

Preaching and Narrativity: The Contribution from Neuroscience  
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## Introduction

The human penchant for storytelling is not new. As Jonathan Gottschall has christened us, we are "storytelling animals," not simply *homo sapiens* but *homo fictus*.<sup>1</sup> Storytelling is ubiquitous among human beings across contexts and cultures, eras and epochs. It also, as far as we know, is one of the unique features distinguishing us from other species. While other species ritualize, are adept at sophisticated forms of communication, and even have episodic memory that can sometimes stretch back over long periods of time,<sup>2</sup> there is no evidence that they are capable of spinning a tale.

Human history itself is a story telling adventure. Cave paintings from over 40,000 years ago in the Franco-Cantabrian region of western Europe depicting large land mammals could be tales of hoped for hunts<sup>3</sup> or shamanic dreams.<sup>4</sup> Some scholars believe that ancient oral forms of some fairy tales date back to the Ice Age and Stone Age.<sup>5</sup> Over 12,000 years ago a pictograph was created in southeast Turkey, unfolding the tale of a traditional sky burial in an intentional and thematic way.<sup>6</sup> Written stories already appear maybe as far back as 4500 years ago in the form of Sumerian poems eventually fashioned into the Epic of Gilgamesh.<sup>7</sup> Classic storytelling from ancient civilizations such as the epics of ascribed to Homer [8<sup>TH</sup> century BCE?] continues to occupy both students and the wider public today, both studied in classrooms and transformed by Hollywood into star studded blockbusters.

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<sup>1</sup> Jonathan Gottschall, *The Storytelling Animal: How Stories make us human* (Boston: Mariner Books, 2013).

<sup>2</sup> <https://www.ncbi.nlm.nih.gov/pubmed/17079013> E. Dere, E. Kart-Teke, JP Huston, Silva de Souza. 2006. "The case for episodic memory in animals." *Neuroscience Biobehavioral Reviews* 30 (8): 1206-24

<sup>3</sup> Henri Breuil, *Four Hundred Centuries of Cave Art* (Montignac: Centre d'etudes et de documentation prehistorique, 1952).

<sup>4</sup> Whitley, David S. (2009). *Cave Paintings and the Human Spirit: The Origin of Creativity and Belief*. Prometheus. p. 35.

<sup>5</sup> Karimi, Edith (2016). *Mimetische Bildung durch Marchen: Phantasie, Narration, Moral* [Mimetic education through Marchen: phantasy, narration, morality]. *European Studies in Education (in German)*. 34. Munster: Waxmann Verlag. p. 110. [ISBN 9783830984726](https://www.waxmann.com/9783830984726). Retrieved 2018-10-25. *Manche Marchen ordnet [August] Nitschke den Jagern und Hirten der letzten Eiszeit zu, andere den Bauern und Fischern im Mesolithikum, wieder andere den Seefahrern der Meglithgesellschaft oder den Helden der Indogermanen. [August Nitschke assigns many fairy-tales to the hunters and herders of the last Ice Age, other ones to the farmers and fisherfolk of the Mesolithic, and still other ones to the seafarers of the megalith cultures or to the heroes of the Indo-European peoples.]*

<sup>6</sup> <https://news.artnet.com/art-world/turkey-worlds-oldest-writing-pictograph-319107>

<sup>7</sup> Stephanie Dalley (ed.). *Myths from Mesopotamia: Creation, the Flood, Gilgamesh, and Others*. Oxford University Press.

Religion is not immune from this story-telling instinct. Many commentators have remarked about the narrative quality of local and global religions and their scriptures. It is estimated, for example, that more than half of the Hebrew Scriptures consists of narration.<sup>8</sup> Biblical scholar Amos Wilder believed that among the many literary forms present in the Hebrew Bible, the narrative mode was primary.<sup>9</sup> The design of book of Genesis underscores that the Holy One is a storyteller, as the book narrates events that occurred before humans existed and that we could not possibly know with the Divine storyteller enlightening us. Thus, the God of the Hebrew Scriptures is indeed a *Deus Fictus*. The Christian Gospels as well as the Book of Acts contain even a higher concentration of stories. Jesus himself is depicted as a master storyteller, especially gifted in the art of the parable.<sup>10</sup> In his study of the New Testament, Wilder concludes that Christian communication itself is ordinarily achieved through story.

The narrative richness of these Jewish and Christian scriptures has spurred the development of a new approach to biblical studies since second half of the twentieth century: narrative criticism.<sup>11</sup> Beyond biblical scholars, narrative theologizing has emerged among systematic theologians, ethicists, and practical theologians.<sup>12</sup> Some find the narrative approach so compelling that they have eschewed the Roman Catholic or Common Lectionaries, employed in renewed worship since the 1970's, and have opted for a "narrative lectionary" instead.<sup>13</sup> The storied nature of Judeo-Christian revelation famously prompted Elie Wiesel to comment "G-d made man because He loves stories."<sup>14</sup>

### **Storytelling and preaching**

Storytelling in preaching is also not new. Narrative skills of Jewish Rabbis are legendary, although the period of the enlightenment was witness to a more scholarly and austere approach to preaching within Orthodox Judaism. One result was the emergence of Hasidic Judaism with its charismatic leadership such as Yisra'el ben Eli'ezer (d.

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<sup>8</sup> Sonke Finnern, "Narration in Religious Discourse: The Example of Christianity, Sonke Finnern, "Narration in Religious Discourse," *Handbook of Narratology*. 2<sup>nd</sup> ed. Ed. Peter Huhn, Jan Christoph Meister, John Pier, Wolf Schmid. Berlin-Boston: Walter de Gruyter, 2014. <https://www.lhn.uni-hamburg.de/node/125.html>

<sup>9</sup> Amos Wilder, *The New Voice: Religion, Literature, and Hermeneutics* (New York: Herder and Herder, 1969), 51.

<sup>10</sup> Stephen Wright, *Jesus the Storyteller* (Louisville: Westminster John Knox 2015 [2014]).

<sup>11</sup> See the useful overview of the field and its development in James L. Resseguie, "A Glossary of New Testament Narrative Criticism with Illustrations," *Religion* 10:3 (2019) 1-39. Online at: <https://www.mdpi.com/2077-1444/10/3/217/htm>. Also, his earlier *Narrative Criticism of the New Testament: An Introduction* (Grand Rapids: Baker Academic, 2005).

<sup>12</sup> An early overview of these emerging approaches is found in Stanley Hauerwas and L. Gregory Jones, ed., *Why Narrative?: Readings in Narrative Theology* (Grand Rapids: Eerdmans, 1989).

<sup>13</sup> [https://www.luthersem.edu/lifelong\\_learning/narrative\\_lectionary.aspx](https://www.luthersem.edu/lifelong_learning/narrative_lectionary.aspx)

<sup>14</sup> Elie Wiesel, *Gates of the Forest* (New York: Holt, Rinehart and Winston, 1966), preface.

1760), known as the Ba'al Shem Tov, and its emphasis on personal relationships with God:<sup>15</sup> somewhat parallel to the movement of pietism that emerged in Germany in the late 17<sup>th</sup> century.<sup>16</sup> Also around this time the *maggid* or "sayer" emerged. These storytellers spread throughout Eastern Europe, sharing stories attuned with the revival movement epitomized in the Ba'al Shem Tov.

*Maggidim* are experiencing a renaissance in the 21<sup>st</sup> century, and there is even a formal training program for them leading to ordination for Jewish *maggidim*.<sup>17</sup>

As Wilder has demonstrated, early Christian kerygma was marked by a notable narrativity as well. While the story never evaporated from Christian preaching, it did lose its currency for multiple reasons including the lack of training of clergy and emphasis on moral instruction. Often, clergy read an instructional homily previously composed by a noted saint or ecclesiastic.<sup>18</sup> Preaching in the Enlightenment era in Roman Catholicism often suffered from the same academic dryness that marked Rabbinical preaching of that era. As ... summarizes "Sermons became more didactic, drawing on Scripture and reason as well as the Catechism of the council of Trent and the Catechisms of Peter Canisius. Narratives, legends, anecdotes and examples were banished.. A natural, utilitarian morality came to the fore"<sup>19</sup> It had a tendency toward the doctrinal, catechetical and moral. Such propositional preaching was often dry and distant. While Evangelical preaching was often rich with personal testimonials and tales of conversion, the sermon within the context of the Latin Liturgy was seldom so personal or engaging. While there was a kind of "revivalism" within Roman Catholicism in the early 19<sup>th</sup> century that had an impact on preaching,<sup>20</sup> this engagement of popular piety often occurred within the context of retreats or preaching events rather than Sunday Eucharist.

There were multiple elements that contributed to a narrative turn in preaching especially in the United States. Not to be overlooked was the explosion of mass communications in radio, films and eventually television. There is no doubt that the personality cults that developed around entertainment luminaries was part of the appeal

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<sup>15</sup> Rachel Elijor, *The Mystical Origins of Hasidism* (Oxford: Littman Library of Jewish Civilization, 2006).

<sup>16</sup> Douglas H. Shantz, *An Introduction to German Pietism: Protestant Renewal at the Dawn of Modern Europe* (Baltimore: Johns Hopkins University Press, 2013).

<sup>17</sup> <http://www.jewishspirit.com/maggid/>

<sup>18</sup> Marolyn Muessig, "Medieval Preaching," *Handbook for Catholic Preaching*, ed. Edward Foley (Collegeville: Liturgical Press, 2016), 65.

<sup>19</sup> Robert Bireley, "Preaching from Trent to the Enlightenment," *Handbook for Catholic Preaching*, ed. Edward Foley (Collegeville: Liturgical Press, 2016), 82.

<sup>20</sup> Jay Dolan, *Catholic Revivalism: The American Experience, 1830-1900* (Notre Dame: University of Notre Dame Press, 1978), 187 et passim.

of such media.

At the same time it was storyline, plot, characters and action—all essential elements of effective narration—that propelled these media forward. As radio was the most powerful communication tool in the U.S. in the 1930's, it was fortuitous that from its origin the National Broadcasting Company (NBC) was mandated to offer a variety of religious programming. The "Catholic Hour" debuted in 1930, with Fulton Sheen (d. 1979) as its first speaker.<sup>21</sup> The influence of Sheen and other religious master communicators and storytellers on radio and eventually television contributed significantly to this narrative turn.

Charles Rice places the narrative turn in Christian preaching around the work of biblical Scholar Amos Wilder (1993) and his previously cited rhetorical studies that demonstrated the preeminence of narrative in the Hebrew Bible and New Testament.<sup>22</sup> Rice goes on to catalogue a series of rising voices in the 1970's and 1980's including his own that explicitly imagined the preacher as "storyteller."<sup>23</sup> Fred Craddock is often credited with inaugurating what some have called a "Copernican revolution in homiletics"<sup>24</sup> with his 1971 publication *As one without Authority*. In that work, Craddock introduced an inductive preaching method that places people at the center of the preaching event and allows them to draw their own conclusions. Craddock's revolutionary ideas ushered in what is sometimes called the "new homiletic. 1980 is sometimes designated "The Year of the Narrative" in preaching,<sup>25</sup> as it saw the publication of three major works of enduring influence on the topic: 1) Edmund Steimle, Morris Niedenthal and Charles Rice's *Preaching the Story* (Philadelphia: Fortress, 1980); 2) Richard A. Jensen, *Telling the Story: Variety and Imagination in Preaching* (Minneapolis: Augsburg, 1980); and 3) Eugene Lowry, *The Homiletical Plot* (Atlanta: John Knox, 1980). Since that turn, there has been an avalanche of writing about preaching and narrative, sermonizing and storytelling, homilies and the new homiletic. While there are some critics of a narrative approach,<sup>26</sup> the narrative turn seems unlikely to be dislodged in the homiletic enterprise for the foreseeable future.

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<sup>21</sup> Gueric DeBona, "Preaching before Vatican II," *Handbook for Catholic Preaching*, ed. Edward Foley (Collegeville: Liturgical Press, 2016), 90.

<sup>22</sup> Charles L. Rice, "A More or Less Historical Account of the Fairly Recent History of Narrative Preaching," *What's the Shape of Narrative Preaching? Essays in Honor of Eugene L. Lowry*, Ed. Mike Graves and David Schlafer (St. Louis: Chalice Press, 2008), 9-10.

<sup>23</sup> Charles L. Rice, "The Preacher as Storyteller," *Union Seminary Quarterly Review* 31 (1976) 132-97.

<sup>24</sup> R. L. Eslinger, *A New Hearing: Living options in homiletic method* (Nashville: Abingdon Press, 1987), 65.

<sup>25</sup> Austin B. Tucker, *The Preacher as Storyteller: The Power of Narrative in the Pulpit* (Nashville: B & H Academic, 2008), 209.

<sup>26</sup> Tucker, pp. 20-21.

## Storytelling valued

Besides the critical textual work of people like Amos Wilder and others demonstrating the centrality of narration to the Judeo-Christian revelation and scriptures, there are other voices from outside of biblical studies or theology that in the past decades have emphasized the importance of story for human flourishing. As Martin Kreiswirth notes, "Narrative has become a significant focus of inquiry in virtually all disciplinary formations, ranging from the fine arts, the local and natural sciences, to media and communication studies to popular therapy, medicine and managerial studies."<sup>27</sup>

As part of the narrative turn philosophers offered fresh, sometimes startling insights about the significance of story to human existence. A pivotal example was the work of Stephen Crites (d. 2007) who already in 1971 argued for the narrative quality of experience, asserting that "the formal quality of experience through time is inherently narrative."<sup>28</sup> One of the more influential philosophers who has tackled the topic is Paul Ricoeur (d. 2005) in his three volume opus *Time and Narrative*. In that work he asserts that it is narrative alone that allows us to speak of temporality. Apart from narrative, we have no means for making human being-intime-intelligible: "time becomes human to the extent that it is articulated in a narrative way."<sup>29</sup> While professing not to be a theologian, Ricoeur did offer multiple reflections on religious narratives and biblical texts. Not only does he reaffirm that "narrative kernels occupy a central place and play an exceptional role" in the bible, but moreover holds that "it is within the structure of the narrative itself that we can best apprehend this intersection between the text and life that engenders the imagination according to the Bible."<sup>30</sup> More recently, philosopher Richard Kearney links narrative and the development of an empathetic imagination. Kearney argues that an empathetic imagination is a *narrative imagination*. The failure of the narrative imagination, according to Kearney, makes possible genocides and atrocities. He concludes, "if we possess narrative sympathy-enabling us to see the world from the other's point of view we cannot kill. If we do not, we cannot love."<sup>31</sup> Other theorists consider this more "narrative empathy" than "narrative sympathy."<sup>32</sup>

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<sup>27</sup> Martin Kreiswirth, "Narrative Turn in the Humanities," in *Routledge Encyclopedia of Narrative Theory*, eds. Davie Herman, Manfred Jahn, and Marie-Laure Ryan (London: Routledge, 2005), 378.

<sup>28</sup> Stephen Crites, "The Narrative Quality of Experience," *Journal of the American Academy of Religion* 39:3 (1971) 291-311.

<sup>29</sup> Paul Ricoeur, *Time and Narrative*, 3 volumes, trans. Kathleen Blamey and David Pellauer (Chicago: University of Chicago Press, 1984-88), 1:149.

<sup>30</sup> Paul Ricoeur, "The bible and the Imagination," *Figuring the Sacred: Religion, Narrative and Imagination*, ed. Mark Wallace, trans. David Pellauer (Minneapolis: Fortress Press, 1995), 146.

<sup>31</sup> Richard Kearney, *On Stories* (London-New York: Routledge, 2002), 140.

<sup>32</sup> See Suzanne Keen, "Narrative Empathy," in *The Living Handbook of Narratology*, ed. Peter Huhn, John Pier, Wolf

While students of literature and literary critiques have studied narrative for centuries, there have yet been significant developments within the humanities in the 20<sup>th</sup> century, especially in narratological theory. Narratology is concerned with the study of the logic, principles and practices of narrative representation. Alternately described as a theory, a method or a discipline, the French term *narratologie* was coined by Tzvetan Todorov in 1969 "who argued for a shift in focus from the surface level of text-based narrative ... to the general logical and structural properties of narrative as a *universe de representations*."<sup>33</sup> Besides the emergence of narratology, the 20<sup>th</sup> century witnessed the development of the broader field of narrative theory. As Kent Puckett explains, narrative theory works to understand "the general rules of narrative alongside the many particular forms that narratives can take."<sup>34</sup> Puckett believes that narrative theory is a powerful tool for "thinking about the world and our efforts to make sense of what the world means."<sup>35</sup>

Maybe one of the more surprising arenas in which narration and storytelling have emerged as important dialogue partners is the vast field of the social sciences. While anthropologists and ethnographers have always collected and valued stories, for example, now there is a recognition of a new narrative turn in field work, sometimes considered "narrative research,"<sup>36</sup> "storytelling ethnography"<sup>37</sup> and other times "narrative ethnography"<sup>38</sup> or "narrative anthropology."<sup>39</sup>

More influential than anthropology has been the engagement of psychologists of various stripes in the narrative project. Prominent has been Dan McAdams from Northwestern University, and his work on narrative identity. According to McAdams thinking in narrative helps us weave together not only the disparate elements of our life, but enables us to create a coherent image of ourselves and the world around us. He summarizes, "Storytelling appears to be a fundamental way of expressing ourselves and our world to others."<sup>40</sup> More recently McAdams has suggested that forging an identity

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Schmid and Jorg Schonert (Hamburg: University Press, 2019). Online at <https://www.lhn.uni-hamburg.de/>

<sup>33</sup> Jan Christoph Meister, "Narratology," in *The Living Handbook of Narratology*. Online at

<https://www.lhn.uni-hamburg.de/>

<sup>34</sup> Kent Puckett, *Narrative Theory: A Critical Introduction* (Cambridge: Cambridge University Press, 106),

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<sup>35</sup> *Ibid.*, 3.

<sup>36</sup> See Margarete Sandelowski, "Telling Stories: Narrative Approaches in Qualitative Research," *Journal of Nursing Scholarship* 23:3 (1991) 161-166.

<sup>37</sup> Jane Palmer, "Ethnography as transdisciplinary inquiry: two stories of adaptation and resilience from Aceh, Indonesia," *Transdisciplinary Research and Practice for Sustainability Outcomes*, Routledge: London, United Kingdom, ed. Dena Fam, Jane Palmer, Chris Riedy and Cynthia Mitchell (London: Routledge, 2016), 190-203.

<sup>38</sup> Barbara Tedlock, "From Participant Observation to the Observation of Participation: The Emergence of Narrative Ethnography," *Journal of Anthropological Research* 47:1 (1991) 69-94.

<sup>39</sup> Gregory G. Reck, "Narrative Anthropology," *Anthropology and Humanism* 8:1 (1983) 8-12.

<sup>40</sup> Dan McAdams, *The Stories we live by: Personal Myths and the Making of the Self* (New York, NY: W. Morrow,

through narrative is a critical task for emerging adulthood. Prior to this time, these adolescents have been able to narrate their own experiences in a storied manner, but as they emerge into young adults, they begin to "arrange their entire lives - the past as they remember it, the present as they perceive it, and the future as they imagine it - into broad and self-defining life narratives that provide their lives with some semblance of unity, purpose, and meaning. Narrative identity is the internalized and changing story of your life that you begin to work on in the emerging adult years."<sup>41</sup>

Not surprisingly, evidence of the narrative term is also in evidence in the disciplines of history<sup>42</sup> and cultural studies.<sup>43</sup> Maybe more surprising is the impact of this narrative turn on medicine and even law. Regarding the former, a prestigious school such as Columbia University not only employs a narrative approach when training clinicians, but even offers an advanced degree specifically in narrative medicine.<sup>44</sup> The narrative turn also is apparent in both practice of law and contemporary jurisprudence, with some arguing that law is best understood in narrative terms.<sup>45</sup>

### **The voice of Neuroscience**

There is little doubt that neuroscience is a cutting edge field, uncovering many of the mysteries of the nervous system, and in the process expanding our understanding of human consciousness, perception and even how and why humans and other species behave.<sup>46</sup> At the same time, neuroscience or neurobiology is valuable in that it provides empirical evidence what many would consider "proof" for insights and positions that others have espoused for decades. Some of that is true about the value and impact of storytelling.

*Metaphorical Language:* Poets have understood for millennia that metaphors are powerful and memorable, be that Shakespeare's "All the world's a stage" (As you Like it, act II, scene VII) or Emily Dickinson's "hope is the thing with feathers." Neuroscientists have begun to explain one key reason why such is true. Researchers at Emory University, for example, employing functional Magnetic Resonance Imaging (fMRI), discovered that the use of metaphors such as "shoulder responsibility," "foot the bill," or

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1993), 27.

<sup>41</sup> Dan McAdams, *The Redemptive Self. Stories Americans Live By* (Oxford: University Press, 2006), 83-84.

<sup>42</sup> Alan Munslow, *Narrative and History*, 2<sup>nd</sup> ed. (London: Red Globe Press, 2019).

<sup>43</sup> Jim Collins, "The Use Values of Narrativity in Digital Cultures," *New Literary History* 44:4 (2013) 639660.

<sup>44</sup> <http://sps.columbia.edu/narrative-medicine>

<sup>45</sup> Steven Cammis, "Law as Narrative: Narrative Interpretation and Appropriation as an Element of Theft" *Statute Law Review* 40:1 (2019) 25-39.

<sup>46</sup> Robert Sapolsky, *Behave: The Biology of Humans at our Best and Worst* (New York: Penguin Press, 2019).

"twist my arm" a brain region important for sensing texture through touch (parietal operculum) is activated. This ongoing work demonstrates that metaphors connect with sensory and motor experiences, and thus that abstract concepts are built upon concrete experiences. However, those experiences were not triggered with literal sentences with the same meaning such as "take responsibility" or "pay the bill."<sup>47</sup> Further work by researchers at the University of Arizona using brainwave studies or EEG's confirmed this linkage which leads some researchers to now talk about the "metaphorical brain."<sup>48</sup>

*Data vs. narrative:* Researchers, again using MRIs, have learned that information such as data or facts ordinarily engage two different regions of the brain, the "classical" language regions. First is Broca's area in the left hemisphere of the frontal lobe. This is the motor speech area assisting in the physical production and processing of language. Second is Wernick's area located in the left hemisphere of the parietal and temporal lobe. This helps in understanding speech and using the correct words to express our thoughts, i.e., comprehension in written and spoken language. So humans formulate what to say in Wernicke's area and transmit the plan of speech to Broca's area.

When researchers in Spain, however, asked participants in a study to read words with strong odor associations such as garlic, cinnamon and jasmine their primary olfactory cortex lit up. They concluded that "odour words automatically and immediately activate their semantic networks in the olfactory cortices."<sup>49</sup> Researchers at the Laboratory of Language Dynamics in France analogously found when the brains of participants were scanned while they read sentences like "John grasped the Object" or "Pablo kicked the ball," there was noticeable activity in the motor cortex, that part of the brain which coordinates the body's movement. Furthermore, the activity was concentrated in one part of the motor cortex when the reading was about arm-related movement, and in another part of the motor cortex when the reading concerned the movement of the leg.<sup>50</sup> It appears that the brain does not make virtually any distinction

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<sup>47</sup> Simon Lacey et al., "Engagement of the left extrastriate body area during body-part metaphor comprehension," *Brain and Language* 166 (2017), 1-18. Online at: <https://doi.org/10.1016/i.bandl.2016.11.004>

<sup>48</sup> Seana Coulson and Vicky T. Lai, "Editorial: The Metaphorical Brain," *Frontiers in Human Neuroscience* 5.i.16. Online at <https://doi.org/10.3389/fnhum.2015.00699>

<sup>49</sup> Julio Gonzalez et al., "Reading *cinnamon* activates olfactory brain regions," *NeuroImage* 32:2 (2006) 906-12. Online at [https://www.researchgate.net/publication/7130495\\_Reading\\_cinnamon\\_activates\\_olfactory\\_brain\\_regions](https://www.researchgate.net/publication/7130495_Reading_cinnamon_activates_olfactory_brain_regions)

<sup>50</sup> Nazir, T., Fargier, R., Aravena, P. & [Boulenger, V.](#), 2012, "When words trigger activity in the brain's sensory and motor systems: It is not Remembrance of Things Past ", in *Language and action in cognitive neuroscience* , Coello, Y. & Bartolo, A. (eds), Psychology Press, pp. 307-318

between reading about an event or experiencing it in one's life. Parallel to the research on metaphors, powerful language - be that about action or smell or even an intriguing metaphor, automatically engages more of our brains than flat, informative, "doctrinal" language.

In a cumulative way, effective storytelling that encompasses action or strong visuals, engaging emotions or other vivid sense imagery can trigger as many as seven different regions of the brain. These of course include the language regions of the Broca's area and Wernicke's areas. They also include areas connected with motor, auditory, olfactory, somatosensory and visual senses. A universal phenomenon across languages and cultures.<sup>51</sup>

There is a general consensus that human beings are "wired" for stories. One suggestion is that our brains developed this story telling capacity in order to make sense out of the chaos that surrounds us, and as a kind of defense to organize all of the data that impacts our senses. . Cognitive scientist Keith Oatley of the University of Toronto image our reading of stories as a kind of simulator-he sometimes relates it to a kind of "flight simulator"-that allows us vivid simulation of reality without all of the danger.<sup>52</sup> Story is a universally employed form of packing experience into a portable and pliable format that helps us make sense of the world. Oatley concludes: "[fiction] is a particularly useful simulation because negotiating the social world effectively is extremely tricky, requiring us to weigh up myriad interacting instances of cause and effect. Just as computer simulations can help us get to grips with complex problems such as flying a plane or forecasting the weather, so novels, stories and dramas can help us understand the complexities of social life."<sup>53</sup>

*Empathy:* We have already considered how some narratologists and philosophers believe storytelling is an important strategy for building empathy. The neurosciences provide support for that position. Continuing with the work of Keith Oatley, if engaging in a story is a form of simulation, where we get to experience a narrative we know is not real as real, it is a place where we have the opportunity to experience emotions safely. One of those experiments is that in fiction we engage with the mental and physical actions of others. When we read about a character, "we feel something that is perhaps similar to those emotions, but they are not the character's. They are our own. That's how

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<sup>51</sup> <https://www.sciencedaily.com/releases/2017/10/171005141710.htm>

<sup>52</sup> RAYMOND A. MAR, KEITH OATLEY and JORDAN B. PETERSON, Exploring the link between reading fiction and empathy: Ruling out individual differences and examining outcomes," [Communications](#) 34:407-428 December 2009 DOI: 10.1515/COMM.2009.025

<sup>53</sup> Keith Oatley as cited in Annie Murphy Paul, "Your Brain on Fiction," *The New York Times* 17 March 2012. Online at <https://www.nytimes.com/2012/03/18/opinion/sunday/the-neuroscience-of-your-brain-on-fiction.html>

empathy and identification work in fiction." The contribution, according to Oatley, is that it helps us "improve our mental models of others and ourselves."<sup>54</sup>

According to Oatley, people who read fiction are better at interpersonal perception tasks.<sup>55</sup> After a study of over 200 participants, employing a whole range of indices and tests, he and colleagues concluded that the self-reported tendency to become highly absorbed in fiction is related to empathy.<sup>56</sup> They further suggest that "a ready capacity to project oneself into a story may assist in projecting oneself into another's mind in order to infer their mental states."<sup>57</sup> More recently David Kidd and Emanuele Castano have conducted research that allows them to conclude that reading fiction improves what is called "theory of mind," or the ability to attribute certain mental states to oneself and others, and to be able to distinguish that others have beliefs and perspectives that are different from our own.<sup>58</sup> A growing body of literature suggests that narrative allows us to help map the way other people believe and think, as it gives us a safe arena for understanding and even identifying with the longings and motivations of the various fictional characters we encounter. One caveat from a recent study in the Netherlands is that while fictional narrative experiences have effects on people's skills such as empathy, the level of that effect depends upon the extent that they are emotionally transported into the story.<sup>59</sup>

*Neural Coupling or Mirroring:* Related to fiction's impact on empathy and one's capacity to develop a mature theory of mind is the evidence that storytelling generates neural coupling. Neuroscientists such as Uri Hasson and his colleagues at Princeton University have concluded from their research that effective communication results in neural coupling, or when the brain of the speaker evokes similar neural responses in the brains of the listeners.<sup>60</sup> The result is a "mirroring" of the speaker's brain responses in the brains of the listening. This mirroring creates coherence between the brain of the speaker and those of her audience, which means the brains of the audience listeners are

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<sup>54</sup> Oatley 2012, *The Passionate Muse* 19).

<sup>55</sup> Keith Oatley, "The Mind's Flight Simulator," 21:12 (2008) 1030

<sup>56</sup> Oatley, "Fiction and Empathy," 421.

<sup>57</sup> Ibid.

<sup>58</sup> David Comer Kidd and Emanuele Castano, "Reading Literary Fiction Improves Theory of Mind," *Science* 342:6156 (18 Oct 2013) 377-380. Online at DOI: 10.1126/science.1239918

<sup>59</sup> P. Matthijs Bal and Martijn Veltkamp, "How does Fiction Reading influence Empathy? An experimental investigation on the role of emotional transportation. *Plos One* 8:1 (2013). Online at: <https://doi.org/10.1371/journal.pone.0055341>.

<sup>60</sup> Greg J. Stephens, Lauren J. Silbert, and Uri Hasson, "Speaker-listener neural coupling underlies successful communication," *Proceedings of the National Academy of Sciences* 107:32 (2010) 1442524430. Online at: <https://doi.org/10.1073/pnas.1008662107>

also in sync with each other. Hasson and colleagues conclude, "The greater the anticipatory speaker-listener coupling, the greater the understanding."

This coupling is clearly at play during storytelling, and seems to be enhanced. One of the experiments Hasson and his colleagues performed entailed a female storyteller, fluent in both Russian and English. She told a story in English and in Russian while they monitored her brain activity. When the Russian volunteers listened to the story in Russian, the coupling occurred. And when the English speaking volunteers listened to the story in English, a similar coupling occurred. Thus, effective storytelling can not only lit up multiple parts of the brain, but also sync the activity in multiple parts of the storytellers brain with mirrored regions of the listeners brains.

*Oxytocin and Generosity:* Oxytocin is a neuropeptide, i.e., a chemical signaling molecule in the brain the neurons use to communicate with each other. Neuroscientist Paul Zak has been a leading researcher on the role of one specific neuropeptide known as oxytocin and its role in increasing levels of trust and generosity. As he and his colleagues report, OT is demonstrated to facilitate attachment in various relationships, e.g., between parents and offspring. What they set out to discover is whether OT prompts generosity between anonymous human strangers.<sup>61</sup> Their experiment revolved around involving participants in two games (the ultimatum game and the dictator game) while one group was infused with OT intranasally while the other half received the same amount of normal saline. Their conclusion was that the infusion of OT raised generosity in the group by 80% over those receiving the placebo.

Besides monitoring the reactions of subjects when they were infused with oxytocin, Zak and his colleagues wanted to discover if and how the brain manufactured its own heightened levels of this neuropeptide. Zak and his colleagues designed a study that involved playing a series of short video-clips obtained from St. Jude's Children Research Hospital to participants. One was an emotional narrative of a father talking on camera while his 2 year old son who has terminal brain cancer plays in the background. The clip concludes with the father finding the strength to stay emotionally close to his son "until he takes his last breath." They also developed a video of the same father and son spending a day at the zoo. This video lacks the tension induced by the typical story form but includes the same characters. By drawing blood samples before and after screening the videos, the researchers found that the narrative with the dramatic arc caused an increase in oxytocin. Furthermore, the heightened empathy for the six boy and his father triggered by the video then motivated participants to offer money to a stranger

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<sup>61</sup> Paul P Zak, Angela Stanton, Sheila Ahmadi, "Oxytocin Increases Generosity in Humans," *PLoS ONE* 2:11 (2007): e1128. Online at <https://doi.org/10.1371/journal.pone.0001128>

who was also in the experiment. Thus, emotionally engaging narrative inspired post-narrative action.<sup>62</sup> Multiple successive experiments resulted in similar findings.

*Dopamine:* Dopamine is another neurotransmitter, enabling communication between neurons. Sometimes characterized as the chemical that induces pleasure, it is better imaged as a chemical that motivates or propels our behavior towards or away from some object or outcome. Dopamine enables what scientists call "motivational salience."<sup>63</sup>

Motivational salience is a cognitive process and a form of attention that motivates or propels an individual's behavior towards or away from a particular object, perceived event or outcome.<sup>[1]</sup> In his book *Brain Rules*, molecular biologist John Medina explains this phenomenon: "When your brain detects an emotionally charged event, your amygdala ... releases the chemical dopamine your system. Dopamine greatly aids memory and information processing. You can think of it like a Post-it note that reads, 'Remember this!'"<sup>64</sup>

There is evidence that effective storytelling as one of those emotionally charged events, especially those that move toward what is perceived as a "happy" or "satisfying" triggering a release of dopamine into the brain. More than that, dopamine seems to reward us as we follow the emotionally charged events in a story ... rewarding us to "stick with the journey."<sup>65</sup> Dopamine seems to be part of what some call the "storytelling cocktail" that contributes to the effectiveness of well performed, emotionally engaging, and narrations with a satisfying ending.

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### **Mystagogical insights and cautions**

The wisdom pre-neuroscience is clear. Storytelling is an engaging, potentially unavoidable method - not simply technique - for preachers in the tradition of Jesus who are looking for effectiveness in this age of saturated narrative. The *Constitution on the Sacred Liturgy* notes that the central principal of the reformed liturgy is full, conscious and active participation by the assembly (no. 14). The homily is not simply in the liturgy, but itself is a liturgical act. Thus, it also requires such full, conscious and active

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<sup>62</sup> Ibid.

<sup>63</sup> Malenka RC, Nestler EJ, Hyman SE (2009). Sydor A, Brown RY (eds.). *Molecular Neuropharmacology: A Foundation for Clinical Neuroscience* (2nd ed.). New York: McGraw-Hill Medical. pp. 147-48, 366-67, 375-76.

<sup>64</sup> John Medina, *Brain Rules*, 2<sup>nd</sup> ed. (Seattle: Pear Press, 2014), 112.

<sup>65</sup> <https://www.forbes.com/sites/giovannirodriguez/2017/07/21/this-is-your-brain-on-storytelling-the-chemistry-of-modern-communication/#468ce0c3c865>

participation by the assembly. Storytelling is one way to achieve this. As Jonathan Gottschall notes, "while the brain watches [or listens to] a story .. the brain doesn't look like a spectator, it looks more like a participant in the action.. Stories powerfully hook and hold human attention because, at brain level, whatever is happening in a story is happening to us and not just them."<sup>66</sup> This insight, however, is not license for preachers simply to tell a string of unrelated stories. That is both untrue to the Christian tradition - Jesus did a lot more than tell stories - and unfaithful to the nature of the homily and the invitation of mystagogy.

From a homiletic perspective, the challenge is not how to properly use stories but also to image the homily itself as a kind of story, a journey, the spinning of an unfinished tale created by God and believers and unfolding before us. From this perspective, I find Eugene Lowry's approach to the homily outlined in his *The Homiletical Plot* useful. His basic point is that playwrights and authors and movie directors don't give away the plot in the opening minutes. It basically disinclines that audience to engage since they already know the ending. Similarly Lowry suggests that the homily should create a sequence of experiences for the assembly that mirrors the experiences of a typical plot. He suggests this can be done through five steps: 1) upsetting the equilibrium, 2) analyzing the discrepancy, 3) disclosing the clue to the resolution, 4) experiencing the gospel, and 5) anticipating the consequences. His shorthand for this is oops, ugh, aha, whee, and yeah!

From a mystagogical perspective the challenge is a little more subtle. Since the church has given us the Eucharistic liturgy in which most of our homilizing ordinarily takes place, we don't have the liberty to rearrange it so that it unfolds like a typical plot. Thus, the task of all of those who prepare and lead such worship is to imagine the narrative potential of our singing and the praying, the assembling and communing. How do these liturgical threads get woven into the stories of people's lives? Are certain prayer options, such as the Eucharistic Prayers for special needs and occasions or those for Reconciliation inherently more narrative? I think so. The challenge is not only to select such prayers and music that lean toward narrativity, but also to perform them so that they can be perceived as such and the assembly is personally and spiritually "transported" into them.

In conclusion, neuroscience is a valuable tool that helps us understand the power of storytelling as a critical tool for human beings in the meaning making process. Its

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<sup>66</sup> Jonathan Gottschall, *The Storytelling Animal: How stories make us human* (New York: Houghton Mifflin Hartcourt, 2012), Audible edition.

value in preaching and ritualizing<sup>67</sup> cannot be overlooked. Homilizing and ritualizing, however, are more art than science. Science here informs; the Spirit leads.

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<sup>67</sup> On neuroscience's insights about ritualizing, see Joanna H. Gross, "Toward a Neurobiological Understanding of Religion: Examining Ritual and the Body," *Inquiries Journal/Student Pulse* 4:8 (2012). Online at <http://www.inquiriesjournal.com/a?id=680>