

Commentary

Anthropology in Wonderland, Or, The Virtues of Shifting Levels and Frames

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Like Gulliver and a host of other story-book characters, Lewis Carroll's Alice becomes both befuddled and enlightened when she encounters worlds in which the normal scale of things has been altered. In addressing this year's AN theme of "What Don't We Know?", I will attempt to convince you that each of us can profit from a similar type of fantastic voyage. I suspect that when the editors chose this theme they envisioned articles that could be posted in copy rooms and department lounges, providing a fertile source of topics for grant proposals and dissertations. What is true of fish, however, is also true of unanswered questions: Dispense with the item itself, and only immediate needs are met. Show how to find them, and future needs are met as well. Accordingly, an important step in the expansion of anthropological knowledge is the formulation of heuristics for exploring information and generating questions. One productive approach is to venture into a sort of Carrollian Wonderland by systematically shifting analytic levels.

Looking for Questions

It is possible to shift the level of analysis either "up" or "down." "Up" refers to a change in perspective such that the phenomena that earlier were seen as systems are now seen as components in a larger system, whereas the phenomena that were seen as context or environment are now seen as systems. Conversely, shifting the scope of inquiry "down" involves changing one's point of view such that phenomena that were seen as components in a larger system are now seen as systems in their own right, and phenomena previously viewed as systems are now considered context or environment.

Begin with something you feel is fairly well understood, then shift the scope of inquiry up or down. You may find that our knowledge is more limited than you thought. Although different analytic levels are understood, it is frequently not clear how they are linked. Sometimes we find that our knowledge is an island, surrounded by ignorance about phenomena that occur at other levels. Either way, we arrive at a host of new questions to ponder.

Down Is Good

Consider emotions, a prominent topic in current research. Anthropologists have produced rich portraits of culturally constituted domains of emotion. These accounts demonstrate the extent to which culture influences relationships between emotions,

affects antecedents and outcomes of emotions, and perhaps even shapes the experience of emotions. Let's go down one analytic level. Here we find the pan-human spectrum of emotion potential, the innate building blocks out of which cultures create unique semantic and experiential domains. Research at this level has been productive, and ethologists and cross-cultural psychologists have documented universal antecedents and facial expressions for a number of elementary emotions. How do we link this level with that above it? It appears that culture molds this substrate by systematically marking, emphasizing and eliciting some features of the spectrum, and ignoring others. We can study vocabulary, ritual and socialization to see how these patterns are instantiated. Investigations of the process of transforming a universal potential into a given culturally constituted emotion have been conducted for only a few emotions, in only a few societies. We are therefore far from understanding this process in any detail.

Let's go down one more level. Here we find the wetware that generates emotion. Investigators are beginning to understand the nature of connections between limbic centers responsible for emotions and cortical centers responsible for input and output that influence the experience and expression of emotion. The actual pathways for specific emotions are still poorly understood, however, and the problem becomes even more complex if we ask how experience influences the emotion system—there is a significant gap between this level and the one above it. Go down one more analytic level, to the neurochemical substrate of mind, and the problem gets worse: Several neurotransmitters play key roles in a number of different emotions, but it is unclear how we can map subjective emotional experience onto its neurochemical foundations.

"But," you protest, "I don't study neurotransmitters, so why should I care what we know or don't know about them?" Whereas it is necessary to limit the scope of our questions, this does not justify blinding ourselves to the implications our knowledge holds for other levels, and vice versa. Investigators working on the wetware of emotions often assume a degree of universality—and a rigidity—that anthropologists studying ethnopsychologies know to be unjustified. Feeding knowledge down several levels can thus lead to important new questions, such as how it is that supposedly fixed relations between emotions can be shuffled about so much, or more generally, how chemical changes mediate the effect of experience on hardwired proclivities. Conversely, knowledge can feed up analytic levels. Emerging portraits of releasers and



In Wonderland, Alice experiences dramatic changes in scale. (Illustrations by Sir John Tenniel, from Louis Carroll's 1897 edition of *Alice's Adventures in Wonderland*.)

effects of oxytocin may help explain the emotional and cognitive consequences of rites of passage. An anthropologist interested in emotions but unaware of recent advances in neurochemistry might fail to recognize that many emotionally charged rites of passage have a nonarbitrary format, a phenomenon that may be related to the circumstances causing oxytocin release. Many such intriguing issues are only beginning to be addressed.

Upward Bound

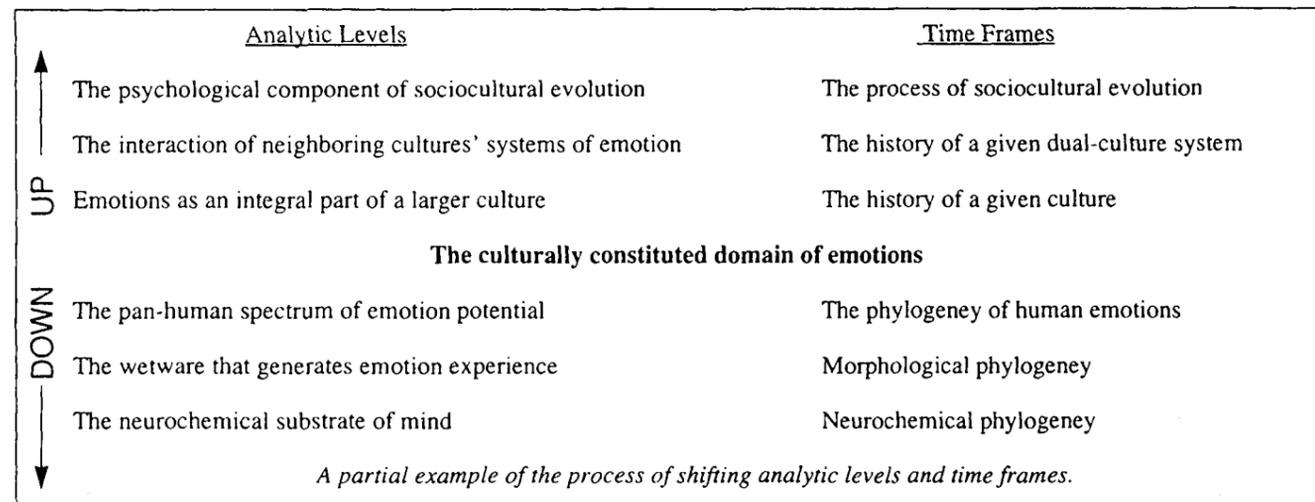
Let's return to our starting point, the finding that particular cultures configure the domain of emotions in particular ways. For any portrait of a given cultural system of emotion, we can go up one analytic level by asking why that system has a particular format. Specifically, how is the emotion system congruent with other aspects of the culture? What is its relationship to the means of production? To the social structure? Among the Bengkulu fishers, whom I studied in Indonesia, the salience of several emotions is indirectly linked to means of production. Families face considerable daily variance in production, as a fisherman may come home with a canoe full of fish one day, but return empty-handed the next. These fluctuations are customarily managed through extensive sharing—surpluses are invested in "social insurance" against future shortages. Because today's donor may be tomorrow's recipient, reciprocal relations are best conducted on an egalitarian foundation. Accordingly, there is little tolerance for the display of pridelike emotions, as these are associated with professed superiority of one individual over another. Furthermore, egalitarian ethic necessitates horizontal rather than vertical social control. Ridicule is one social sanction that can be employed in the absence of hierarchy and is most effective when it elicits an aversive emotional response. In Bengkulu, both the practice of ridicule and experience of shame-

like emotions are culturally elaborated: There are nine words for "stupid," and a term glossed as "shame" forms the center of a constellation of emotion concepts ranging from "feeling despised" to "feeling shy." By enhancing the efficacy of ridicule, these hypercognized emotions facilitate social control in an egalitarian context.

Viewing a culture as a complex system generates interesting questions. We can, however, move up another analytic level by exploring relationships between cultures. Investigators have examined interactions between particular pastoral societies and neighboring agriculturalists, and between some foraging groups and horticulturalists. We can therefore ask how, in a given dyad, each culture uses a portrait of the other to exemplify pre- or proscribed emotions.

Although every culture is unique in many respects, commonalities also exist. Typologies are often created based on means of production and social structure. Whereas these are particulate criteria, interlinkages that occur within cultures may make such categorizations more inclusive than they appear. For example, there seem to be commonalities in the emotion systems of cultures of the same type. The configuration described above is not exclusive to Bengkulu fishing villages: In many small-scale societies that face significant production risk, sharing is mandated, social relations are largely egalitarian, shamelike emotions are culturally elaborated and their expression is proscribed, and display of pridelike emotions is prohibited. Recognizing such patterns forces us to generalize functionalist/contingent arguments beyond parochial explanations. Furthermore, at the next analytic level up, typologies allow us to generalize conclusions regarding interactions between cultures of different types—we can ask whether all dual-culture systems composed of pastoral and agricultural cultures share particular features, and how these

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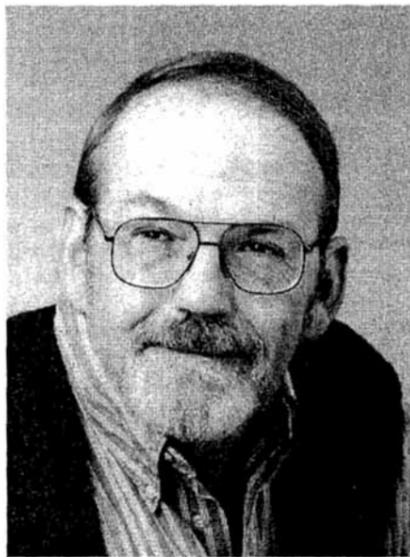
Four Anthropologists Elected to NAS

Cynthia M Beall, Victoria Fromkin, Eric Trinkaus, Henry C Harpending and Colin Renfrew were among 75 new members elected to the prestigious National Academy of Sciences at its 1996 annual meeting. As the newest members of the Anthropology section, these 5 join a body of 73 scientists recognized for distinguished and continuing achievements in original research. Membership in the academy is considered one of the highest honors that can be accorded a US scientist.

Cynthia M Beall, S Idell Pyle Professor of Anthropology at Case Western Reserve U, was honored for her extensive biological and cultural research among the native high-altitude populations of the Andes and the Himalayan regions, which have provided the first firm evidence that these populations have adapted by differing genetic and developmental responses that enhance their functional capabilities in harsh hypoxic environments.

Victoria Fromkin, Professor of Linguistics at U California at Los Angeles, has made pioneering contributions to the fields of phonetics and neurolinguistics. She was particularly cited for her electromyographic investigations of neuromuscular specification of linguistic units, classic studies of slips of the tongue and internationally acclaimed studies of language acquisition, processing and hemispheric lateralization in normal populations, the deaf and in a modern "wild child."

Henry C Harpending, Professor of Anthropology and Human Develop-



Victoria Fromkin

ment at Pennsylvania State U, was cited for his efforts to break new ground in anthropology and human biology in developing mathematically based models by which to interpret genetic and morphometric variation within and among human populations and, therewith, to test hypotheses of population growth, divergence and gene flow. Much of this research is based on his long-term fieldwork in southern Africa.

Erik Trinkaus, Regents' Professor of Anthropology at U New Mexico, has shaped our current perspectives on recent human origins. By applying principles drawn from paleobiology and functional anatomy to the study of



Henry C Harpending

archaic *Homo sapiens*, he has moved the Neanderthals from evolutionary oddity to an ancestor essential to our definition of what it means to be human.



Eric Trinkaus

A Colin Renfrew, Lord Renfrew of Kaimsthorn and Disney Chair of Archeology at U Cambridge, was elected as a Foreign Associate of the NAS. Renfrew is honored as one of the world's best known and most respected archaeologists as the result of his career-long efforts to provide models for the explanation of prehistoric culture change. His models of island civilization, peer polity interaction, the multiplier effect and ancient cognitive processes combine American-style anthropological theory with classical European mastery of the archaeological data. In 1991, in recognition of his achievements in science he was named a Life Peer by the British government.

The National Academy of Sciences is a private organization of scientists and engineers with over 1,700 current active members dedicated to the furtherance of science and its use for the general welfare. The academy was established in 1863 by a congressional act of incorporation signed by Abraham Lincoln that calls on the academy to act as an official adviser to the federal government.

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compare with systems composed of foraging and horticultural cultures.

Typologies of cultures also facilitate investigation of sociocultural evolution. By mapping out interrelations of the features of cultures of each type, then comparing these features across types, we may be able to describe a multilineal progression where many of these features change over time. We know that (1) accumulation of surplus is a necessary condition for the development of social stratification, and (2) there are multiple levels of complexity in the manipulation of surpluses, with corresponding degrees of complexity in social organization. We have yet to explore, however, the possibility that cultural systems of emotion both reflect and are part of these different politico-economic forms. For example, Big Man cultures, in which social order is largely the product of aggressive self-aggrandizement, seem to hypercognize (and prescribe) pridelike emotions while emphasizing shame in competitive failure. Respectful emotions focus on admiration or envy rather than feelings of duty or obedience. In contrast, the latter features of respectful emotions appear to be hypercognized in chiefdoms, cultures premised on the legitimacy of a ruler's monopoly on power. Sociocultural evolution thus seems to involve patterned changes, not only in technological, social structural and religious aspects of a culture, but in its psychological features as well.

Same Level, Different Time

Investigating sociocultural evolution entails adopting a diachronic perspective, an approach that augments changing analytic levels as an investigative heuristic. Consider that level where the domain of emotions constitutes one part of a larger cultural system. Rather than analyze the emotion domain as shaped by its relations with other parts of culture, we can focus on the history of the given system. As linguists and archaeologists have shown, historical analyses offer powerful explanations of cultural content. The same type of analysis can also be applied at the next analytic level up, as we explore the history of the interactions between two neighboring cultures: The juxtaposition of two cultural systems may affect them both, perhaps by diluting their differences, or perhaps by causing complementary schismogenesis such that each culture becomes a more extreme version of itself. We can ask whether such processes have occurred uniformly across domains within each culture, or whether some domains are more affected or are affected differently, than others. It might be, for example, that production techniques of neighboring cultures borrow heavily from one another over time, but the two systems of emotion do not converge.

Adopting a diachronic perspective also leads to new questions at lower analytic levels. Ethological investigations that document universality of emotion antecedents and facial expressions often fail to consider the phylogenetic histories of these traits. By studying nonhuman emotions it ought to be possible to explore evolutionary precursors of any purportedly universal emotion. Preliminary efforts have been undertaken for fear and amusement, but much work remains to be done. Importantly, once we begin to consider the problem of phylogeny, questions of function, selection and modification naturally follow, making this an especially productive approach.

At the next level down, the diachronic question becomes one of morphological phylogeny. While much is known about the

limbic systems of monkeys and humans, the same is not true of other great apes. Form-based arguments about the mental capacities of early hominids, including arguments about their emotional capacities, will remain woefully speculative until we have a better understanding of ape brain morphologies. Encouragingly, at the lowest analytic level, progress is being made to explore similarities between human neurotransmitters and those of other mammals. Our understanding of the evolution of these substances is far from complete.

Shifting analytic levels can be a useful way of recognizing just how much or how little we know about a given topic, hence can serve as the first step in generating new research questions. Likewise, adding a diachronic perspective to any given analytic level reveals additional areas for investigation. Lastly, note that these techniques bring the investigator into contact with many subfields or disciplines: In the examples discussed, shifting "down" brings the psychological anthropologist into contact with cross-cultural and evolutionary psychology, biological anthropology and neuroscience, whereas shifting "up" brings her into contact with social and cultural anthropology, behavioral ecology, archaeology, linguistics and history. If we are to heed the call sounded by Timothy Earle (November 1995 *AN*, p 9) for cross-specialty collaboration, we must have methods for building bridges. Systematically shifting analytic levels and time frames is thus doubly useful: it both generates new questions and facilitates cross-specialty exchange. Importantly, these procedures can be applied to any anthropological topic—despite the breadth of our discipline, we can all travel down the same rabbit hole. Hence, the best answer to the question "What *don't* we know?" may not be a list of puzzles, but a method for identifying them.

[Dan Fessler received his PhD from U California San Diego in 1995, and is now an assistant professor in the Department of Sociology & Anthropology at Hofstra U. His current research agenda includes projects on incest, autism, rotating savings and credit associations, moral development, theories of essence, and the evolution of altruism. In his spare time, he enjoys hunting snarks with his dog Indigo. He welcomes your comments at socdmf@vaxc.hofstra.edu.]

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