

PRIMARY SOURCES/THEORIES THAT SUPPORT NARRATIVE COMPLEXITY

Here's a quick list of some (but not all) of *Narrative Complexity's* brain-brethren (other key researchers & their work are noted within the essays):

- In terms of neuroscience, Nobel Prize-winner Gerald Edelman's (& Giulio Tononi's) theories—in particular their book, *A Universe of Consciousness; How Matter Becomes Imagination* (Basic Books, 2000)—provide the bulk of the evidence for the looping, interconnected brain systems required by *Narrative Complexity*.
- In addition, Berkeley anthropologist & neurobiologist Terrence Deacon's *The Symbolic Species* (Norton, 1999) & *Incomplete Nature: How Mind Emerged from Matter* (Norton, 2011) and Dartmouth neuroscientist Peter Ulric Tse's *The Neural Basis Of Free Will: Criterial Causation* (MIT Press, 2013) also present critical proof of the neural principles underpinning my theory.
- Cognitively speaking, the theories of philosopher & Tufts professor Daniel Dennett and Princeton psychologist Daniel Kahneman—in particular, his Nobel Prize-winning *Prospect Theory*—strongly support aspects of *Narrative Complexity*. (More specifically, *Prospect Theory* supports my theory's cognitive, narratively-based emotional mechanics.)
- Linguistically-cognitively, M.A.K. Halliday's & Christian M.I.M Matthiessen's work *Construing Experience Through Meaning: A Language-Based Approach to Cognition* (Continuum, 1999) supports my theory's view of syntax & language-based cognition.
- The model of consciousness that *Narrative Complexity* draws most-heavily upon is Edelman's & Tononi's *Dynamic Core Hypothesis*. Other models that share similar approaches include: *Information Integration Theory* (Tononi), *Multiple Drafts* (Dennett) & *Global Workplace* (Bernard Baars).
- In terms of the unconscious, our theory basically adopts the view presented by John Bargh & Ezequiel Morsella at Yale in their 2008 paper “The Unconscious Mind.”
- And for those pure philosophy geeks: the theory label that best describes *Narrative Complexity's* approach is *Dispositionalist Higher-Order Thought Theory*.

SOURCES CITED BY NARRATIVE COMPLEXITY ESSAYS

Essay #1: Language & Internal Dialogue

p.8:

1. Deacon, Terrence. *Incomplete Nature: How Mind Emerged from Matter*. Norton, 2011.

p.9:

2. Bargh, John A., and Ezequiel Morsella. "The unconscious mind." *Perspectives on psychological science* 3.1 (2008): 73-79.

3. Dux, P. E., et al. (2006). Isolation of a central bottleneck of information processing with time-resolved fMRI. *Neuron*, 52: 1109-1120.

p.10:

4. Perrone-Bertolotti, Marcela, et al. "What is that little voice inside my head? Inner speech phenomenology, its role in cognitive performance, and its relation to self-monitoring." *Behavioural brain research* 261 (2014): 220-239.

p.11:

5. Deacon, Terrence. *The Symbolic Species*. Norton, 1999.

p.12:

6. Edelman, Gerald M., and Giulio Tononi. *A universe of consciousness: How matter becomes imagination*. Basic Books, 2000.

7. Tse, Peter Ulric. *The Neural Basis of Free Will: Criterial Causation*. MIT Press, 2013.

8. Halliday, M.A.K., and Matthiessen, Christian M.I.M. *Construing Experience Through Meaning: A Language-Based Approach to Cognition*. Continuum, 1999.

p.15:

9. Schaller, Susan. *A Man Without Words*. University of California Press, 1995.

p.17:

10. Morin, Alain. "Possible links between self-awareness and inner speech theoretical background, underlying mechanisms, and empirical evidence." *Journal of Consciousness Studies* 12.4-5 (2005): 115-134.

Essay #2: Emotions & Beliefs

p. 24:

1. Kahneman, Daniel, and Amos Tversky. "Prospect theory: An analysis of decision under risk." *Econometrica: Journal of the Econometric Society* (1979): 263-291.

2. Tversky, Amos, and Daniel Kahneman. "Advances in prospect theory: Cumulative representation of uncertainty." *Journal of Risk and uncertainty* 5.4 (1992): 297-323.

p. 26:

3. Smith, Craig A., and Richard S. Lazarus. "Appraisal components, core relational themes, and the emotions." *Cognition & Emotion* 7.3-4 (1993): 233-269.

4. Plutchik, Robert Ed, and Hope R. Conte. *Circumplex models of personality and emotions*. American Psychological Association, 1997.

p. 30:

5. Valdesolo, Piercarlo, and David DeSteno. "Synchrony and the social tuning of compassion." *Emotion* 11.2 (2011): 262.

p. 42:

6. Farb, Norman AS, Hanah A. Chapman, and Adam K. Anderson. "Emotions: Form follows function." *Current opinion in neurobiology* 23.3 (2013): 393-398.

p. 55:

7. Daniel Togo Omura, "C. elegans integrates food, stress, and hunger signals to coordinate motor activity." *Massachusetts Institute of Technology*, June 2008.

8. David E. Nichols, Charles D. Nichols. "Serotonin Receptors." *Chem. Rev.* 2008, 108, 1614–1641.

p.56:

9. Sarina M. Rodrigues, Laura R. Saslow, Natalia Garcia, Oliver P. John, and Dacher Keltner "Oxytocin receptor genetic variation relates to empathy and stress reactivity in humans." *Psychological and Cognitive Science*, Proc Natl Acad Sci U S A, 2009 December 15; 106(50): 21437–21441.

10. Jorge A. Barrazaa, Paul J. Zak. "Empathy toward Strangers Triggers Oxytocin Release and Subsequent Generosity" *Values, Empathy, and Fairness across Social Barriers: Ann. N.Y. Acad. Sci.* 1167: 182–189 (2009).

p.57:

11. Gray, Jeffrey A. "Brain systems that mediate both emotion and cognition." *Cognition & Emotion* 4.3 (1990): 269-288.

12. A. Herrel, J. C. O'Reilly, A. M. Richmond. "Evolution of bite performance in turtles" *J. Evol. Biol.* 15 (2002): 1083–1094.

p.60:

13. Netz J, Medert HA, Arndt JO. "The opiate antagonist naloxone does not arouse man from natural delta sleep." *Psychopharmacology*, 1986; 90(2):263-7.

14. King C, Masserano JM, Codd E, Byrne WL. "Effects of beta-endorphin and morphine on the sleep-wakefulness behavior of cats." *Sleep*, 1981 Sep;4(3):259-62.

p.63:

15. Rabosky, ARD, A. Corl, Y. Surget-Groba, H. Liwang, and B. Sinervo. 2012. Direct fitness correlates and thermal consequences of facultative aggregation in a desert lizard. *PLoS One* 7: 1-8.

16. Davis A.R., A. Corl, Y. Surget-Groba, and B. Sinervo. 2011. Convergent evolution of kin-based sociality in a lizard. *Proceedings of the Royal Society – B.* 278: 1507–1514.

p.64:

17. Bartal, Inbal Ben-Ami, Jean Decety, and Peggy Mason. "Empathy and pro-social behavior in rats." *Science* 334.6061 (2011): 1427-1430.

18. Atsak P, Orre M, Bakker P, Cerliani L, Roozendaal B, et al. (2011) Experience Modulates Vicarious Freezing in Rats: A Model for Empathy. *PLoS ONE* 6(7): e21855. doi:10.1371/journal.pone.0021855.

19. Hare, B. Kwetuenda, S. 2010. Bonobos voluntarily share their own food with others. *Current Biology*. 20, R230-231.

20. Tan J, Hare B (2013) Bonobos Share with Strangers. *PLoS ONE* 8(1): e51922. doi:10.1371/journal.pone.0051922

p.69:

21. Chapman, H. A. and Anderson, A. K. (2012), Understanding disgust. *Annals of the New York Academy of Sciences*, 1251: 62–76. doi: 10.1111/j.1749-6632.2011.06369.

p.70:

22. Wrangham, Richard W., et al. "The raw and the stolen." *Current anthropology* 40.5 (1999): 567-594.

23. Berna, Francesco, et al. "Microstratigraphic evidence of in situ fire in the Acheulean strata of Wonderwerk Cave, Northern Cape province, South Africa." *Proceedings of the National Academy of Sciences* 109.20 (2012): E1215-E1220.

p.73:

24. Chapman, Hanah A., and Adam K. Anderson. "Things rank and gross in nature: A review and synthesis of moral disgust." *Psychological bulletin* 139.2 (2013): 300.

25. Warneken, Felix, and Alexandra G. Rosati. "Cognitive capacities for cooking in chimpanzees." *Proceedings of the Royal Society of London B: Biological Sciences* 282.1809 (2015): 20150229.

p.74:

26. Marean, Curtis W. "Pinnacle Point Cave 13B (Western Cape Province, South Africa) in context: the Cape floral kingdom, shellfish, and modern human origins." *Journal of Human Evolution* 59.3 (2010): 425-443.

Essay #3: Dreams

p. 86:

1. Hobson, J. Allan. *Dreaming: A very short introduction*. Oxford University Press, 2005.

2. Hobson, J. A., and K. J. Friston. "Waking and dreaming consciousness: Neurobiological and functional considerations." *Progress in neurobiology* 98.1 (2012): 82-98.

p. 93:

3. Schiff, Nicholas D. "Recovery of consciousness after brain injury: a mesocircuit hypothesis." *Trends in neurosciences* 33.1 (2010): 1-9.

4. Chow, Ho Ming, et al. "Rhythmic alternating patterns of brain activity distinguish rapid eye movement sleep from other states of consciousness." *Proceedings of the National Academy of Sciences* 110.25 (2013): 10300-10305.

Essay #4: Memory & Cognition

p.101:

1. Edelman, Gerald M., and Giulio Tononi. *A universe of consciousness: How matter becomes imagination*. Basic Books, 2000.

2. Deacon, Terrence. *Incomplete Nature: How Mind Emerged from Matter*. Norton, 2011.

3. Tse, Peter Ulric. *The Neural Basis of Free Will: Criterial Causation*. MIT Press, 2013.

p.102:

4. Kilpatrick, Lisa, and Larry Cahill. "Amygdala modulation of parahippocampal and frontal regions during emotionally influenced memory storage." *Neuroimage* 20.4 (2003): 2091-2099.

5. Lenz, F. A., et al. "The sensory-limbic model of pain memory: connections from thalamus to the limbic system mediate the learned component of the affective dimension of pain." *Pain Forum*. Vol. 6. No. 1. Churchill Livingstone, 1997.

p.105:

6. Hafting, Torkel, et al. "Microstructure of a spatial map in the entorhinal cortex." *Nature* 436.7052 (2005): 801-806.

p.108:

7. Ford, Judith M., et al. "Cortical responsiveness during inner speech in schizophrenia: an event-related potential study." *American Journal of Psychiatry* 158.11 (2001): 1914-1916.

p.121:

8. Spencer, Susan S. "Corpus callosum section and other disconnection procedures for medically intractable epilepsy." *Epilepsia* 29.s2 (1988): S85-S99.

p.122:

9. Halliday, M.A.K., and Matthiessen, Christian M.I.M. *Construing Experience Through Meaning: A Language-Based Approach to Cognition*. Continuum, 1999.

p.127:

10. Deacon, Terrence. *The Symbolic Species*. Norton, 1999.

p.130:

11. Robertson, Brita, et al. "GABA distribution in lamprey is phylogenetically conserved." *Journal of Comparative Neurology* 503.1 (2007): 47-63.

12. Pombal, M. A. "Afferent connections of the optic tectum in lampreys: an experimental study." *Brain, behavior and evolution* 69.1 (2006): 37-68.

13. Burgess, Neil, Eleanor A. Maguire, and John O'Keefe. "The human hippocampus and spatial and episodic memory." *Neuron* 35.4 (2002): 625-641.

14. Fyhn, Marianne, et al. "Spatial representation in the entorhinal cortex." *Science* 305.5688 (2004): 1258-1264.

p.131:

15. Zola-Morgan, Stuart, Larry R. Squire, and D. G. Amaral. "Human amnesia and the medial temporal region: enduring memory impairment following a bilateral lesion limited to field CA1 of the hippocampus." *The Journal of Neuroscience* 6.10 (1986): 2950-2967.

16. Jacobs, Joshua, et al. "Direct recordings of grid-like neuronal activity in human spatial navigation." *Nature neuroscience* 16.9 (2013): 1188-1190.
- p.132:
17. Ullman, Michael T., et al. "A neural dissociation within language: Evidence that the mental dictionary is part of declarative memory, and that grammatical rules are processed by the procedural system." *Journal of cognitive neuroscience* 9.2 (1997): 266-276.
- p.133:
18. Marsolek, Chad J., et al. "Hemispheric asymmetries in motivation neurally dissociate self-description processes." *Emotion* 13.3 (2013): 462.
- p.145:
19. Oberman, Lindsay M., et al. "EEG evidence for mirror neuron dysfunction in autism spectrum disorders." *Cognitive Brain Research* 24.2 (2005): 190-198.
- p.150:
20. Jaeggi, Susanne M., et al. "Improving fluid intelligence with training on working memory." *Proceedings of the National Academy of Sciences* 105.19 (2008): 6829-6833.
- p.153:
21. Zeman, Adam, Michaela Dewar, and Sergio Della Sala. "Lives without imagery—Congenital aphantasia." *Cortex* (2015).
- p.164:
22. Sacks, Oliver. *The man who mistook his wife for a hat: And other clinical tales*. Simon & Schuster, 1998.
- p.165:
23. Mather, Mara. "The emotion paradox in the aging brain." *Annals of the New York Academy of Sciences* 1251.1 (2012): 33-49.
- p.169:
24. Kiehl, Kent A. "A cognitive neuroscience perspective on psychopathy: evidence for paralimbic system dysfunction." *Psychiatry research* 142.2 (2006): 107-128.
- p.172:
25. Kaye, Walter. "Neurobiology of anorexia and bulimia nervosa." *Physiology & Behavior* 94.1 (2008): 121-135.
- p.183:
26. Konrad, Kerstin, and Simon B. Eickhoff. "Is the ADHD brain wired differently? A review on structural and functional connectivity in attention deficit hyperactivity disorder." *Human brain mapping* 31.6 (2010): 904-916.
- p.186:
27. Thompson, Paul M., et al. "Mapping adolescent brain change reveals dynamic wave of accelerated gray matter loss in very early-onset schizophrenia." *Proceedings of the National Academy of Sciences* 98.20 (2001): 11650-11655.
28. Keefe, Richard SE, et al. "Microvascular Abnormality in Schizophrenia as Shown by Retinal Imaging.
29. Hanson, Daniel R., and Irving I. Gottesman. "Theories of schizophrenia: a genetic-inflammatory-vascular synthesis." *BMC Medical Genetics* 6.1 (2005): 7.
30. Sekar, Aswin, et al. "Schizophrenia risk from complex variation of complement component 4." *Nature* (2016).

p.187:

31. Adams, Douglas. *The Hitchhiker's Guide to the Galaxy*. Harmony Books, 1980.

Essay #5: Free Will & The Unconscious

p.197:

1. Bargh, John A., and Ezequiel Morsella. "The unconscious mind." *Perspectives on psychological science* 3.1 (2008): 73-79.

2. Edelman, Gerald M., and Giulio Tononi. *A universe of consciousness: How matter becomes imagination*. Basic books, 2000.

p.198:

3. Deacon, Terrence. *The Symbolic Species*. Norton, 1999.

p. 201:

4. Wymbs, Nicholas F., et al. "Differential recruitment of the sensorimotor putamen and frontoparietal cortex during motor chunking in humans." *Neuron* 74.5 (2012): 936-946.

p. 207:

5. Domenech, Philippe, and Etienne Koechlin. "Executive control and decision-making in the prefrontal cortex." *Current Opinion in Behavioral Sciences* 1 (2015): 101-106.

p. 209:

6. Klein, Johannes C., et al. "Topography of connections between human prefrontal cortex and mediodorsal thalamus studied with diffusion tractography." *Neuroimage* 51.2 (2010): 555-564.

7. Alexander, Garrett E., Mahlon R. DeLong, and Peter L. Strick. "Parallel organization of functionally segregated circuits linking basal ganglia and cortex." *Annual review of neuroscience* 9.1 (1986): 357-381.

p. 210:

8. Kultas–Ilinsky, Kristy, Elena Sivan–Loukianova, and Igor A. Ilinsky. "Reevaluation of the primary motor cortex connections with the thalamus in primates." *Journal of Comparative Neurology* 457.2 (2003): 133-158.

9. Marsden, C. D. "What do the basal ganglia tell premotor cortical areas." *Motor areas of the cerebral cortex* (1987): 282-300.

p. 213:

10. Kahneman, Daniel, and Amos Tversky. "Prospect theory: An analysis of decision under risk." *Econometrica: Journal of the Econometric Society* (1979): 263-291.

11. Tversky, Amos, and Daniel Kahneman. "Advances in prospect theory: Cumulative representation of uncertainty." *Journal of Risk and uncertainty* 5.4 (1992): 297-323.

p.215:

12. Libet, Benjamin, et al. "Time of conscious intention to act in relation to onset of cerebral activity (readiness-potential) the unconscious initiation of a freely voluntary act." *Brain* 106.3 (1983): 623-642.

p.216:

13. Tse, Peter Ulric. *The Neural Basis of Free Will: Criterial Causation*. MIT Press, 2013.