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blogg-artikel av Jeremy Lent

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Mimetic culture

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Here's the second section of the Chapter 2 draft of my book, [*Finding the Li: Towards a Democracy of Consciousness*](#). This section describes Merlin Donald's famous theory of a mimetic phase of human development and links it to the recent discovery of mirror neurons. All constructive comments from readers of my blog are greatly appreciated.

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Mimetic culture

Between the time of Ardi, 4.4 million years ago, and the emergence of our species, *homo sapiens*, about two hundred thousand years ago, there was a long and crucial period of hominid development that has been called the "mimetic phase" by the influential cognitive neuroscientist Merlin Donald. Here's how he describes it:

a layer of cultural interaction that is based entirely on a collective web of conventional, expressive nonverbal actions. Mimetic culture is the murky realm of eye contact, facial expressions, poses, attitude, body language, self-decoration, gesticulation, and tones of voice.^[1]

Mimetic behavior includes such uniquely human traits as "mime, imitation, skill and gesture."^[2] What's fascinating about the mimetic phase is that we modern humans never left it behind. We've added language on top of it, but our mimetic communication is still, in Donald's words, "the primary dimension that defines our personal identity."^[3] You can get a feeling for the power of mimetic expression when you think of communications we make that are non-verbal: prayer rituals, chanting and cheering in a sports stadium, expressions of contempt or praise, intimacy or hostility. "The mimetic level of representation," Donald notes, is so all-encompassing that it "underlies all modern cultures and forms the most basic medium of human communication."^[4]

In his book, *The Singing Neanderthals*, archaeologist Steve Mithen gives an evocative account of what the mimetic phase of hominid evolution may have felt like. He describes a scene he recreates imaginatively from the remains found in an archaeological dig in East Africa which was occupied 1.6 million years ago, "located next to a watercourse, close to groves of shady trees and clumps of fruiting bushes, with access to stones for flaking":

Emanating from the site would have been a variety of calls, reflecting the diversity of activities ... and the varying emotional states of individuals and the group as a whole. One might have heard predator alarm calls; calls relating to food availability and requests for help with butchery; mother-infant communications; the sounds of pairs and small groups maintaining their social bonds by communicating with melodic calls; and the vocalizations of individuals expressing particular emotions and seeking to induce them in others. Finally, at dusk, one should perhaps imagine synchronized vocalizations – a communal song – that induced calm emotions in all individuals and faded away into silence as night fell and the hominids went to sleep in the trees.^{[5]*}



Hominids chanting around a campfire (as envisaged by archaeologist Steve Mithen)

The importance of this last episode of mimesis in the day – the communal song – cannot be overstated. Mimetic communication became the social glue that bonded hominid communities together and at the same time induced further evolutionary changes that formed modern humans. “Mimetic skill,” in Donald’s view, “represented a new level of cultural development, because it led to a variety of important new social structures, including a collectively held model of the society itself. It provided a new vehicle for social control and coordination, as well as the cognitive underpinnings of pedagogical skill and cultural innovation.”^[6]

Historian William McNeill, who’s written a book on the effects of mimesis through history^[7], describes the evolutionary impact of the greater cooperation that arose among early humans as a result of their mimetic synchrony:

rhythmic voicing and dance had the effect of dissipating personal rivalries and enhancing a warm feeling of togetherness among participants, as community song and dance and other rhythmic exercises—aerobics, marching in step, grandstand cheering, and the like—still do. As a result, large bands, sustained by the emotional side effects of voicing and dance, were capable of cooperating more effectually. Indeed, those who engaged in such exercises had such great advantages that only bands that learned to dance and make sounds together were able to survive. Rhythmically voiced sound and dance thus became a distinguishing human trait since the members of no other species ever spontaneously invented this way to express themselves and strengthen social bonds in doing so.^[8]

In the early 1990s, a team of neuroscientists in Italy researching the brains of macaque monkeys stumbled upon a class of neurons that may be responsible for the underlying brain activity that leads to mimetic behavior. They were studying certain neurons in the monkeys' motor cortex that fired when the monkeys performed a certain action, such as reaching for a piece of food. Then, they noticed something very strange. When one of the researchers in the lab reached for a piece of food, the same neurons fired in the monkey's brain, even though the monkey wasn't doing anything. They began to realize that what they were watching in the monkey's brain was a representation of the act of reaching, regardless of who was doing it. Before too long, they decided to call these "mirror neurons," because they precisely mirrored somebody else's actions.^[9] Since then, studies on humans have demonstrated that we also have mirror neurons, which light up whether we perform a task ourselves or see someone else performing it.^[10]

This fascinating discovery of mirror neurons offers an important clue for how certain elements of mimetic behavior, such as mimicking, could have arisen. But since these mirror neurons exist in other primates, it still doesn't explain the cognitive breakout achieved by humans. After all, chimpanzees don't chant, cheer, or sing and dance in rhythm together. In their mimetic phase of development, our early ancestors achieved what Donald calls "a very remarkable human adaptation" which is "one of the most complex capacities of the human brain," one which he localizes in the "hominid 'executive' brain."^[11]

This radical breakthrough in the human brain entailed the ability for a hominid to look at others and realize that they had a mind that functioned somewhat like his own; to realize that when they did something, they were most likely being motivated by the same sort of things that motivated him. This ability presumably began with the mirror neurons and then applied a new conceptual layer to mirror not only the other person's actions, but also their thoughts and emotions.^[12] This conceptual breakthrough has been called "theory of mind," and in the past thirty years, has come to be recognized as fundamental to human development and uniqueness.

[1] Donald, M. (2001). *A Mind So Rare: The Evolution of Human Consciousness*, New York: Norton, 265.

[2] *Ibid.* p. 263.

[3] *Ibid.* p. 265.

[4] *Ibid.* p. 88.

[5] Mithen, S. (2006). *The Singing Neanderthals: The Origins of Music, Language, Mind, and Body*, Cambridge, Mass.: Harvard University Press. With disarming honesty, Mithen relates how he was initially "entirely unconvinced" by Donald's theory of mimetic culture when it first came out in 1991, and gradually over fifteen years came to appreciate "the seminal contribution that Donald made when he proposed mimesis as a key means of Early Human communication."

[6] Donald, M. (1991). *Origins of the Modern Mind: Three Stages in the Evolution of Culture and Cognition*, Cambridge, Mass.: Harvard University Press, 199-200.

[7] McNeill, W. H. (1995). *Keeping Together In Time: Dance and Drill in Human History*. Cambridge: Harvard University Press.

[8] McNeill, W. H. (2000). "A Short History of Humanity." *The New York Review of Books*, 47(11).

[9] Rizzolatti, G., Fogassi, L., and Gallese, V. (2006). "Mirrors in the Mind." *Scientific American*, 54-61.

[10] Keysers, C., and Gazzola, V. (2010). "Social Neuroscience: Mirror Neurons Recorded in Humans." *Current Biology*, 20(8), R353-R354.

[11] Quoted in Winkelman, M. (2002). "Shamanism and Cognitive Evolution." *Cambridge Archaeological Journal*, 12(1), 71-101.

[12] For the linkage of mirror neurons to theory of mind, see Gallese, V., and Goldman, A. (1998). "Mirror neurons and the simulation theory of mind-reading." *Trends in Cognitive Sciences*, 2(12), 493-501.