

The Nature and Archaic Origins of Lifelong Learning Processes: The Relevance of Anthropology to Adult Education

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Abstract: Contemporary anthropology is developing key perspectives on human learning that are very relevant for the theories and practices of adult education. This paper explores the work of Merlin Donald, Donald Mithen, Michael Tomasello and Tim Ingold to show how current thinking in anthropology challenges the cognitivist bias that currently dominates our field.

While adult education has drawn broadly on disciplines in the social sciences to help develop its own distinctive and varied theories and practices, anthropology, particularly paleoanthropology – the study of the evolution and development of human beings – has remained largely out of its field of view. Certainly, up until rather recently, anthropology offered rather few obvious connection points to adult education. Other than its important contribution of ethnographic research methodologies (Malinowski, 1922; Radcliffe-Brown, 1933; Risjord, 2000) that are sometimes adopted in adult education research (Taylor, Beck & Ainsworth, 2001), anthropology’s exploration of culture – dominated by discussions of kinship networks, descriptions of cultural artifacts, and depictions of primitive economies – seemed only weakly connected to adult education’s interest in the effective engagement of adult learners. Its investigations of human evolution, featuring dusty anthropologists haggling over the importance of a few shards of bone or chips of stone, seemed to offer little help to adult educators concerned with developing meaningful transformative learning contexts. In this paper, I propose that recent developments in both in cultural anthropology and paleoanthropology are dramatically changing the relevance of anthropology for adult education. This is particularly true in light of simultaneous developments in our own field, especially our shifting sense of the situated and intensely social nature of lifelong learning processes (Lave, 1988; Lave & Wenger, 1991; Wenger, 1999; Wilson, 1993). Now, instead of being arcane and irrelevant, anthropological theory and empirical research have a great deal to offer adult educators interested in understanding more about the distinctive nature and archaic origins of lifelong learning processes.

The foray of Canadian neuroscientist, Merlin Donald (1991, 2001), into the field of anthropology clearly reveals the potentials of interdisciplinary research for our own field. Of course, Donald, himself, is deeply aware of the great challenges of interdisciplinary work. Theorists working across several disciplines, he observes, are always in danger of glossing over or oversimplifying complex notions that oftentimes require years of immersion in the discourses of a discipline to appreciate. As Donald (2004) relates, “too often the label ‘interdisciplinary’ simply implies that a work so labeled lacks any discipline whatever” (p. 248). Still, when it comes to understanding human cognition (and, I would argue by extension, lifelong learning), an interdisciplinary approach is unavoidable. This, Donald insists, is because understanding human cognition cannot be fully achieved from within the confines of cognitive psychology alone. Understanding a process like lifelong learning requires us to come to grips with “three central

facts:... the human mind is a dynamic process, whose realization is harnessed to the creative structure of culture, and whose structure is solidly planted in brain physiology” (p. 256).

Donald theorizes that, although humans share key cognitive attributes of mammals and essentially the same brain plan as primates, we have also evolved distinctive cognitive and learning powers that are radically different than other animals. Our conscious perceptual awareness, Donald suggests, is probably very much like other closely related primates (like chimpanzees). One thing no other animal seems nearly as adept as us at, however, is what Donald (2001) identifies as, “interlinking our attentional system with those of other people” (p. 255). Our capacity to link our minds together into a “distributed cognitive process,” he argues, is based on a host of interrelated capacities that gradually evolved in humans over millions of years (p. 274). Many of these capacities are fundamental properties of the primate brain (including many of the perceptual, memory, and executive functions that enable all primates to creatively inhabit complex environments). However, other species specific capacities – to make reciprocal eye contact (babies display this very early), to harmonize our vocalizations and actions with others, to imitate facial and body gestures, and so on – served as an additional basis for the emergence and then rapid evolution of a radically different form of cognition in which, as individuals, we weave our own consciousnesses into the shared fabric of culture. According to Donald, “the human brain is a poor thing on its own, an inarticulate, undifferentiated, metaphorizing beast like any other. But joined to a community of its fellows, it has this remarkable capacity to create a community of mind, acquire symbolizing powers, and vastly expand the range of its own awareness, in proportion to the depth of its enculturation” (p. 326).

The emergence of our human cognitive and learning capacities, Donald argues, did not occur overnight. There was no single event in human evolution that suddenly made us capable of sharing our cognitions. To help explain this, Donald (1991) draws on the broad resources of paleoanthropology, particularly from a dramatically increasing number of fossils and artifacts that disclose important information about the physical and cultural attributes of archaic hominids, to paint a detailed picture of how our distinct cognitive capacities evolved. This, he contends, took place in four phases. In the first phase, prior to the emergence of the genus *homo* (just over two million years ago), our ancestors possessed cognitive capacities on par with many other primates. Then, in the second phase, sometime within the next half million years, they began to acquire increased capacities for social cohesion and cultural sharing. At the same time as the brains of hominids began rapidly to increase in size, and at the same juncture that increasingly sophisticated tools become prevalent in the fossil record, hominids begin to display unmistakable signs of increased cultural integration (long-stay habitation sites, evidence of cooperative tool-making, long-lasting cultural and tool-making traditions). Donald points out that, while there is little evidence at this point that humans possessed vocal language, it is very likely that they did possess a rich capacity for what he calls “mimesis,” the ability to share cognition through mime, imitation, practice, and, eventually, gesture.

This laid the foundation for the emergence of language (in effect, an elaborate and powerful form of gesturing) that propelled humans into even more intense distributed cognitive structures (cultures). This third phase (Donald calls it the “mythic phase”) emerged about a half million years ago. Again, it was accompanied by an increase in the size of certain parts of the brain (although not a dramatic change in overall brain plan) to handle the demands of increasingly complex social/cultural relations. It also coincided with another dramatic increase in human cultural capacities. It was during this time, for instance, that advanced cultures enabled humans to begin to inhabit a wide range of inhospitable environments.

Finally, about 40,000 years ago, humans entered what Donald identifies as the fourth “theoretic” phase in which humans rapidly acquired the capacity to tap into extensive “external” cultural systems. While it is difficult to discern any significant further evolution in the brain from this point onward (evolution works much more slowly than this), it is evident from the archeological record that dramatic transformations were occurring. According to Donald, the rapid development of symbolic technologies (language, art, music, narrative, and writing) enabled humans to dramatically extend both their individual and collective powers. By way of enculturation, humans could access a vast store of collective knowledge that drew on the experiences of other people, both living and dead (we still learn from Lao Tzu, for instance).

Donald’s account challenges many foundational assumptions that underpin the theories and practices of adult education. Because we have drawn so exclusively in our field from the cognitive sciences, we have almost entirely missed what Donald insists is the very thing that makes humans unique. Cognitive science (and adult education in its wake), “studies the mind as if it were confined entirely within a single brain.” Culture, when it is considered at all, is included only as part of the environment of the isolated brain. “This mind-in-a-box belief is accepted by Cartesians, Behaviorists, and Cognitivists alike.” It is so broadly present in our own field that it is difficult even to imagine learning as something other than the “internalization of information” (Lave & Wenger, 1991). Precisely because the distinguishing feature of human evolution has been, as Donald colorfully describes, “The Great Hominid Escape from the Nervous System,” we must admit many additional layers of complexity in order to understand human learning. While humans still learn like the mammals we are, we also have developed extensive capacities for mimetic, mythic and theoretic learning. Each of these forms of learning reiterate a specific capacity for active, engaged and situated learning that we achieved at key junctures in our species evolution.

Paleoanthropologist, Steven Mithen, provides much more that is extremely useful to adult educators interested in the ways anthropology can help extend our understanding of adult learning. In *The Singing Neanderthals* (2005), for instance, Mithen proposes that, during the long phase of human evolution prior to spoken language identified by Donald as the “mimetic” phase, humans communicated using a “holistic proto-language” which he colorfully identifies by the acronym “HmMMMM” (holistic, manipulative, multi-modal, musical and mimetic) (p. 172). While HmMMMM certainly included a vocal component, Mithen insists that it was a whole-body form of communication that could include rhythmic movement, gesture, mime, vocalization, and expression. Unlike modern language, which Mithen points out is highly referential and conventional and functions, largely, to draw attention to fine distinctions in a shared social environment, the purpose of HmMMMM was much more to harmonize emotional and affective states. Tightly associated with the evolution of a suite of other hominid characteristics like bipedalism (not just for walking, but more importantly, for the rhythmic act of running) and the development of increased capacity for vocal control (including greater enervation of the vocal tract, the development of a thicker, better controlled tongue, and the development of fine control of the diaphragm), HmMMMM ‘utterances’ enabled early hominids (like *Homo habilis*, and their descendents, *Homo neanderthalis*, as well as *Homo ergaster*) to achieve unprecedented social cohesion and harmony. The exposure to HmMMMM during infancy enabled ancient hominids to develop capacities for understanding the feelings and points of view of other members of their species. In Mithen’s words, it enabled hominids to acquire a sense of “we-ness” that had great survival value, particularly as hominids expanded throughout the world and into environments so very unlike the African environment in which humans developed their various physical

attributes. Moreover, Mithen argues, HmMMMM is not simply a phase we passed through on our way to developing language. Rather, HmMMMM still comprises a present and powerful infrastructure that is essential to our experience of daily life. We have not left it behind us on our way to developing more modern attributes. Just as Donald argues that our immediate sense of the world is very much like other great apes (the world of our senses has the same raw feel), Mithen argues that the vast layer of human bonding and interconnection that is established through our earliest experiences of HmMMMM (the coddling, sing-song, emotionally harmonizing rhythms of early infancy) is the same as that experienced by ancient hominids. It was on the basis of HmMMMM that *Homo neanderthalis* developed their magnificent, nuanced culture that lasted, unchanged, for tens of thousands of years.

Mithen's great challenge to adult education, I would contend, is its extreme cognitivist bias. Our understanding of cognition and learning is inordinately impacted by our focus on language as a tool for transmitting information. Very seldom do adult educators acknowledge the vast terrain of rhythms and harmonies that underlie our common social experience that are the very substratum of our being able to be together and to share understandings. Mithen directs our attention to an entire continent of human experience that is rarely considered in our field. Mithen's thoughtful examination of music combined with a careful review of anthropological evidence reveals a very different view of cognition and learning as processes that are much better described as a social and cultural process of collectively falling into rhythm and harmony (in our actions, in our emotions, in our perceptions) than of transmitting information. Mithen's anthropological investigations have much to offer us as we strive to understand the nature of situated learning and its place in adult education theory and practice.

The great relevance of anthropology to adult education is easily seen in the fascinating recent work of primatologist, anthropologist and cultural psychologist, Michael Tomasello (1999; 2004). In his recent book, *The Cultural Origins of Human Cognition* (1999), Tomasello claims that, at a crucial junction in human evolution, human beings acquired a crucial capacity that set us apart from all other creatures, including our closest living primate relatives, the chimpanzee and our recently extinct hominid relatives, *Homo neanderthalis* (Neanderthals co-existed with *Homo sapiens* in Europe as recently as 20,000 years ago). According to Tomasello, the basis for this distinction is our capacity to "share attention" with other members of our species which enables humans "to pool their cognitive resources in ways that other animal species cannot" (p. 5). Unlike any other animal, human beings have the ability to "understand conspecifics as beings *like themselves* who have intentional and mental lives like their own. This understanding enables individuals to imagine themselves in 'the mental shoes' of some other person, so that they can learn not just *from* the other but *through* the other" (p. 5-6). Importantly, for Tomasello, this capacity, while founded in our evolutionary heritage, is not simply so. Our capacity to share attention with each other is also, crucially, a result of our development in a specific "ontogenetic niche" that generates potentials that otherwise are not expressed. So, for instance, while genetic conditions that exist that impair the human ability for sharing attention, humans who do not experience human culture in infancy also fail to develop the capacity for cultural learning. As a result, Tomasello argues "Modern adult cognition of the human kind is the product not only of genetic events taking place over many millions of years in evolutionary time but also of cultural events taking place over many tens of thousands of years in historical time and personal events taking place over many tens of thousands of hours in ontogenetic time" (p. 216). Our capacities for, what Tomasello calls, "mind reading" enable us deliberately to teach and learn from each other. As such, this distinct human capacity is what enables us to create culture, and then, in

unending, intergenerational cycles, to incorporate and build upon the cultural accomplishments of others.

This deeply cultural sense of the nature of lifelong learning is, I would argue, painfully absent in the theories and practices of adult education. Instead, learning theory in adult education (when it is considered at all) is too often based, at best, on outmoded and increasingly discredited individualist cognitive learning theory, or even worse, on behaviorist theory. Tomasello's work opens a door for a much needed reconceptualization of lifelong learning in adult education as a deeply cultural process.

While anthropologists who focus on the archaic emergence and primordial nature of human learning capacities like Donald, Mithen and Tomasello afford adult educators a great opportunity to critically examine the cognitivist bias of their learning theories, cultural anthropologists who examine human learning processes in a variety of indigenous and non-Western contexts also have much to add to our sense of our field. In my view, a particularly important potential contributor to adult education is Tim Ingold whose groundbreaking book, *Perception of the Environment* (2000), challenges long-standing conceptions of "knowledge" as something that exists as an entity independent of our ongoing engagement in our world. Ingold's detailed examination of human practices in a host of indigenous cultures like wayfinding, basket-weaving, tool-making, and communicating fully dispels the conception of humans as containers for abstract "knowledge." Rather, he reveals much about how knowledge is an inherent part of our engagement with the world and with the lives of other people. Himself deeply impacted by the early work of Jean Lave (1988), Ingold contends that learning is much better served by metaphors like "weaving" or "dwelling," which draw attention to the active, embodied, and forever situated nature of human learning, than it is by the metaphor of the container or the information processor. Instead of an ontology that presents human beings as rational subjects set against an objective world, Ingold (drawing variously on Heidegger, Habermas and Lave) asserts an ontology of engagement in which the subject already dwells in the world. Thinking and doing are not two dichotomous aspects of being; in Ingold's ontology, thinking is already a kind of doing. Thus, as Heidegger relates, "we do not dwell because we have built, but we build and have built because we dwell, this is because we are dwellers.... To build is in itself already to dwell.... *Only if we are capable of dwelling, only then can we build*" (1971, p.148, 146, 160). According to Ingold (2000), "what this means is that the forms people build, whether in the imagination or on the ground, arise within the current of their involved activity, in the specific relational contexts of their practical engagement in their surroundings" (p. 186). We do not import our plans or our thoughts into the world we build. Rather, imagining what one might build is only possible because we already dwell in the world.

Ingold's claim that humans are dwellers profoundly challenges the prevailing theory in adult education that learning is a process of acquiring knowledge. Thinking, for dwellers, is not just a process that transpires in the head; rather, it is better described as a phenomenon that emerges when human beings entwine themselves in the unfolding processes of the world (the world is as implicated in the emergence of this phenomena as is the person). Knowledge, likewise, is not a separate body of propositions that can be internalized by the human subject. Instead, knowledge for dwellers is the shape or the pattern of their engagement in the world. It is the way the unfolding and emergent pattern that they are intersects and entwines with the surfaces and flows of the world in which they dwell. At birth, each of us is thrown into a world already unfolding into which we must weave our lives (and, in Tomasello's account, this includes, significantly, a

strong cultural component). It is through learning that we dwell in the world. Learning, in short, is the way we twist the threads of our life into the ever-changing fabric of our world.

It is this kind of sophisticated thinking about learning, I contend, that adult education deeply needs. For too long, our field has drawn too shallowly from too small a theoretical base. The time has come for us to radically expand our interdisciplinary explorations to include a far wider range of philosophical, scientific and social scientific material. Anthropology, in particular, is a crucial realm of exploration, particularly at the current juncture when anthropologists are so rapidly deepening their understanding of the relationship between humans and their social and cultural contexts. The engagement of many contemporary anthropologists with concepts of deep concern to adult educators like “knowledge” and “human learning” generates a powerful point of connection that adult educators should diligently follow.

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