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"Bioculturalism" -- An interview with Christopher Lynn

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By Deanna Day

This series aims to get anthropologists and closely-related others talking seriously, and thinking practically, about how to synergize biological and social scientific approaches to human health and well-being, and to what positive ends. In this interview, [Christopher Lynn](#) responds to questions posed by series organizer [Jeffrey G. Snodgrass](#).

How and why might cultural anthropologists and social scientists interested in health benefit from integrating biological variables/biomarkers into their research and analysis?

Cultural anthropologists and other social scientists interested in health *should* be interested in some objective indication of health status as reflective, at least in part, of physiological status. I don't feel health issues have been sufficiently addressed if they are not approached integratively in this way. That is not to say that all *my* projects have gotten there yet or that biomarkers are always necessary in all health-oriented research, but without at least an accompanying biological perspective, any interpretation is lacking. One way of taking an integrated perspective and including biomarkers where feasible and informative is through basing research and data analysis in Tinbergen's four "Why" questions. This ethological approach lends itself to participation as well as observation and recommends that we examine behavior (1) historically (culturally and phylogenetically), (2) developmentally (what is the role of age, maturity, family, expectations of those stages?), (3) functionally (physiologically or functionalist-ly), and (4) proximally (psychological cause-effect).

I guess that's viewing it from the biological side and seeing culture as critical rather than vice versa. I don't see that there's any way around me seeing things through the lens of a biological anthropologist, but it's important to note that this is distinct from how biologists often utilize ethology and Tinbergen, which often lacks awareness of cultural relativity. I started off as a cultural anthropologist in my undergraduate education (literally, I majored only in Cultural Anthropology through an interdisciplinary program), then gravitated to Biological Anthropology

because all the questions I asked about health and humanness simply required a better understanding of biological processes. Upon completing my PhD, I think I've moved back to a middle ground where the specific questions I ask and stage of research I'm at dictate whether what I look at takes more of a cultural or biological form. Honestly, it's just anthropology, but I do feel obliged to make distinctions because it is infinitely confusing to students when we seem to call ourselves one thing and do another.

However, biological perspective does not necessarily mean biomarkers. Biomarkers are kind of like the fMRI of biocultural anthropology, at least among students in my department's Biocultural Medical Anthropology program. They are something students with a cultural bent seem to throw on to show they're being biocultural, and such proposals tend to look like pigs with chickens stapled to their backs. On the other hand, students who come from a biological background do the same thing with the cultural consonance approach. Bill Dressler has written extensively on this happy wedding of the biological as integral to the cultural in terms of health outcomes, so I won't rehash but rather direct readers to the new [Biocultural Systematics](#) blog on our [Bama Anthro Blog Network](#) that will soon also be published via *Anthropology News*. Yet biomarkers are useful, and there are numerous ways to include them to test claims made through interviews or interpretations of survey data. Biomarkers can be easy to use and unobtrusive even for the relatively untrained, especially in the era of ubiquitous smartphones. For instance, on the "high-tech" side, Francois Dengah (who has a PhD from the University of Alabama in biocultural medical anthropology and is now an Assistant Professor at Utah State) and I have been working toward integrating low-cost skin conductance and heart rate sensors that plug into Android and Apple tablets and smartphones and interface with free apps. On the other hand, Greg Batchelder, a PhD student currently working with me, plans to collect blood pressure and hair samples to measure cortisol among the Bribri in a remote area of Costa Rica lacking electricity.

How would you respond directly to one potential cultural anthropological or social scientific critique of such an integrative "biocultural" approach?

One of the common critiques of anything done from a biological perspective is that it tends to be reductionistic. Especially with regard to health-related research, we focus on outcomes and are in danger of missing the trees for the forest. In my studies of dissociative behavior, I'm sensitive to the frustration of some scholars who are wary of the use of generalizing ethnologic terminology, such as "shamanism," "possession," "trance," etc. This is especially true when we researchers

with cross-cultural bents try to discuss function. For instance, I would be leery of saying something like, the function of dissociation — the partitioning of awareness we see in possession trance, dissociative disorders, and so many other psycho-cultural contexts — is to reduce stress. We have to be cognizant of referring to biological *capacities*, cognitive *capacities*, and look at how psychosociocultural influences interact with such capacities to influence myriad outcomes. The suggestion of function tends to suggest to readers that we think there is a cognitive module or evolved trait or something that is universal, and this is not necessarily true or what is meant. But to think that readers will not read into our use of the term would be naive. However, we do need some conceptual terms to hang our hats on, even if there is no unity in underlying biology. Suggesting that all people have varying capacities for dissociation does not mean there is a dissociation module in the brain or that even the same neural circuits are invoked.

It's important that critique be constructive and that we take our colleagues' concerns about our approaches to heart. My policy is that the more a criticism bothers me, the more I need to think about what relevant criticism I might be steamrolling over in my approach. I take critique to heart more than I do praise (which sucks for my self-esteem, unfortunately). There are ways we can, as I so often say to students, throw the bathwater out without chucking babies. One of my favorite integrations of this nature is Carol Worthman's development of the concept of embodiment. The theory of embodiment came into usage as a way to appreciate what to me seemed an inherent appreciation of the biological but without clear articulation of biological outcomes in the phenomenological works referencing or invoking this term. Worthman, especially in a 1999 piece in the edited volume [Biocultural Approaches to the Emotions](#), outlined clearly that we biologically embody aspects of our local environment, that we embody our environment of development as we grow up, and that we vary in our responses to hardships in ways that influence our health. As I stated previously, without this context — which speaks directly to Boasian historical particularism — analyses of culture are lacking.

What is one potential caution you'd have for cultural anthropologists or social scientists considering a biocultural approach?

Hmm, you should probably ask this of a cautious person. It's important to be sensitive about collecting biological data. Simply put, people are distrustful and with good reason. For many of our research participants — whether from “developed” or “Westernized” cultures or not — there is a bit of sympathetic magic associated with giving up pieces of you. As

Frazer taught us all, cultures throughout the world associate personal power with hair, names, fingernail clippings, blood, saliva, etc. To give these away gives away power. It has never been articulated this way to me, but I have had participants concerned that, in collecting their saliva to measure cortisol, I would do something with their DNA. Another participant in my study of speaking in tongues among Pentecostals was concerned that I would misinterpret her data. She had eight of her own children and ran a home school, frequently felt very stressed, and was concerned that her potentially high levels of cortisol would make God look bad (i.e., as though her relationship with Him was not bringing her any peace or sanity). In my research, navigating the terrain of fundamentalist Christianity to measure biomarkers requires a fair amount of finesse that came rather naturally to me, I'd like to think, because of my cultural anthropology training. On the other hand, because of the widespread familiarity with biomedicine and the normative nature of providing urine and blood samples, many of my participants in that study, surprisingly, were less concerned about the saliva sampling than some of the questions in the survey I used.

Other than that, the previous issue I mentioned — simply tacking a biomarker onto a cultural study or vice versa — is the biggest problem I have encountered. It is important to meaningfully integrate the biological and the cultural in biocultural research. I see cultural factors as driving research design in terms of how and what biological data are collected and biological issues as driving a necessary investigation of cultural variation. They should not seem as though they are two independent studies using the same sample, as they so often do.

What is one piece of research (ideally your own) that points to the benefits of such an integrative approach?

The work I've been talking about was the basis of my dissertation. I was interested in the influence of speaking in tongues as a cultural practice exhibited in the context of dissociation on stress response. I started from a functionalist perspective testing the health benefits of trance and quickly discovered that tongues can be negatively interpreted even within a Pentecostal church and increase problems rather than ameliorate them. This discovery led me to be sensitive to the various emic interpretations of the tongue-speaking experience and a nuanced approach to quantifying lifetime tongue-speaking experience. Ultimately, I found that higher rates of tongue-speaking influenced higher stress on worship days, which was expected given the experiential and energetic nature of worship, and relatively lower stress on a nonworship day compared to people within the same churches with less tongues experience. These differences were

small but statistically significant. Those data are detailed in two papers in [American Journal of Human Biology](#) and [Religion, Brain and Behavior](#).

While this supported my hypothesis, the biggest lesson that has driven much of my subsequent research and approach is that, as a pastor in one of the churches where I did that research once said, “speaking in tongues is not enough.” It is simply the beginning, and there are numerous factors that influence the benefit of Pentecostal practice that often can’t be generalized even beyond one church. Analysis of an event wherein an individual was accused of being under the influence of the Devil rather than God, and which influenced my thinking in this regard, is outlined in [an article in Ethos](#), and a forthcoming article in the *Journal of Cognition and Culture* reanalyzes previous data with regard to other factors that are influential in benefiting health besides tongues.

How might cultural anthropologists or social scientists interested in such an approach get started?

One of my favorite pieces is [“Biocultural Models in Studies of Human Health and Adaptation”](#) by Ann McElroy. Also, I was strongly influenced by [a biocultural issue of Ethos](#) that came out in 2005 (Vol. 33, Issue 1), when I was in graduate school, and especially the article [“What’s Cultural about Biocultural Research?”](#) by Bill Dressler, with whom I am now a departmental colleague in our Biocultural Medical Anthropology program.

[Christopher D. Lynn](#) is a biocultural medical anthropologist and human behavioral ecologist, director of the Human Behavioral Ecology Research Group, and co-director of the Evolutionary Studies (EvoS) Program at the University of Alabama. His dissertation research was on the relationship between glossolalia (“speaking in tongues”) and biological stress among New York Apostolic Pentecostals. He is currently setting up broader studies that examine the neuroanthropology and behavioral ecology of Charismatic religious behavior in Alabama and Costa Rica. The focus of much of his research is on understanding the mechanisms and psychocultural moderation of the mechanisms underlying dissociation/absorption.

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