

Further Readings

There are many more books out there on all these topics, but these are the books from which I have learned the most. Some are by friends of mine; all are by my teachers. A few of these books are fairly technical; most are written for a general audience.

Complex Systems and Biology

Johnson, Steven. *Emergence: The Connected Lives of Ants, Brains, Cities, and Software*. New York: Scribner, 2001.

Kauffman, Stuart A. *At Home in the Universe: The Search for Laws of Self-Organization and Complexity*. New York: Oxford University Press, 1995.

———. *A World beyond Physics: The Emergence and Evolution of Life*. New York: Oxford University Press, 2019.

Oyama, Susan. *The Ontogeny of Information: Developmental Systems and Evolution*, 2nd ed. Durham, North Carolina: Duke University Press, 2000. First published in 1985 by Cambridge University Press (Cambridge, England).

Waldrop, M. Mitchell. *Complexity: The Emerging Science at the Edge of Order and Chaos*. New York: Simon & Schuster, 1992. Wolfram, Stephen. *A New Kind of Science*. Champaign, Illinois: Wolfram Media, 2002.

Social and Cultural Implications of Complexity

Kauffman, Stuart A. *Humanity in a Creative Universe*. New York: Oxford University Press, 2016.

———. *Reinventing the Sacred: A New View of Science, Reason, and Religion*. New York: Basic Books, 2008.

Lewin, Roger. *Complexity: Life at the Edge of Chaos*. New York: Macmillan, 1992.

Redekop, Vern Neufeld, and Gloria Neufeld Redekop, eds. *Awakening: Exploring Spirituality, Emergent Creativity, and Reconciliation*. Lanham, Maryland: Lexington Books, 2020.

———. *Transforming: Applying Spirituality, Emergent Creativity, and Reconciliation*. Lanham, Maryland: Lexington Books, 2021.

Physics, Chaos and Information Theory

Gamow, George. *Thirty Years That Shook Physics: The Story of Quantum Theory*. Garden City, New York: Doubleday, 1966.

Gleick, James. *Chaos: Making a New Science*. New York: Penguin, 1988.

———. *The Information: A History, a Theory, a Flood*. New York: Pantheon, 2011.

Greene, Brian. *The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory*. New York: Vintage, 2000

Isaacson, Walter. *Einstein: His Life and Universe*. New York: Simon & Schuster, 2007.

Rovelli, Carlo. *Seven Brief Lessons on Physics*. Translated by Simon Carnell and Erica Segre. New York: Riverhead, 2016.

Gödel

Budiansky, Stephen. *Journey to the Edge of Reason: The Life of Kurt Gödel*. New York: W. W. Norton, 2021.

Edmonds, David. *The Murder of Professor Schlick: The Rise and Fall of the Vienna Circle*. Princeton, New Jersey: Princeton University Press, 2020.

Goldstein, Rebecca. *Incompleteness: The Proof and Paradox of Kurt Gödel*. New York: W. W. Norton, 2005.

Holt, Jim. *When Einstein Walked with Gödel: Excursions to the Edge of Thought*. New York: Farrar, Straus and Giroux, 2018.

Nagel, Ernest, and James R. Newman. *Gödel's Proof*, rev. ed. New York: New York University Press, 2001. First published in 1958.

Sigmund, Karl. *Exact Thinking in Demented Times: The Vienna Circle and the Epic Quest for the Foundations of Science*. New York: Basic Books, 2017.

Consciousness—Some Materialist, Panpsychist, and Idealist Views

Chopra, Deepak, and Menas C. Kafatos. *You Are the Universe: Discovering Your Cosmic Self and Why It Matters*. New York: Harmony Books, 2017.

Hofstadter, Douglas R. *Gödel, Escher, Bach: An Eternal Golden Braid*. New York: Basic Books, 1999.

Kafatos, Menas C., and Robert Nadeau. *The Conscious Universe: Parts and Wholes in Physical Reality*. New York: Springer, 2000.

Kastrup, Bernardo. *The Idea of the World: A Multi-disciplinary Argument for the Mental Nature of Reality*. Winchester, England: Iff Books, 2019.

———. *Why Materialism Is Baloney: How True Skeptics Know There Is No Death and Fathom Answers to Life, the Universe, and Everything*. Winchester, England: Iff Books, 2014.

Koch, Christof. *The Feeling of Life Itself: Why Consciousness Is Widespread but Can't Be Computed*. Cambridge, Massachusetts: MIT Press, 2019.

Maturana, Humberto R., and Francisco J. Varela. *Autopoiesis and Cognition: The Realization of the Living*. Dordrecht, Holland: D. Riedel Publishing Company, 1980.

Nadeau, Robert, and Menas C. Kafatos. *The Non-local Universe: The New Physics and Matters of the Mind*. New York: Oxford University Press, 1999.

Penrose, Roger. *Shadows of the Mind: A Search for the Missing Science of Consciousness*. Oxford, England: Oxford University Press, 1994.

Stapp, Henry P. *Mindful Universe: Quantum Mechanics and the Participating Observer*, 2nd ed. New York: Springer, 2011. First published in 2007.

Spirituality and Mysticisms

Kafatos, Menas, and Thalia Kafatou. *Looking In, Seeing Out: Consciousness and Cosmos*. Wheaton, Illinois: Quest Books, 1991.

Kapleau, Philip. *The Three Pillars of Zen: Teaching, Practice, and Enlightenment*. New York: Anchor Books, 2000. First published in 1965 by John Weatherhill (New York).

Matt, Daniel C. *The Essential Kabbalah: The Heart of Jewish Mysticism*. New York: HarperCollins, 1995.

O'Hara, Pat Enkyo. *A Little Bit of Zen: An Introduction to Zen Buddhism*. New York: Sterling Ethos, 2020.

———. *Most Intimate: A Zen Approach to Life's Challenges*. Boston: Shambhala, 2014.

Scholem, Gershom. *Kabbalah*. New York: Penguin, 1978. First published in 1974 by Keter (Jerusalem). ———. *Major Trends in Jewish Mysticism*. New York: Schocken Books, 1974. First published in 1941 by Schocken (Jerusalem).

The following are my previously published (mostly peer-reviewed) papers and chapters on the topics in Notes on Complexity. These are in the order in which they were written and published.

Theise, Neil D., and Diane S. Krause. "Suggestions for a New Paradigm of Cell Differentiative Potential." *Blood Cells, Molecules, and Diseases* 27, no. 3 (May 2001): 625–31.
<https://doi.org/10.1006/bcmd.2001.0425>.

Theise, Neil D. "Science as Koan." *Tricycle: The Buddhist Review* 12, no. 3 (Spring 2003): 81.

Theise, Neil D., and Ian Wilmut. "Cell Plasticity: Flexible Arrangement." *Nature* 425, no. 6953 (September 2003): 21. <https://doi.org/10.1038/425021a>.

Theise, Neil D. "Perspective: Stem Cells React! Cell Lineages as Complex Adaptive Systems." *Experimental Hematology* 32, no. 1 (January 2004): 25–7.
<https://doi.org/10.1016/j.exphem.2003.10.012>.

Theise, Neil D. "Cell Doctrine: Now You See It, Now You Don't." *Nature* 435, no. 7046 (May 2005): 1165. <https://doi.org/10.1038/4351165a>.

d'Inverno, Mark, Neil D. Theise, and Jane Prophet. "Mathematical Modeling of Stem Cells: A Complexity Primer for the Stem-Cell Biologist." In *Tissue Stem Cells*, 2nd ed., eds. Christopher S. Potten, Robert B. Clarke, James Wilson, and Andrew G. Renehan, 1–15. New York: Taylor and Francis, 2006.

Theise, Neil D. "Implications of 'Postmodern Biology' for Pathology: The Cell Doctrine." *Laboratory Investigation* 86, no. 4 (February 2006): 335–44.
<https://doi.org/10.1038/labinvest.3700401>.

Theise, Neil D. "From the Bottom Up: Complexity, Emergence, and Buddhist Metaphysics." *Tricycle: The Buddhist Review* 15, no. 4 (Summer 2006): 24–6. Bushell, William C., Erin L. Olivo, and Neil D. Theise, eds. "Longevity, Regeneration, and Optimal Health: Integrating Eastern and Western Perspectives." *Annals of the New York Academy of Sciences* 1172, no. 1 (August 2009).

Theise, Neil D. "Beyond Cell Doctrine: Complexity Theory Informs Alternate Models of the Body for Cross-Cultural Dialogue." *Annals of the New York Academy of Sciences* 1172, no. 1 (August 2009): 263–9. <https://doi.org/10.1111/j.1749-6632.2009.04410.x>.

Bushell, William C., and Neil D. Theise. "Toward a Unified Field of Study: Longevity, Regeneration, and Protection of Health through Meditation and Related Practices." *Annals of the New York Academy of Sciences* 1172, no. 1 (August 2009): 5–19. <https://doi.org/10.1111/j.1749-6632.2009.04959.x>.

Kuntsevich, Viktoriya, William C. Bushell, and Neil D. Theise. "Mechanisms of Yogic Practices in Health, Aging, and Disease." *Mount Sinai Journal of Medicine: A Journal of Translational and Personalized Medicine* 77, no. 5 (September/ October 2010): 559–69. <https://doi.org/10.1002/msj.20214>.

Theise, Neil D., and Menas C. Kafatos. "Sentience Everywhere: Complexity Theory, Panpsychism and the Role of Sentience in Self-Organization of the Universe." *Journal of Consciousness Exploration and Research* 4, no. 4 (April 2013): 378–90.

Theise, Neil D., and Menas C. Kafatos. "Complementarity in Biological Systems: A Complexity View." *Complexity* 18, no. 6 (July/August 2013): 11–20. <https://doi.org/10.1002/cplx.21453>

Michalopoulos, George K., Markus Grompe, and Neil D. Theise. "Assessing the Potential of Induced Liver Regeneration." *Nature Medicine* 19, no. 9 (September 2013): 1096–97. <https://doi.org/10.1038/nm.3325>

Kafatos, Menas C., Gaétan Chevalier, Deepak Chopra, John Hubacher, Subhash Kak, and Neil D. Theise. "Biofield Science: Current Physics Perspectives." *Global Advances in Health and Medicine* 4, no. 1_suppl (January 2015): 25–34. <https://doi.org/10.7453/gahmj.2015.011.suppl>

Theise, Neil D., and Menas C. Kafatos. "Fundamental Awareness: A Framework for Integrating Science, Philosophy and Metaphysics." *Communicative and Integrative Biology* 9, no. 3 (2016): e1155010. <https://doi.org/10.1080/19420889.2016.1155010>

Theise, Neil D. "Fundamental Awareness: The Universe Twiddling Its Thumbs." In *On the Mystery of Being: Contemporary Insights on the Convergence of Science and Spirituality*, eds. Zaya Benazzo and Maurizio Benazzo, 86–90. Oakland, California: Non-Duality Press, 2019.

Theise, Neil D. "Microscopes and Mystics: A Response to Stuart Kauffman's Call to 'Re-enchantment.'" In *Awakening: Exploring Spirituality, Emergent Creativity, and Reconciliation*, eds. Vern Neufeld Redekop and Gloria Neufeld Redekop, 49–64. Lanham, Maryland: Lexington Books, 2020.

Theise, Neil D., with Catherine Twinn, Gloria Neufeld Redekop, and Lissane Yoannes. "Harnessing Principles of Complex Systems for Understanding and Modulating Social Structures." In *Transforming: Applying Spirituality, Emergent Creativity, and Reconciliation*, eds. Vern Neufeld Redekop and Gloria Neufeld Redekop, 377–94. Lanham, Maryland: Lexington Books, 2021.

Theise, Neil D. "Complexity Theory and Quantum-Like Qualities in Biology." In *Quantum and Consciousness Revisited*, eds. Menas C. Kafatos, Debashish Banerji, and Daniele S. Struppa, 288–312. New Delhi, India, 2023.

Theise, Neil D., Goro Cato, and Menas C. Kafatos. "Gödel's Incompleteness Theorems, Complementarity, and Fundamental Awareness." In *Quantum and Consciousness Revisited*, eds. Menas C. Kafatos, Debashish Banerji, and Daniele S. Struppa, 253–285. New Delhi, India: DK, 2023