Annotated Bibliography – Unified Monopole Framework

- Werndl, C., & Frigg, R. (2021). 'Ehrenfest and Ehrenfest-Afanassjewa on Why Boltzmannian and Gibbsian Calculations Agree'. In *The Legacy of Tatjana Afanassjewa*, Springer, 85–99. • Dirac, P. A. M. (1931). 'Quantised Singularities in the Electromagnetic Field'. Proceedings of the Royal Society A, 133(821), 60–72.
- Werndl & Frigg (2021) – Explains the equivalence of Boltzmannian and Gibbsian statistical mechanics, foundational for entropy plateau modeling. • Dirac (1931) – Introduces monopole theory, reinterpreted here as entropy-injecting phase-reset events guided by higher-order objectives.
- Bardeen, J., Cooper, L. N., & Schrieffer, J. R. (1957). 'Theory of Superconductivity'. Physical Review, 108(5), 1175–1204. https://doi.org/10.1103/PhysRev.108.1175 • Hirsch, J. E. (2024). 'Are Hydrides Under High-Pressure–High-Temperature Superconductors?' National Science Review, 11, nwad174. https://doi.org/10.1093/nsr/nwad174 • Xu, K., Li, Z., Zhang, Y. L., & Jing, C. (2015). 'An Indirect Magnetic Approach for Determining Entropy Change in First-Order Magnetocaloric Materials'. Unpublished Manuscript.
- Bardeen et al. (1957) – Defines the BCS mechanism for electron pairing in superconductors. • Hirsch (2024) – Challenges current assumptions about high-pressure superconductors and entropy states. • Xu et al. (2015) – Demonstrates entropy change measurement via magnetic transitions, relevant to monopole event modeling.
- Preskill, J. (1979). 'Cosmological Production of Superheavy Magnetic Monopoles'. Harvard University, HUTP-79/A028. • Martin, J. (2012). 'Everything You Always Wanted To Know About The Cosmological Constant Problem (But Were Afraid To Ask)'. arXiv:1205.3365 [astro-ph.CO].
- Preskill (1979) – Identifies the monopole overproduction problem in GUTs, used here as a signal of entropy-induced inflation. • Martin (2012) – Reviews the cosmological constant problem, supporting your reinterpretation of dark energy as entropy feedback from Alpha Space monopole layers.
- Schuster, P. (2011). 'The Mathematics of Darwin’s Theory of Evolution: 1859 and 150 Years Later'. Biological Theory, 6(1), 3–19. • Norn, C., André, I., & Theobald,

D. L. (2021). 'A Thermodynamic Model of Protein Structure Evolution Explains Empirical Amino Acid Substitution Matrices'. Protein Science, 30(12), 2434–2452.

- Schuster (2011) – Formalizes Darwinian dynamics using mutation-selection ODEs, highlighting the limits of gradual adaptation. • Norn et al. (2021) – Supports entropy-mediated structural emergence in proteins, laying groundwork for the IDP-entropy coupling model in biology.
- Babcock, N. S., Montes-Cabrera, G., Oberhofer, K. E., Chergui, M., Celardo, G. L., & Kurian, P. (2024). 'Ultraviolet Superradiance from Mega-Networks of Tryptophan in Biological Architectures'. Journal of Physical Chemistry B, 128(15), 4035–4046. • Hilser, V. J., García-Moreno, B., Oas, T. G., Kapp, G., & Whitten, S. T. (2005). 'A Statistical Thermodynamic Model of the Protein Ensemble'. Chemical Reviews, 106(5), 1545–1558. • Vuckovic, J., Baratin, A., & Tachet des Combes, R. (2020). 'A Mathematical Theory of Attention'. arXiv: 2007.02876 [stat.ML]. • van den Ende, M. W. J., Epskamp, S., Lees, M. H., van der Maas, H. L. J., Wiers, R. W., & Sloot, P. M. A. (2022). 'A review of mathematical modeling of addiction regarding both (neuro-) psychological processes and the social contagion perspectives'. Addictive Behaviors, 127, 107201.
- Babcock et al. (2024) – Shows photon superradiance in tryptophan networks, reinforcing the feasibility of biological quantum coherence. • Hilser et al. (2005) – Applies entropy-based statistical mechanics to protein folding and neural substrate dynamics. • Vuckovic et al. (2020) – Models attention as a resource allocation mechanism governed by entropy distribution. • van den Ende et al. (2022) – Conceptualizes addiction as a breakdown in system adaptability, matching monopole-entropy models of neural flow.
- Babcock et al. (2024). 'Ultraviolet Superradiance from Mega-Networks of Tryptophan in Biological Architectures'. ↳ Demonstrates coherence effects in biological systems that challenge decoherence arguments against quantum consciousness. • Hilser, V. J., García-Moreno, B., Oas, T. G., Kapp, G., & Whitten, S. T. (2005). 'A Statistical Thermodynamic Model of the Protein Ensemble'. Chemical Reviews, 106(5), 1545–1558.. ↳ Applies entropy theory to protein-level structures, supporting the idea of entropic tuning in neural substrates. • Vuckovic, J., Baratin, A., & Tachet des Combes, R. (2020). 'A Mathematical Theory of Attention'. arXiv:2007.02876 [stat.ML].. ↳ Provides a resource-optimization model of focus, which can be reinterpreted as monopole-regulated

entropy gating. • Norn, C., André, I., & Theobald, D. L. (2021). 'A Thermodynamic Model of Protein Structure Evolution Explains Empirical Amino Acid Substitution Matrices'. Protein Science, 30(12), 2434–2452.. ↳ Links entropy modulation with structural emergence, a key concept in your monopole theory of conscious structuring.

- Babcock et al. (2024) – Experimental demonstration of superradiance in biological molecules, enabling quantum biological models. • 'Protein Ensemble Thermodynamics' – Reinforces entropy-driven conformational states in biologically active proteins. • 'Attention Model' – Captures attentional processes via entropy balancing. • 'Thermodynamic Protein Evolution' – Describes entropy as the driver of structural innovation, a principle extended here to cognition.
- van den Ende, M. W. J., Epskamp, S., Lees, M. H., van der Maas, H. L. J., Wiers, R. W., & Sloot, P. M. A. (2022). 'A Review of Mathematical Modeling of Addiction Regarding Both (Neuro-)Psychological Processes and the Social Contagion Perspectives'. Addictive Behaviors, 127, 107201.. ↳ Models addiction as a dynamical attractor system, supporting entropy loop theory. • Ishida, T., Yamada, S., Yasuda, K., Uenishi, S., Tamaki, A., Tabata, M., Ikeda, N., Takahashi, S., & Kimoto, S. (2024). 'Aberrant Brain Dynamics of Large-Scale Functional Networks Across Schizophrenia and Mood Disorder'. NeuroImage: Clinical, 41, 103574.. ↳ Provides evidence for network desynchronization in schizophrenia and mood disorders. • Slovák, M., Gasperik, J., Majtan, J., & Nuttall, P. A. (2002). 'A High Affinity Serotonin- and Histamine-Binding Lipocalin from Tick Saliva'. Insect Molecular Biology, 11(1), 79–86.. ↳ Supports orthodox neurochemical frameworks for mood disorders. • Martins, R., et al. (2020). 'Brain-to-Brain Communication: The Possible Role of Electromagnetic Fields as a Potential Hypothesis'. NeuroQuantology, 18(2), 1–10.. ↳ Suggests coherent electromagnetic coupling may underlie monopole-like communication in brain networks.
- Ngo, R. (2020). 'AGI Safety from First Principles'. arXiv:2009.01827. • Schmidhuber, J. (2014). 'Deep Learning in Neural Networks: An Overview'. Neural Networks, 61, 85–117. arXiv:1404.7828. • Balestriero, R., Humayun, A. I., & Baraniuk, R. G. (2024). 'On the Geometry of Deep Learning'. Preprint.
- Ngo (2020) – Establishes the orthodox framing of AGI safety risks, focused on alignment, control, and policy. • Schmidhuber (2014) – Historic overview of deep learning systems and their reliance on backpropagation and statistical inference.

• Balestriero et al. (2024) – Provides a geometric interpretation of deep learning, opening conceptual space for entropy-aligned architectures.

- Dirac, P. A. M. (1931). 'Quantised Singularities in the Electromagnetic Field'. Proceedings of the Royal Society A, 133(821), 60–72. • Dirac, P. A. M. (1948). 'The Theory of Magnetic Poles'. Physical Review, 74(7), 817–830. • Zurek, W. H. (2002). 'Decoherence and the Transition from Quantum to Classical—Revisited'. Los Alamos Science, 27, 2–25.
- Dirac (1931) – Introduced monopoles as quantization enforcers, foundational for your entropic monopole model. • Dirac (1948) – Extended monopole theory into field formalism, supports OCI’s topological collapse dynamics. • Zurek (2002) – Describes decoherence as environmental immersion; you reinterpret this as monopole-triggered entropy collapse.
- Miesch, M.S., & Toomre, J. (2009). 'The Global Solar Dynamo'. Living Reviews in Solar Physics, 6(1), 1–88. ↳ Provides MHD-based explanations for magnetic field generation and variation in solar and planetary systems. • Preskill, J. (1984). 'Magnetic Monopoles'. Annual Review of Nuclear and Particle Science, 34(1), 461–530. ↳ Comprehensive review of monopole theory with implications for field dynamics. • Dirac, P.A.M. (1931). 'Quantised Singularities in the Electromagnetic Field'. Proceedings of the Royal Society A. ↳ Foundational theoretical work proposing the existence of magnetic monopoles. • Revealing emergent magnetic charge in an antiferromagnet... (2020). ↳ Offers empirical evidence for monopole-like behavior in condensed matter systems, relevant to entropic field transitions.
- Miesch & Toomre (2009) – Explains the solar dynamo as a convection-driven MHD process, foundational for planetary comparison. • Preskill (1984) – Provides a theoretical foundation for the role of monopoles in field theory and early universe models. • Dirac (1931) – Introduces magnetic monopoles to preserve charge quantization symmetry. • Revealing emergent magnetic charge... – Demonstrates real-world monopole-like dynamics in antiferromagnetic systems, lending experimental plausibility to your entropy-injection model.
- Norn, C., André, I., & Theobald, D. L. (2021). 'A Thermodynamic Model of Protein Structure Evolution Explains Empirical Amino Acid Substitution Matrices'. Protein Science, 30(12), 2434–2452. • Preskill, J. (1979). 'Cosmological Production of Superheavy Magnetic Monopoles'. Harvard University, HUTP-79/A028. • Martin, J. (2012). 'Everything You Always Wanted To

Know About The Cosmological Constant Problem (But Were Afraid To Ask)'. arXiv:1205.3365 [astro-ph.CO].

- Norn et al. (2021) – Thermodynamic treatment of protein evolution, forms biological use case. • Preskill (1979) – Core citation for early-universe monopole burst modeling. • Martin (2012) – Source for vacuum energy modeling, supports dark energy entropy interpretation.