive Science Impossible? Indeed, Some Forms of It Are" Cognitive Science Beijing Symposium 2011 (CSBS 2011), Tsinghua University, Beijing, China, June 17 2011.

– Bringsjord, S. "Why Computational Neuroscience Might Be Mathematically Impossible, or: Can Brain Science Please Be More Logical?" Wa! Lecture Series in the Department of Cognitive Science, UCSD, San Diego, CA, January 10 2011. Presentation files available at

http://kryten.mm.rpi.edu/PRES/UCSDBRAIN/SB_Brain_UCSC_011011.pdf
http://kryten.mm.rpi.edu/PRES/UCSDBRAIN/SB_Brain_UCSC_011011.key

– Bringsjord, S., Clark, M., & Taylor, J. "Honestly Speaking, How Close are We to HAL 9000?" *Physics & Computation 2010*, on the Nile River between Luxor and Aswan, Egypt, September 3 2010. (Bringsjord presented.)

– Bringsjord, S. "When it Comes to Understanding Human-Level Intelligence and Consciousness, the Blue Brain Project is a Prodigious Waste of Time and Money." Boston University, March 26 2010. Abstract is available at

http://kryten.mm.rpi.edu/PRES/NEUPHIBU2010/sb_neuphi_abstract.txt

– At *The Third Internationa Conference on Artificial General Intelligence* (AGI 2010), University of Lugano, Lugano, Switzerland, March 8 2010:

  * Bringsjord, S. & Naveen Sundar G. "Toward a Serious Computational Science of Intelligence: An Overview."
  * Bringsjord, S. "John Pollock: In Memoriam."

  Presentation files available at

  http://kryten.mm.rpi.edu/PRES/AGI10/AnOverviewOfSCSI_v2.pdf
  http://kryten.mm.rpi.edu/PRES/AGI10/AnOverviewOfSCSI_v2.key

– Bringsjord, S. "What is Social Robotics?" Presentation at NSF-sponsored workshop on social robotics. Schenectady Museum, Schenectady, NY, January 21, 2010. Slides available (in pdf and key formats):

http://kryten.mm.rpi.edu.edu/PRES/SOCROBWORK012110/social_robotic s.pdf
http://kryten.mm.rpi.edu.edu/PRES/SOCROBWORK012110/social_robotic s.key

– Bringsjord, S., with: Micah Clark, Danny Coretti, Trevor Housten, and Naveen Sundar G. "Toward an Interaction with Arnie, a Genuinely Evil Synthetic Character." Union College, Schenectady, NY, November 12, 2009.

– Bringsjord, S. & Bringsjord, A. "The Missing Logico-Mathematics for Modeling, Simulating, and AI-Boosting Human Decision-Making in Multi-Agent Reasoning Environments." United States Military Academy, West Point, NY, June 2009. The presentation file (in pdf and key formats) is available at

http://kryten.mm.rpi.edu/PRES/WESTPOINT0609/SB_etal_WestPoint.pdf
http://kryten.mm.rpi.edu/PRES/WESTPOINT0609/SB_etal_WestPoint.key

– Bringsjord, S. "Hypercomputation, Predictability, and Persons." Presentation 3.24.09 at *The Science and Philosophy of Unconventional Computing*, conference held at Cambridge University, UK, 3.23.09–3.25.09. The presentation file (in pdf and key formats) is available at

http://kryten.mm.rpi.edu/PRES/CAMBHYPER/SB_predict_persons_hyper.pdf
http://kryten.mm.rpi.edu/PRES/CAMBHYPER/SB_predict_persons_hyper.key

– Bringsjord, S. "Unethical But Rule-Bound Robots Would Kill Us All." Presentation given at the *Future of Artificial Intelligence* workshop, held as a post-conference event associated with the Second Conference on Artificial General Intelligence (AGI 2009), 3.9.09, Arlington VA. The presentation file (in pdf and key formats) is available at

http://kryten.mm.rpi.edu/PRES/AGI09/SB_agi09_ethicalrobots.pdf
http://kryten.mm.rpi.edu/PRES/AGI09/SB_agi09_ethicalrobots.key

– Bringsjord, S. "Modeling the Mind Using Logic." Tutorial session given at the Second Conference on Artificial General Intelligence (AGI 2009), 3.6.09, Arlington VA. The presentation file (in pdf and key formats) is available at

http://kryten.mm.rpi.edu/PRES/AGI09/mod_mind_logic_agi2009.pdf
http://kryten.mm.rpi.edu/PRES/AGI09/mod_mind_logic_agi2009.key

– Bringsjord, S. "Contra Rapaport, Fetzer is Flawless." Presentation at the Annual Central Meeting of the American Philosophical Association, 2.19.09, Chicago, IL. This was part of the session "Can Computationalism Be Salvaged?" — at which Fetzer gave the target presentation, then William Rapaport against Fetzer, then Bringsjord against Rapaport, and finally Jim Moor in support of Fetzer and computationalism in general. Presentation files (pdf and key) are available at

http://kryten.mm.rpi.edu/PRES/APA09CHICAGO/quartet_chicagoAPA09.pdf
http://kryten.mm.rpi.edu/PRES/APA09CHICAGO/quartet_chicagoAPA09.key

– Bringsjord, S., Arkoudas, K., Li, J., Taylor, J., Shilliday, A. & Clark, M. "Creativity and Automatic Programming." Presentation at National Science Foundation, Workshop for CreativeIT Program, January 15 2009, Arlington VA. (Bringsjord presented.) Presentation files (pdf and tar.gz) are available at

http://kryten.mm.rpi.edu/PRES/CREATIVEITNSF0109/SB_CreativeIT_011509.pdf
http://kryten.mm.rpi.edu/PRES/CREATIVEITNSF0109/SB_CreativeIT_011509.key.tar.gz

– Bringsjord, S. "Remarks on the Automated Discovery of Gödel's Incompleteness Theorems." Presentation at the 2008 AAAI Fall Symposium *Automated Scientific Discovery*, Washington DC, November 8, 2008. Presentation files (pdf and tar.gz)/ are available at

http://kryten.mm.rpi.edu/PRES/AUTDISSYMP/sb_remarks_autdis_GI_G2.pdf
http://kryten.mm.rpi.edu/PRES/AUTDISSYMP/sb_remarks_autdis_GI_G2.key.tar.gz

– Bringsjord, S. "God, Souls, and Turing." Presentation at *AISB 2008 Symposium on the Turing Test*, at the University of Reading, England, October 12, 2008. Presentation file available online (videos embedded in gz file) at

http://kryten.mm.rpi.edu/PRES/READING08/SB_Reading_Souls.pdf
http://kryten.mm.rpi.edu/PRES/READING08/SB_REading_Souls.key.tar.gz

– Bringsjord, S. "Doing AI that's Tough Enough: Human Genius, Hypercomputation, and Automatic Programming," at the University of Essex, England, October 10, 2008.

– Bringsjord, S. Keynote presentation in Paderborn, Germany, at the University of Paderborn, for *Philosophy's Relevance in Information Science*, October 3, 2008: "Non-Philosophical Knowledge Representation & Reasoning is Tragic."

– Bringsjord, S. Moderator of "Defense Basic Research: Lifeblood of Innovation," a Congressional Briefing held in conjunction with the Congressional R&D Caucus, and sponsored by the Coalition for National Security Research (CNSR). July 10, 2008, Rayburn House Office Building, Washington DC. Participants included Congressman Rush Holt, Congresswoman Judy Biggert, and Congressman Adam Smith.

– Bringsjord, S., Arkoudas, K., Gilbert, G. "Toward Sophisticated Social Robotics." ONR-sponsored workshop on Social Robotics and Social Cognition, MIT, February 29–March 2, 2008. (Bringsjord presented.) Presentation file available online (videos embedded in gz file) at

http://kryten.mm.rpi.edu/PRES/ONRSOCCOG/SB_ONR_SocialRobotics_MIT.pdf
http://kryten.mm.rpi.edu/PRES/ONRSOCCOG/SB_ONR_SocialRobotics_MIT.key.tar.gz

– Bringsjord, S., "The Centrality of Logic to Knowledge Extraction (and Discovery Itself)," NSF Symposium: *Cyber-Enabled Discovery and Innovation*, September 5, 2007, RPI, Troy NY. Presentation available online at

http://kryten.mm.rpi.edu/PRES/NSFCDI090507/sb_logic_knowledge_extraction_NEW.pdf

– Bringsjord, S., "Toward a Formal Philosophy of Computational Cognitive Modeling (with special focus on evaluation)." AAAI Workshop *Evaluating Architectures for Intelligence*, July 23, 2007, Vancouver, Canada. Presentation available online at

  http://kryten.mm.rpi.edu/PRES/PHILCCM/sb_philofCCM.pdf

– Bringsjord, S. "Abortion, Slavery, and the Death of Logic." MIT Right to Life, February 21, 2007, as part of a week of invited talks on current debates regarding abortion, stem cell research, cloning, etc.

– Bringsjord, S. & Clark, M.,"On the Solomon (& Context), a Next-Generation QA System," DTO AQUAINT Principal Investigator Meeting, Santa Fe, NM, November 1, 2006. For info on Solomon, go to

  http://www.cogsci.rpi.edu/research/rair/solomon

– Bringsjord, S., Shilliday, A., Taylor, A. & Clark, M. "On Slate," DTO ARIVA Principal Investigator Meeting, Falls Church, VA, June 14, 2006.

– Bringsjord, S. "Powerful, Immoral Robots Loom ... Logic to the Rescue!", Indiana University, *Ethical Robots* workshop at *ALifeX* (10^{th} Artificial Life conference), June 3, 2006. Presentation available at:

  http://kryten.mm.rpi.edu/PRES/ALIFEX/bringsjord_ethicalrobots.pdf
  http://kryten.mm.rpi.edu/PRES/ALIFEX/bringsjord_ethicaxlrobots.key.tar.gz

– Bringsjord, S. & Clark, M. "AI Has Ignored Academic Learning: To the Rescue Comes A New Form of Machine Learning: Poised-For Learning," University of Albany, Institute for Logic and Security Studies, March 3, 2006.

– Bringsjord, S., "Ethical Robots: Why the Future Can Heed Us," Keynote Talk at AAAI 2005 Fall Symposium on Machine Ethics, November 5, 2005, Washington, DC. Presentation available at:

  http://kryten.mm.rpi.edu/PRES/AAAI05MACHETH/sb_aaaimacheth_keynote.pdf
  http://kryten.mm.rpi.edu/PRES/AAAI05MACHETH/sb_aaaimacheth_keynote.key.tar.gz

– Bringsjord, S., Arkoudas, K., Shilliday, A., Taylor, J., Schimanski, B., Pratt, E., Mulley, G. "Artificial Intelligence and the Future of Wargaming and Intelligence Analysis," PNNL, Richland, WA, 8.8.05. Presentation available at (keynote version fully complete, with all demos/videos imbedded):

  http://kryten.mm.rpi.edu/PRES/PNNL0805/sb_pnnlprez_080805.key.tar.gz
  http://kryten.mm.rpi.edu/PRES/PNNL0805/sb_pnnlprez_080805.pdf
  http://kryten.mm.rpi.edu/PRES/PNNL0805/sb_pnnlprez_080805.ppt

– Bringsjord, S. (with help from Bettina Schimanski in putting together the demos of the robot PERI in action) "Thoughts on: Robotics, Free Will, and Predestination," Oregon State University, Corvallis, Oregon, 8.5.05.

  http://kryten.mm.rpi.edu/PRES/CAPOSU0805/sb_robotsfreedom.pdf
  http://kryten.mm.rpi.edu/PRES/CAPOSU0805/sb_robotsfreedom.key.tar.gz
  http://kryten.mm.rpi.edu/PRES/CAPOSU0805/sb_robotsfreedom.ppt

– Bringsjord, S., Shilliday, A., Taylor, J., Khemlani, S., Destefano, M. & Arkoudas, K., "The Status of Slate," ARDA Review, University of Maryland, College Park, 4.5.05. Presentation available at

  http://kryten.mm.rpi.edu/PRES/rairl_nimdqreview_040505.pdf
  http://kryten.mm.rpi.edu/PRES/rairl_nimdqreview_040505.key.tar.gz

– Bringsjord, S., Arkoudas, A., Yang, Y., Shilliday, A., Taylor, J., & Destefano, M., "New Architectures, Algorithms, and Designs that Lead to Implemented Machine Reasoning over Knowledge in Epistemic and Deontic Formats, in the Service of Wargaming," AFRL-Rome, 2.23.05. (Bringsjord & Arkoudas presented.) Presentation available at

http://kryten.mm.rpi.edu/PRES/AFRLUPDATE0205/afrl-rome.visit022305.mov
http://kryten.mm.rpi.edu/PRES/AFRLUPDATE0205/afrl-rome.visit022305.tar

– Bringsjord, S., McEvoy, C. & Destefano, S., "Evil, E, and Virtual Humans," Center for Cognitive Science, SUNY Buffalo, 2.9.05. (Bringsjord presented.) Presentation available at

http://kryten.mm.rpi.edu/PRES/SUNYB020905/scb.ascs.e.sunybuff020905.mov
http:/ /kryten.mm.rpi.edu/PRES/SUNYB020905/scb.ascs.e.sunybuff020905.tar
http://kryten.mm.rpi.edu/PRES/SUNYB020905/evil3.pdf

– Bringsjord, S. & Schimanski, B., "Possible DARPA IPTO Grand Challenge: "WAIS Robot,"" IPTO Grand Challenge Workshop 1.12.05, Washington DC.

– Bringsjord, S., Shilliday, S. & Taylor, J., "On Model Building-Based Hypothesis Generation," Orlando, Florida, NIMD PI Meeting, November 30 2004 (Bringsjord presented).

– Bringsjord, S., Shilliday, S. & Taylor, J., "Two Types of Tacit Knowledge in the Analytic Process," Orlando, Florida, NIMD PI Meeting, November 30 2004 (Bringsjord presented).

– Bringsjord, S., Arkoudas, K., Yang, Y., Shilliday, A. & Taylor, J., "Toward Engineering a System for the 'Commander's Predictive Environment' that Not Only Issues Predictions, But *Justifies* Those Predictions," November 4, 2004, Syracuse NY, organized and sponsored by Gene Santos, AFRL/AFOSR. (Bringsjord presented.)

– Bringsjord, S., Shilliday, A., Taylor, J. & Arkoudas, K., "Intelligence Analysis is Plagued by Bias, and Logic (Embodied in Slate) is the Antidote," at Booz Allen Hamilton, to BAH's intelligence analysts and wargamers, October 21, 2004, McLean VA. (Bringsjord and Taylor, presenters.)

– "The Paradox of Human versus Machine Reasoning," Keynote Address at the Institute for Logic and Cognition, Zhongshan University, Guangzhou, China, May 7, 2004. A second paper will be presented there at a workshop following the conference, and will be accompanied by demonstrations: "Narratological Reasoning, and the Formalization/Mechanization Thereof."

– "The Future of Smart Machines." Doane Stewart School. January 22, 2004.

– "Next-Generation Machine Intelligence and Future Warfare," NASA/Langley & Army TRADOC 3-day conference on future threats to the United States, 11.18.03 (conference span: 11.18–11.20). Sponsored by Deputy Chief of Staff for Intelligence.

– "'Philosophically Deep Robotics — With Demonstrations," Annual Eastern American Philosophical Association Meeting, Washington DC, December 29, 2003. Presentation by Bringsjord, but collaborators: Bettina Schimanski, Marc Destefano, Matt Daigle.

– "The MARMML Reasoning System, and Homeland Defense," Rome Labs, Utica NY, August 26, 2003.

– "A Logical Approach to Hypercomputation," American Mathematical Society, San Francisco, CA, May 4, 2003. (An abstract of this paper can be found in Volume 24, Issue 3 of *Abstracts of Papers Presented to the American Mathematical Society* 987–03–15. A full version of the paper appeared in *Theoretical Computer Science*, second author Kostas Arkoudas; see entry above in "Papers/Chapters.")

– "Advanced Synthetic Characters (for Education and Interactive Entertainment)," University of Oslo on March 19, 2003, and University of Bergen on March 21, 2003.

– "Mental Metalogic," July 2002, Zhongshan University, China. With Yingrui Yang, who presented.

– "Philosophical Robotics," SUNY Stony Brook, November 20, 2002. With Marc Destefano and Bettina Schimanski.

– "Bridging Between Computer Science and the Humanities," April 22, 2002, University of Virginia.

– "Smart Machines and Smarter Minds," at *The Technology of Humanity: Can Technology Contribute to the Quality of Life?*, Friday, April 5, 2002, Illinois Institute of Technology, Chicago-Kent Law School. Has given rise to Bringsjord, S. (2003) "Foundational Position on AI and the Human Mind," in Mitchell, E. & Andrews, L., eds., *The Technology of Humanity: Can Technology Contribute to the Quality of Life?* (Chicago, IL: Illinois Institute of Technology), pp. 58–59.

– "AI and Creativity," Keynote Address, *Annual Southwest Undergraduate Philosophy Conference*, March 2, 2002, University of Central Oklahoma.

– "Can a Computer Be Genuinely Creative?" April 13, 2001, Oregon State University. This talk was webcast across the country and beyond.

– "The Modalized Gödelian Argument Against Computationalism," April 12, 2001, University of British Columbia.

– Keynote Address: "Is it Possible to Create Dramatically Compelling Interactive Digital Entertainment?" at *Digital Textualities*, March 1 & 2nd, 2001 at IT University of Copenhagen, Denmark, an international conference devoted to issues in the intersection of cognition and digital entertainment. Abstract available at

  http://kryten.mm.rpi.edu/SELPAP/DENMARK/denmark.abstract1.txt

– "Remarks on Mathematical Logic and Paradox," Albany Academy for Girls, January 11, 2001.

– "Creativity in Human and Artificial Agents," a series of 8 lectures, at Esslinghen University, Esslinghen (outside Stuttgart), Germany, June, 2000.

– "The Future of Machine Creativity," Exxon Corporation, February 16, 2000.

– "In Defense of a Vibrant Future for AI and Testing — Courtesy of Formal Logic," Educational Testing Service, Princeton, NJ, December 15, 1999.

– "Zombanimals — with Robots from the Minds & Machines Laboratory." Annual meeting of the Society for Machines and Mentality, at the annual Eastern Division Meeting of the American Philosophical Association, December 1998, Washington, DC.

– "The Impact of Computing on Epistemology: Knowing Gödel's Mind Through Computation," Keynote Address at World Congress of Philosophy, for Annual Computing and Philosophy Conference, August 13, 1998, Boston, MA.

– "Is Deep Blue Creative?" Hartford Graduate Center, January, 1998.

– "Building an Artificial Lawyer: First Steps," Department of Computer Science, Siena College, February 6, 1998.

– "Computationalism," annual Computing and Philosophy Conference, Pittsburgh, PA, August, 1997.

– Two lectures for SUNY Albany Department of Educational Psychology and Statistics, March, 1997:

    - "Cultivating Intrinsic Motivation for Solving Logic Problems"
    - "Strategies for Successfully Tackling Logic Problems"
  - "The Argument from Irreversibility," SUNY Buffalo Center for Cognitive Science, October 23, 1996.
  - "Computationalism is Dead; Now What?" Department of Philosophy, Dalhousie University, June 14, 1996, Halifax, Canada.
  - "Computational Pedagogy: Just Doing It," Acadia University, June 12, 1996, Wolfville, Canada.
  - "Fetzer on Computationalism and Connectionism," Southeast Society for Philosophy and Psychology, Nashville, Tennessee, April, 1996.
  - "AI Meets Julius Caesar," Department of Philosophy, Department of Linguistics and Cognitive Science, and the Computing and the Humanities Group, Brown University, April 19, 1995.
  - "Philosophy and Science: Who Leads Who?" March, 1994, Centenary College, Shreveport, LA.
  - "Varieties of Uncomputable Expertise," May 6, 1994, Florida AI Research Symposium, Pensacola, Florida.
  - "Generating Stories with Context-Sensitive Grammars," April 23, 1994, Sorbonne, Paris, two-day Computer Generated Literature conference associated with ALLC-ACH '94.
  - "Why Henrik Ibsen Threatens Computer Generated Literature," April 24, 1994, Sorbonne, Paris, two-day Computer Generated Literature conference associated with ALLC-ACH '94.
  - "How to Get a Computer to Write Fiction," February 26, 1993, Cognitive Science Program, Occidental College, Los Angeles, California.
  - "Could a Computer Ever Get Inside the Head of Proust?" November 16, 1991, Albany Public Library, Annual Award Luncheon for Albany Author of the Year.
  - "Free Will and AI's Person Building Project." Colloquium, State University of New York at Stony Brook, February 1987.
  - "Why Sherlock Holmes Can Be Replaced by an Expert System." March 7, 1988, State University of New York at Albany, Colloquium.

- Internal (RPI); selected only

  - Bringsjord, S., Giancola, M., Peterson, T., Govindarajulu, N.S. & Rozek, B. "Automated Identification & Classification of Initially Unidentified Aerial/Underwater/Land Agents: The Logicist Case," Computer Science Dept poster session for supervised grad students, December 3 2021. The poster is available here:

    http://kryten.mm.rpi.edu/AutomatedIdentificationPoster120321.pdf

  - "The Balderdash That is *Humans 3.0: The Upgrading of the Species*," Bringsjord, S., September 25 & November 11 2019, RPI, Troy NY. Two presentations of a refutation of six central claims advanced in the book *Humans 3.0: The Upgrading of the Species* (Nowak, 2015), the first rather gentle, the second pulling far fewer punches (with variation expressed only in person, since the abstract for both is the same, and given just below).

The Balderdash that is *Humans 3.0: The Upgrading of the Species*
Selmer Bringsjord
Sept 25 & Nov 11 2019

> Here's an accurate encapsulation, put declaratively, of the book (H3.0) in question: As a matter of mathematics, religious belief will disappear. Work will be obsolete, but economic well-being will be maximally high across Earth's human population; this will be enabled by AI toiling for us. Science will explain everything, including discovering the "patterns" that are us. With these patterns in our hands, we will be able to repeatedly "upload" to the physical substrate of our choosing, and thereby live forever. Then, by 2045, The Singularity will occur, the moment in time when machine intelligence exceeds human intelligence, and immediately thereafter explodes to higher and higher levels that infinitely exceed our own (relatively speaking) rodent-level one. Conveniently, we will merge with the machines so as to dodge being destroyed by them, and this "hybrid human-machine intelligence" will busy itself with [yada yada yada]. Unfortunately for Nowak (2015), author of H3.0, there is a slight problem: viz., every single claim here is but balderdash, at best. In this talk, I patiently explain this diagnosis, one bound, I know, to be emotionally disturbing to those who take such claptrap seriously.

A video of the presentation may be watched by following the following link:

http://kryten.mm.rpi.edu/PRES/BALDERDASHH3.0/BringsjordBalderdashH3point0.mp4

– Bringsjord, S. "Reflections on Red-Pill Robots." Presentation given in Miles Kimball's *Introduction to HCI*, February 20 2018. This session was inspired and guided by the Bringsjord-Clark paper "Red-Pill Robots Only, Please." Slides available here:

http://kryten.mm.rpi.edu/PRES/REDPILLBOTSMILESCLASS/Reflections_RedPillRobots_GuestLect.key
http://kryten.mm.rpi.edu/PRES/REDPILLBOTSMILESCLASS/Reflections_RedPillRobots_GuestLect.pdf

– Bringsjord, S. "AI & Human Disemployment," part of a combined event sponsored by the RPI Debate Club, May 2017. The other presenters: Dr. Faye Duchin, Dr. Jim Hendler, Dr. Lirong Xia. Slide deck available here, first pdf and then Keynote:

* http://kryten.mm.rpi.edu/PRES/AIDISEMPLOYMENT050217/SB_AB_AI_Disemployment_050317.pdf
* http://kryten.mm.rpi.edu/PRES/AIDISEMPLOYMENT050217/SB_AB_AI_Disemployment_050317.key

– Bringsjord, S. "Is Westworld Our (Near) Future?" February 15 2017, at RPI. Public presentation, abstract for and video of which are available here:

http://kryten.mm.rpi.edu/PRES/WESTWORLDOURFUTURE/BringsjordWestworldOurFuture021517.mp4.

– Bringsjord, S. "Logicist Agent-Based Economics: A New Paradigm," April 6 2016, in the Cognitive Science Lecture Series. The link below offers not only an abstract, but HD video recording of the talk.

http://kryten.mm.rpi.edu/PRES/LABERPI040616/SBringsjord_LABE_overview.mp4
http://hass-streaming1.win.rpi.edu:8080/video/hass_events/cog_sci_HD/040616/Default.html

– Bringsjord, S. "Belief in The Singularity is Fideistic." Presentation given in Dan Thero's *Philosophy, Technology, and the Human Future*, October 13 2016. Slides available here:

http://kryten.mm.rpi.edu/PRES/SINGFIDEIISTIC101316/GuestLect4DThero_Sing_Fideism.pdf
http://kryten.mm.rpi.edu/PRES/SINGFIDEIISTIC101316/GuestLect4DThero_Sing_Fideism.key

– Bringsjord, S. "AI as (Profound) Art." Presentation given at the RPI annual Trustee's Faculty Awards ceremony, December 3 2015. Slide deck available immediately below. Please note that the Keynote version includes videos that are central to the talk, and the static pdf is accordingly really only a pale shadow compared to the version that includes e.g. parts of *Tosca* and *Don Giovanni*.

http://kryten.mm.rpi.edu/PRES/AIART/SB_AI_as_Profound_Art.pdf
http://kryten.mm.rpi.edu/PRES/AIART/SB_AI_as_Profound_Art.key

– Bringsjord, S., Si, M., Govindarajulu, N.S., Garber-Barron, M. & Sen, A. "Intelligent Tutoring Systems for Culture and Other Domains: Status Report." This presentation, given September 9 2013, reports on progress made in a project seed-funded by RPI's Office of Research; Bringsjord PI, Si Co-PI. The chief video demonstration is available here:

  http://kryten.mm.rpi.edu/PRES/IILE091013/ITS_Demo_Sept_9_2013_5pm.mov

– Bringsjord, S. & Sundar G., N. "To Infinity and Beyond! Our Mission: To Boldly Go Where No Machine Has Gone, or Ever Will."

  * *Abstract* available at

    http://kryten.mm.rpi.edu/PRES/INFINITYEMPAC/SB_NSG_To_Infinity_at_EMPAC_abstract.pdf

  * *Slides* available in pdf at

    http://kryten.mm.rpi.edu/PRES/INFINITYEMPAC/SB_NSG_EMPAC_Infinity.pdf

  * *Slides* available in source Keynote at

    http://kryten.mm.rpi.edu/PRES/INFINITYEMPAC/SB_NSG_EMPAC_Infinity.key

– Bringsjord, S. "Murderous Minds, Cognitive Science, and God." Abstract and flyer available at: http://kryten.mm.rpi.edu/MURDEROUS_MINDS_Flyer.pdf. October 27 2011, Troy, NY. Slides available at

  http://kryten.mm.rpi.edu/PRES/MURDEROUSMINDS/S_Bringsjord_Murderous_Minds_v2.pdf
  http://kryten.mm.rpi.edu/PRES/MURDEROUSMINDS/S_Bringsjord_Murderous_Minds_v2.key

– Bringsjord, S., Taylor, J., Clark, M., Mukerjee, D. & Gilbert, E. "Remarks on Piagetian Logic-Based Artificial Intelligence and Natural Language Processing." Symposium on Natural Language Processing. July 7, 2009, Rensselaer Polytechnic Institute, Troy, NY. Slides available at

  http://kryten.mm.rpi.edu/PRES/NICKSYMP0709/SB_etal_Piaget-n-LCNL.pdf

– "Because Strong AI is Dead, Test-Based AI Lives," for the RPI ACM Chapter, February 11, 2008. Movies of the presentation, and the Q&A session thereafter, are available at

  http://outcry.puttynuts.com/ ryan/acm

  The presentation file is available at

  http://kryten.mm.rpi.edu/PRES/ACMRPI021108/sb_acm_rpi_021108.pdf

– "Only a Technology Triad Can Tame Terror," in the Minds & Machines Lecture series, November 15, 2007, RPI. The presentation file, with hotlinks to the three relevant articles of mine (on which the presentation is based), is available at

  http://kryten.mm.rpi.edu/PRES/TAMETERROR/sb_tameterror.pdf

– "Breaking out of the Dark Ages of Computer Programming: The REASON Family of Logic-Based Programming Languages," in the Minds & Machines Lecture Series, September 27, 2006, RPI. Bringsjord presented, but Konstantine Arkoudas is on the project as well. The presentation file is available at

  http://kryten.mm.rpi.edu/PRES/REASON/reason_mm.pdf

– "Is There a God?," presentation, debate, Q&A as part of four-person panel on symposium devoted to the question, sponsored by the School of Humanities & Social Sciences, RPI, March 22, 2005. Bringsjord presentation file available as both a mov file and — a format native for Windows — a wmv file:

  http://kryten.mm.rpi.edu/PRES/GODPANEL/godpanel1.mov
  http://kryten.mm.rpi.edu/PRES/GODPANELgodpanel1.wmv

– "How to Build Smart Machines: Relax 'Smart' or Pray (well, you can trick too)," presentation accompanying paper written as a target author in first volume (*How Can We Build Smart Machines?*) of Erlbaum book series "Great Debates in Cognitive Science." February 4, 2005. Presentation file available as both a mov file and — a format native for Windows — a wmv file:

  http://kryten.mm.rpi.edu/PRES/RELAXPRAY/relaxsmartorpray.mov
  http://kryten.mm.rpi.edu/PRES/RELAXPRAY/relaxsmartorpray.wmv

– "Bridging Artificial Intelligence, Psychometrics, and Economics: New Theory of Intelligence & Rationality," Bettina Schimanski and Selmer Bringsjord. *A Science-Based Approach to Economic Decision-Making*, a workshop held November 21, 2003, RPI, sponsored by the School of Humanities & Social Science and the Economics Department.

– For the past 13 years (2013–2001) I've given a guest lecture to launch the Minds *&* Machines first-year-studies course. This lecture has become something of a tradition. In it, I challenge the audience to test their reasoning acumen on a series of puzzles. The talk is called: "How Do You Stack Up Against Spock, Wolf, Holmes, Moriarty ...?" And older version of the powerpoint is available at y

  http://kryten.mm.rpi.edu/detective4.ppt

– The Cognitive Science Department runs a bi-weekly Cognitive Science Lecture Series, and I have routinely presented work-in-progress at it over the last ten year, usually joined by one or more of my grad students. A recent talk, made possible by PhD student Joe Johnson, was devoted to predictive agent-based simulations of MOOCs in the Academy.

– "I'm More Rational Than Any Machine Will Ever Be (And Ditto, In Principle, For You)," public lecture in Minds *&* Machines Machette Foundation lecture series, October 26, 2000.

– "Can Machines be Genuinely Creative?" Minds *&* Machines Machette Foundation lecture series, November 11, 1999.

– "Entrepreneurship in the Age of Smart Machines," delivered as part of a symposium as part of the inauguration of RPI's new President, Shirley Jackson, September 24, 1999.

– "Can Computers Originate Anything?" Public Lecture Series sponsored by Machette Foundation, October, 1998.

– "The Future of Artificial Intelligence," Biomedical Engineering Program Students, January 20, 1998.

– Many presentations given as service for various units in the Rensselaer community — Admissions Office, Corporate Relations, Board of Trustees, etc. Many presentations on the research projects driving the Rensselaer AI & Reasoning Lab. Numerous talks to outside groups (e.g., Washington Advisory Group, H&SS Advisory Board, etc.).

– "Opening One's Classroom to the World," Faculty of Information Technology Lecture Series, February, 1998.

– "Pedagogy and the Web — Now and Tomorrow," February 3, 1996, sponsored by the Center for Innovation in Undergraduate Education.

– "God, Evil and Euclid," February 2, 1996, public lecture sponsored by Rensselaer Christian Association.

– "Why Philosophers Do It (Science & Engineering) Better," April 5, 1995, Colloquium Series, Department of Philosophy, Psychology & Cognitive Science.

– "Busy Beavers and Cognitive Science," September, 1994, in the 1994 Colloquium Series, Department of Philosophy, Psychology & Cognitive Science.

– "The State of the Art in Story Generation," October 21, 1992, Rensselaer chapter of the Association for Computing Machinery.

– "On the Introspective Power of Robots," Theoretical Aspects of Artificial Intelligence, 1989 Seminar Series, Rensselaer.

– "The Future of Artificial Intelligence," April 9, 1988, Genericon IV, Science Fiction Conference, Rensselaer Polytechnic Institute.

– "Syntactic Accounts of Defeasible Logic," April 8, 1988, The Byte-Body Nexus: Disciplinary Perspectives on the Human-Machine Interface, colloquium series, Rensselaer Polytechnic Institute.

– "Two Philosophical Problems In Artificial Intelligence," March 23, IEEE, RPI.

– "Careers in Artificial Intelligence." February 1988, Careers in Computer Science, sponsored by the Department of Computer Science, RPI.

– "Logical Omniscience and Artificial Intelligence." 1987–88 Philosophy Department Colloquia series at RPI. October 14, 1987.

– "Why a Logician Could Become a Hacker in AI." Presentation as candidate for Assistant Professor at RPI. January 15, 1987.

Media (selected)

The 2022 *Times Union* piece "Can Robots Be Good, Evil, Have a Soul?" revolved around conversation between Bringsjord and Jim Hendler, and is available here. 2020 included a series of "Mind Matters" podcasts hosted by Robert Marks; a good place to start is the episode on The Lovelace Test. Some fairly recent media coverage (2015) has centered around "self-conscious" robots engineered in the RAIR Lab. The coverage has been extensive, and world-wide, and apparently includes over 3 million downloads of the relevant video from YouTube. The interest on the part of brilliant journalists has been humbling, truly impressive, and greatly enjoyable: I have answered penetrating questions from them for print, radio, and TV, from Australia to South America to Europe to China. Media coverage in 2014 involved stories about me (and collaborators at Tufts, Brown, Yale, Georgetown, NRL) in connection with my lab's research in "robot ethics" (*Times Union* front page, *Computerworld*), and the recent MURI grant (see "Grants"). Recent coverage includes IBM's providing their "Watson" system to RPI, the first such university to receive the system, and work with IBM on making it smarter. Two research groups at RPI, my RAIR Lab and the Tetherless World Constellation, house the investigators and grad students who will work with Watson. Recent radio appearance: Studio360, on "Can computers be creative?" A few additional highlights: Recently, stories about research devoted to building cognitively robust synthetic characters have appeared across the globe (*Russian Newsweek*, *Science Daily*, etc.), in connection with demonstrations of such characters. Appeared in the movie *Wordplay*. Have appeared in many documentaries on AI (the most recent one produced by a Korean TV station, and aired in that country). Along with individuals and programs associated with my laboratory, my research has been the subject of thousands of local and national television (e.g., Fox, CBS, NBC), radio, newspaper, and magazine stories. Subjects include philosophy of mind, computational creativity, AI, web-based education, etc. Some highlights from the past: Interviewed live in Hamburg on German television, Premiere Network. Segment devoted to *Soft Wars* aired on CNN. Did week-long "Countdown to Tomorrow" show on CBS radio, aired coast-to-coast. Television show "Beyond 2000" filmed and aired episode

on story generation work. Radio interviews on AI and creativity for NPR, BBC, German National Radio, Austrian Broadcasting Corp., and many domestic stations across the United States. Cover story on AI story generation work in March/April 1998 issue of MIT's *Technology Review*. From 1995–1998 hosted a weekly radio talk show applying logic to current events. Channel 6 did a story for their "Tuesday Technology" segment on AI and preventing terrorism, based on a visit to the Rensselaer AI & Reasoning Laboratory, where they interviewed Bringsjord and his students. The story ranged from the technical side of AI and biometrics to its ethical side (personal privacy versus national databases of retina patterns).

Service (selected)

- National (selected)
  - With Naveen Sundar G., ran international workshop at AGI 2010 entitled "Toward a Serious Science of Intelligence," March 8 2010, Lugano, Switzerland. Info at http://agi-conf.org/2010/workshops/#SCSI.
  - Regional Director (North America), International Associating for Computing and Philosophy; 07–10. In this capacity, ran an NSF-sponsored track at the upcoming North American Computing and Philosophy Conference at Indiana University. In addition, hosted the North American 2006 conference, with lectures archived at

    http://www.cogsci.rpi.edu/conferences/cap
  - President, Society for Machines and Mentality, 2003 (VP in 2002).
  - Member, APA Committee on Philosophy and Computers
- Internal (selected)
  - IDEA (Institute for Data Exploration and Applications) Senior Faculty Leadership Group; Lead for "Agents and Augmented Reality" research thrust; (2012–).
  - Search Committee for Dean, School of Science, RPI (2014).
  - Recent service includes: fund-raising for Rensselaer through its Alumni Association (including a 2011 talk on the future of AI at the New York Yacht Club: "Avatars That Think: Synthetic Characters for a New Generation of Entertainment"), and multiple discussions (2012 & 2013) on both coasts with Walt Disney Imagineering about potential joint research with RPI.
  - Member, Presidential Research Task Force, serving along with Provost and VPR, 2010–2012.
  - Co-Chair, Signature Thrust Task Force, Media & the Arts, 2010. Report delivered to, and corresponding presentation made to, President, in which three selected research sub-areas within "technologized" Media & the Arts are recommended Rensselaer.
  - Chair, Graduate Education Committee, 2007–2009. Appointed by Rensselaer's President Jackson to oversee a review of graduate education and (as it relates to) sponsored research on a university-wide basis. Report completed, submitted.
  - Member, Search Committees in Cognitive Science Department, 2004, 2003, 2002, 2001.
  - Member, "Tetherless World" Constellation Chair Search Committee, 2000–2007.
  - Member, President's Internal Committee on IT, 2000.

  - Leader, Marketing Committee for Faculty of Information Technology, 1999–2000.
  - Member, New Information Curriculum Committee, 1997–1999
  - Member, Search Committee for Dean of School of Humanities & Social Sciences, 1995.
  - Participant, Electronic Research Management Pilot Project, 1995.
  - Member, Computing Committee for the School of Humanities & Social Sciences, 1991.
  - Member, Interactive Learning Task Force, School of Humanities & Social Sciences, 1993–94.
  - Member, Travel Management Committee, 1993–95.
  - Faculty Advisor, Pi Kappa Phi Fraternity, 1990–present.

- Community
  - Member, Board of Trustees, Loudonville School, 1993–1996.
  - Member, Foundation Board of the Troy Public Library, 1990–present.
  - Vice President, Brunswick Hills Association, 1988–90, 1999.
  - Head Coach, World Team Tennis Team, 12& Under, 1997–1999.
  - Pitching Coach, Brunswick Little League, 10& Under, 1996–1999.
  - Volunteer Outdoor Emergency Care Technician, Jiminy Peak Ski Area, 1996–present.

Editing/Refereeing/Evaluator

- Have refereed myriad papers for journals and conferences over the past several years, and have been on numerous program committees. A journal list appears below. Most recent wave of refereeing, in March 2014, was for CogSci 2014.
- Scientific Committee member and referee for 2^{nd} Conference on Ontology for the Intelligence Community, November 28–30, 2007.
- Evaluator for proposed programs in Engineering and Physical Sciences Research Council (EPSRC; in the UK)
- Evaluator for European Union's *Cognitive Systems* research program.
- Committee Member and "Meta"-Reviewer Cognitive Science Society Annual Conference
- Program Committee Member and reviewer, AAAI Annual National Conference, & AAAI Symposia
- Evaluator for National Science Foundation (repeatedly)
- Evaluator for Department of Energy (repeatedly)
- Reviewer for many other smaller conferences (NA-CAP, etc.).
- Guest Editor of an annual issue of the *Journal of Experimental & Theoretical Artificial Intelligence* on the topic of Heterogeneous Reasoning (with Yingrui Yang).
- Editorial Board Member, *Game Studies*

- Associate, *Behavioral and Brain Sciences*
- Journal Refereeing (usually repeatedly)
  - *Artificial Intelligence*
  - *JAIR*
  - *Journal of Applied Logic*
  - *History and Philosophy of Logic*
  - *Australasian Journal of Philosophy*
  - *IEEE Intelligent Systems*
  - *Applied Mathematics and Computation*
  - *Cognitive Science*
  - *International Journal of Unconventional Computing*
  - *Behavioral and Brain Sciences*
  - *Creativity Research Journal*
  - *Philosophy and Phenomenological Research*
  - *Psycoloquy*
  - *Journal of Experimental and Theoretical Artificial Intelligence*
  - *Minds & Machines*
  - *Game Studies*
  - *Science and Human Values*
  - *Synthese*
  - *Journal of Consciousness Studies*
  - *Speculations in Science and Technology*
  - *Internet Encyclopedia of Philosophy*
- Conferences
  - Annual Cognitive Science Society Meeting, International Language and Cognition Conference, International Computing & Philosophy, IJCAI, AAAI, and many, many others.
- Book Publishers (repeatedly)
  - MIT Press/Bradford Books
  - Prentice-Hall
  - Kluwer
  - Lawrence Erlbaum
  - McGraw Hill

Dissertation

The Failure of Computationalism, Supervisor: Roderick Chisholm.

Professional Associations

- American Philosophical Association
- American Association for Artificial Intelligence
- Association for Symbolic Logic
- Society for Machines and Mentality (past President)
- Cognitive Science Society

Software Expertise (selected)

- Pure General Logic Programming (PGLP), a new programming paradigm and environment, invented by Selmer Bringsjord, with Naveen Sundar Govindarajulu. PGLP provably subsumes Prolog and all its variants, but covers higher-order logic, modal logics (including novel ones), etc., and also includes background automated reasoning for the execution of a program that is not just deductive, but inductive as well. Programs in PGLP are written in HyperSlate™ (see below).
- LISP (esp. Common); Prolog and its variants; many machine/automated-reasoning systems (e.g., Vampire, OTTER, OSCAR, SNARK).
- All major logic courseware. But the most important software in this category, used for teaching introductory and intermediate logic in the LAMA™ paradigm, are the (matchless, frankly) HyperGrader™ and HyperSlate™ systems, invented by Bringsjord and Govindarajulu, and the chief developer the latter. HyperSlate emerged out of predecessor Slate, invented by Bringsjord, who was all along the line designer and architect on the system through the years, with the principal developer and software engineer on Slate being Joshua Taylor, with indispensable contributions in the early days from Andy Shilliday and Micah Clark. HyperSlate™ is by far the most advanced, flexible, graphical proof-engineering system available anywhere.

Personal: Born 11/24/58, White Plains, NY. Married to Elizabeth Bringsjord; two children, Katherine (32) and Alexander (29), both of whom believe they are better athletes than their father, and the evidence that they are correct, alas, is mounting week by week. Dad's sole surviving edge is skiing (and tennis on a miraculously good day with best of 3, *not* 5), but how much longer can that last?

Selmer Bringsjord

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6/21/22

Selmer Bringsjord specializes in the logico-mathematical and philosophical foundations of artificial intelligence (AI) and cognitive science (CogSci), in collaboratively building AI systems/robots on the basis of computational logic, and in the logic-based modeling and simulation of rational, human-level-and-above cognition. Work in these areas has been expressed in over 250 publications, pursued an an investigator in sponsored-research awards of over $26M, and communicated/debated in person in myriad countries. Though Bringsjord spends considerable engineering time in pursuit of ever-smarter computing machines for his much-appreciated sponsors, he claims that "armchair" reasoning time has enabled him to deduce that the human mind will forever be superior to such machines.

Bringsjord received the bachelor's degree from the University of Pennsylvania, where he was heavily influenced by James Ross, and the PhD from Brown University, where he studied under Roderick Chisholm (as did Ross himself). Bringsjord is not unhappy about the apparent fact that he is through Chisholm an intellectual descendant of Leibniz, many of whose views to a high degree align with his own, and whose interest in a rather wide range of intellectual matters matches his own trans-disciplinary *modus operandi*. Bringsjord claims to have discovered what Leibniz sought throughout his life: the art of infallibility (*le art d'infaillibilité* = "The Art"), which is composed of an underlying language (the *characteristica universalis*) and an ensemble of computational reasoning systems (*calculus ratiocinator*), and can be used to calmly and enjoyably settle by rational adjudication all manner of dispute.

Bringsjord has long been on faculty at America's oldest technological university: Rensselaer Polytechnic Institute (RPI) in Troy NY; where he currently holds appointments in the Department of Cognitive Science, the Department of Computer Science, and the Lally School of Management, and where as a Full Professor he teaches AI, formal logic, formal human and machine reasoning and decision-making (and applications thereof, e.g. in nuclear strategy and micro-economics), and philosophy of AI and CogSci. In a break from things technical, he also teaches the intellectual history of New York City and the Hudson Valley, whose Occidental basis grounds out in Grotius. Funding for Bringsjord's r&d has come from the Luce Foundation, the National Science Foundation, the Templeton Foundation, AT&T, IBM, Apple, AFRL, ARDA/DTO/IARPA, ONR, DARPA, AFOSR, France's ANR, and other sponsors. Bringsjord has consulted to and advised many companies in the general realm of intelligent systems, and continues to do so.

Bringsjord's first technical book is *What Robots Can & Can't Be* (1992, Kluwer), concerned with the future of attempts to create robots that behave as humans, and thereafter *Superminds: People Harness Hypercomputation, and More* (2003, Kluwer). Before the second of these books he wrote, with Bridgewater's David Ferrucci, *Artificial Intelligence and Literary Creativity: Inside the Mind of Brutus, A Storytelling Machine*, published by Erlbaum. He is the author of *Abortion: A Dialogue*, published by Hackett; this dialogue employs elements of The Art to treat an issue that remains (unnecessarily) contentious to this day. Bringsjord's first novel, *Soft Wars*, was published by Penguin USA. A forthcoming book, from Oxford University Press, is *Gödel's Great Theorems*, the current manuscript of which is in use in his pedagogy at RPI. Dr. Bringsjord is the author of papers and essays ranging in approach from the mathematical to the informal, and covering such areas as AI, logic, gaming, philosophy of mind, philosophy of religion, robotics, and human/machine/robot ethics. Recently, with his longtime collaborator Naveen Sundar G., he has erected the Theory of Cognitive Consciousness covering natural and artificial beings, and a corresponding framework (Λ) for measuring the level of such consciousness in a creature.

Most of Bringsjord's publications are unpublished; for example, he has written the play *Calculi of Death*. (Many of his writings, including some unpublished ones, are available directly through hotlinks in his vitae, available at http://www.rpi.edu/∼brings.)

Though following e.g. Leibniz, Descartes, and Paul in rejecting physicalism, Bringsjord is happy to admit that as an avid athlete not particularly thrilled with losing, he takes the life of the body rather seriously. He has skied since Christmas Day at the age of four, and has been a ski patroller for many years at Jiminy Peak in the Taconic Mountains near his main home; he continues to play decent tennis as long as his son is there to help in doubles; and every now and then he still plays a form of golf which, though filled with fun, perhaps doesn't exactly produce scores in line with even such lukewarm descriptors as "sometimes solid."