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Should Anthropology Be Part of Cognitive Science?

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Abstract

Anthropology and the other cognitive science (CS) subdisciplines currently maintain a troubled relationship. With a debate in *topiCS* we aim at exploring the prospects for improving this relationship, and our introduction is intended as a catalyst for this debate. In order to encourage a frank sharing of perspectives, our comments will be deliberately provocative. Several challenges for a successful rapprochement are identified, encompassing the diverging paths that CS and anthropology have taken in the past, the degree of compatibility between (1) CS and (2) anthropology with regard to methodology and (3) research strategies, (4) the importance of anthropology for CS, and (5) the need for disciplinary diversity. Given this set of challenges, a reconciliation seems unlikely to follow on the heels of good intentions alone.

Keywords: Anthropology; Cognitive science; Culture; Universals and diversity; Interdisciplinarity

1. A troubled relationship

Anthropology once was a pioneer in the cognitive revolution and a founding member of the cognitive sciences (D'Andrade, 1995; Gardner, 1985). Over the years, however, its presence and influence have continuously decreased—to the extent that it became the “missing discipline” (Boden, 2006). This alienation is particularly evident at the recent annual meetings of the Cognitive Science Society in which anthropology has been mostly absent.

When, in 2008, the Cognitive Science Society celebrated its 30th anniversary, the conference organizers hosted a symposium in which stock was taken of what has been achieved and what the future may hold for cognitive science (cf. Barsalou, 2010). Two out of ten slots in this symposium were reserved for anthropology, one for the research field of cognitive ecology (Hutchins, 2010) and one for the discipline proper. Anthropologists had faded so

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much into the background (and psychologists so much into the foreground) that anthropology was represented at the symposium by a psychologist, Douglas Medin. For many years, Medin has intensively collaborated with anthropologists, and he took the opportunity to insistently plead for a stronger engagement of anthropology in the cognitive sciences and for greater cross-disciplinary exchange (Bender, Hutchins, & Medin, 2010). But the fact remains that he is a psychologist, and that speaks volumes.

It is paradoxical that anthropology is deserting, and is being deserted by, the other cognitive sciences just at the point where the role of culture is increasingly recognized as of prime relevance for the science of human cognition. With questions of cultural and linguistic diversity coming to the fore of attention in the cognitive sciences (e.g., Atran & Medin, 2008; Evans & Levinson, 2009; Gelfand & Diener, 2010; Norenzayan & Heine, 2005), it might seem only natural to call for anthropology's expertise in culture and language, and to advocate its re-integration into the cognitive sciences (e.g., Bender & Beller, 2011; Bender et al., 2010; Gentner, 2010).

In a paper written shortly after the establishment of the Cognitive Science Society, one of its founders, Donald Norman (1980), listed twelve central issues for cognitive science, the first being belief systems. He wrote (p. 15),

I start with Belief Systems, accidentally the first in my alphabetized list of issues, but deserving of primacy under other criteria as well. For belief systems mark the merger of the traditional domain of cognitive science—the study of knowledge—with the domains of those who study real world interaction of humans—the anthropologists, the social psychologists and the sociologists.

In short, culture was important in 1980 and, if anything, is more important now. So why is anthropology at the sidelines of cognitive science?

In a brief survey we conducted subsequent to the 2008 anniversary conference of the Cognitive Science Society, cognitive anthropologists were questioned about their relationship to the cognitive sciences and the Society. Besides the simple demographic fact that anthropology is a relative small discipline as compared to, for instance, psychology, our survey revealed three more reasons for anthropology's decreasing visibility and participation in the cognitive science community. One is the level at which different disciplines address the phenomena of interest: Anthropologists tend to be more interested in content, in shared representations, and in systems of distributed cognition, whereas other cognitive scientists are perceived as being more interested in the individual, in cognitive architecture, and in processing. A second obstacle consists of differences in standards for publication, which make it more difficult for anthropologists to be published—and hence noticed—in journals devoted to cognitive science. The third and perhaps most important reason, however, is the perception that the majority of researchers in cognitive science does not take seriously the research questions anthropologists are interested in nor how they study them:

Personally, I have never felt that my kind of work was valued by those in your society. Partly that has to do with psychological anthropologists' theoretical aims, which [...] have

simply not been understood by other cognitive scientists; and partly it has to do with our methods, which are generally denigrated as “qualitative” if not dismissed as “anecdotal.” A first step toward some kind of rapprochement [...] would be to take us seriously.

That this feeling is (at least partly) justified can be seen from *The German Dictionary of Cognitive Sciences* (Strube et al., 1996). Its cover is illustrated with a pentagon instead of the hexagon depicting the classic cognitive sciences—and guess which discipline is missing? Since its foundation, the German Society for Cognitive Science (GK) simply has not recognized anthropology as one of the cognitive sciences or even as a potentially interesting partner.¹

However, the alienation works both ways, and a particular striking case is reported by Bloch (2005): An American psycholinguist had tried to establish contact with anthropologists of her university for an exchange on the relation of words to concepts. Her initiative was quite unsuccessful, to say the least:

In fact she found nobody who was interested in working with her, but what surprised her most was the hostility she perceived, caused, not only by the suggestion that cultural social anthropologists were interested in simple exotic societies, but even more by the idea that they might be interested in formulating and answering general questions about the nature of the human species or that their work could be compatible with disciplines such as hers. (Bloch, 2005, p. 1)

Apparently, considerable frustration has accumulated in previous years on both sides, rendering a rapprochement difficult to achieve.

So maybe it's time to stop pretending that things are (or should be) better than they are. It is true that a range of initiatives has recently been launched to re-establish a healthy relationship between anthropology and the other parts of cognitive science, but the very fact that such initiatives are needed should alert us to the possibility that something is deeply wrong. Moreover, although the call for rapprochement is generally endorsed in official communiqués, many on both sides appear to be reluctant to answer it. Neither anthropology nor other cognitive sciences are homogenous fields that can speak to each other with one voice. Many scholars fail to see the benefits of an ongoing relationship, and some take issue with developments in their neighboring disciplines and have stopped acknowledging each other's perspectives and findings as relevant.

In this essay, we are going to explore the idea that the problems between anthropology and the other cognitive science subdisciplines indeed are deep—so deep, in fact, that a separation, if not an outright divorce, may be called for.

2. Challenges for rapprochement

The debate in this *topiCS* issue is intended to explore the prospects for a rapprochement between anthropology and the other cognitive sciences without presupposing that

rapprochement is a good idea. Indeed, in part to be provocative, we are going to summarize arguments (partly originating from the survey and hence not necessarily consistent with each other) for why anthropology and the other cognitive science disciplines should go their separate ways. Our aim is not so much to play devil's advocate as to encourage a frank airing of the current real and imagined obstacles to interdisciplinary integration. This will entail painting a simplified picture.

Given our own background and fields of expertise, this introduction will largely focus on the relationship between anthropology and psychology—a restriction that will be compensated by the subsequent commentaries—and will give occasional references to the specific situation in the United States and in Central Europe. The commentaries will address our challenges by highlighting the pros and cons of cognitive research on culture with or without anthropologists. They are written by researchers from different disciplinary backgrounds (including anthropology, cognitive psychology, social psychology, linguistics, and philosophy), and they represent both senior scholars, who are among the leading scientists in their fields, and junior researchers at different stages in their career with fresh and diverse perspectives on an old relationship (or lack thereof).

2.1. *Challenge (1): Cognitive science is not on the right track*

This assessment consists of three different, yet related subthemes to be detailed in the following.

2.1.1. *Cognitive science never took some of the crucial dimensions of cognition seriously (1a)*

When the cognitive sciences took shape, they set high goals: They wanted to strive for a comprehensive understanding of the human mind, in a cross-disciplinary endeavor, and eventually emerge as *one* cognitive science. However, from the very beginning, they have excluded some fundamental dimensions of cognition from examination—affect, context, culture, and history (cf. Gardner, 1985)—and thereby betrayed their own goals and expectations. Donald Norman (1980) may have listed these problems and issues for cognitive science, but the field at large either would not or could not address them. For anthropologists, on the other hand, these neglected issues are of prime interest. As Ed Hutchins (1995) put it, “human cognition differs from the cognition of all other animals primarily because it is intrinsically a cultural phenomenon” (p. xiv). As long as the cognitive sciences do not recognize the need to take these dimensions into account more generally, anthropology will have a great deal of trouble in finding its place in this endeavor.

2.1.2. *Cognitive psychology has quietly completed a (hostile) takeover of cognitive science (1b)*

The composition of cognitive science has changed substantially in the past decades, perhaps to the extent that it has ceased to be a genuinely multi-discipline endeavor. For instance, in the early years, psychology had contributed about one quarter of the publications in the journal *Cognitive Science*; in 2008, psychological contributions constituted an

absolute majority (Gentner, 2010), thus displacing other disciplines, including anthropology.² Furthermore, a considerable number of these publications are concerned with cognitive phenomena, but not specifically cognitive science. As one consequence, standards for methods, data collection and presentation for papers in cognitive science journals favor psychological contributions.

2.1.3. *Research into cultural (and linguistic) diversity is not always well-received (1c)*

Given the prime goal of achieving a comprehensive understanding of human cognition, cognitive science should have a natural interest in exploring cultural diversity (Medin et al., 2010). And indeed, in recent years, questions of cognitive and/or linguistic universals have been among the most controversial and hotly debated topics (e.g., Evans & Levinson, 2009; Norenzayan & Heine, 2005). They are directly related to a central assumption of cognitive science, namely that cognitive processes (which are assumed to be invariant across individuals and cultures) can be separated from the content processed (which is assumed to be variable). This assumption, however, is increasingly contradicted by cross-cultural findings, which reveal that content and process may interact in complex ways (e.g., Atran & Medin, 2008; Kitayama & Uskul, 2011).

The issue of cognitive diversity, however, cannot be satisfied from a passive perspective that is content to equate “people in general” with college students but requires empirical examination, and this must not rely on restricted (i.e., “weird”) samples only but necessitates cross-cultural and cross-linguistic comparisons (Arnett, 2008; Henrich, Heine, & Norenzayan, 2010; Medin et al., 2010). Still, by virtue of being cognitive scientists, many researchers feel that they may justly be interested in generalizable findings only and hence delegate any exploration of diversity to the fringes. But generality must be demonstrated, not assumed.

2.2. *Challenge (2): Anthropology has not been—and is not—on the right track*

When we turn to anthropology, a distinction needs to be drawn between cultural and cognitive anthropology. *Cultural (or socio-cultural) anthropology* is one of the four fields of anthropology (besides archeology, biological and linguistic anthropology) and is primarily interested in social patterns and practices; the subfield of *cognitive anthropology* emerged out of a blend of cultural and linguistic anthropology, with the explicit goal to explore the (cultural) organization of knowledge (cf. Bender et al., 2010; D’Andrade, 1995). Generally speaking, cultural anthropology has been more susceptible to postmodern influences, but cognitive anthropology has problems of its own to cope with.

2.2.1. *The status of anthropology as a science is under dispute (2a)*

In November 2010, the American Anthropological Association (AAA) redefined its *Statement of Purposes* from advancing “anthropology as the science that studies humankind” to advancing a “public understanding of humankind” (Section 1). This drop of the notion of “science” as a crucial component in how the society understands itself has been taken widely to reflect a development in recent decades that has led anthropology away from

science (where at least parts of it were firmly rooted) towards humanities and postmodern reflections of ethnographic descriptions as a literary genre. Although several sections within the AAA still pursue scientific goals and approaches and fiercely object to the change in the AAA mission statement, these may be losing ground.

The general tenor of developments within the AAA has led some anthropologists to create a breakaway organization, the Society for Anthropological Sciences (SASci). This is not unlike the formation of the Psychonomic Society decades earlier when experimental psychologists began to feel unwelcome at meetings of the American Psychological Association. The formation of SASci is a positive development, but it is seriously mitigated by the trends described in 2b and 2c.

2.2.2. *Cognitive anthropology has become fossilized (2b)*

The (shrinking) field of cognitive anthropology and its perception by outsiders has been dominated by—or at least associated with—the “big men” of the first and second generation of cognitive anthropology, many of whom jointly founded SASci and meet there regularly. However, attending these conferences, one cannot help thinking that at least some of them are content to keep to themselves. Many presenters are senior scholars, and very few bring along students. As one consequence, when the Cognitive Science Society supported SASci with a grant to award the best student’s paper in 2010, it was hard to find applicants that fulfilled the simple criterion of being students. If, however, the older generation does not succeed in getting the next generation involved, the field of cognitive anthropology will join the sequence of scientific fashions in anthropology and eventually cease to exist.³

A second drawback of this dominance of first- and second-generation scholars is that several of them are put off by frustrating experiences. Take the respondent to our survey quoted above as a prototypical case: Not only did this person feel not valued by cognitive scientists but he/she had witnessed several attempts to change this situation before and no longer believes in their sincerity and viability. This, and the widespread perception that the cognitive sciences are not on the right track (cf. Challenge 1), keep some cognitive anthropologists from taking notice of insights generated in cognitive science.

2.2.3. *The culture of anthropological research is also fossilized (2c)*

The perceived tendency for fossilization is aggravated by the way in which the anthropological field is allocated and research projects are organized. Traditionally, cultural anthropology has tended to follow a “Lone Ranger” model for research—the lone researcher travels to some culture of interest, learns the local language, engages in participant observation, and writes about the culture.⁴ This publication is very likely to be a book (in anthropology, sole authored books provide the basis for hiring and tenure, so collaboration is a risky venture). His or her student(s) tend to pick some other culture as the object of inquiry, and occasionally even other theoretical approaches to research. Hence, research projects lack intergenerational continuity, which precludes students’ engagement in their supervisors’ activities. As stated above (see 2b), graduate students were almost completely absent from the first SASci meetings. The same observation, if not worse, holds for anthropology graduate students attending Cognitive Science Society meetings as well as similar meetings in

Europe. In short, anthropology is, to a considerable extent, ill equipped to engage in collaborative, inter-disciplinary research, arguably the dominant trend throughout the sciences.⁵

2.3. Challenge (3): Cognitive science and anthropology are incompatible, both in terms of perspectives and methods

As already hinted at in the introduction, cognitive scientists (particularly psychologists) and anthropologists prefer different perspectives and methods, and even diverge in the level at which they address phenomena of interest (Boster, 2011).

2.3.1. Cognitive science is interested in processes and individuals, anthropology in content and context (3a)

Cognitive scientists are predominantly, if not exclusively, interested in cognitive processes, anthropologists in content (cf. D'Andrade, 1981). A correlated difference is that for non-anthropological cognitive science, the focus is pretty much on individuals, and research pretty much ignores the environment in which people live (for cognitive psychology the environment is more or less the personal computer that participants sit in front of). In anthropology, on the other hand, there is much more interest in social processes, and the individual is not necessarily the relevant unit of analysis. In addition, anthropology does care about environments for cognition, including the possibility that cognition may be distributed in a way that a focus on individual cognition cannot begin to address (Hutchins, 1995, 2010). In short, as Boster (2011, p. 144) puts it, "cognitive psychologists examine trees and cognitive anthropologists contemplate forests." While cognitive science may be broad enough to contain both of these approaches, the diverging preferences pose severe problems for collaborative research.

2.3.2. Cognitive science is interested in general accounts, anthropology in descriptions of the specific (3b)

Cognitive scientists tend to be interested in general effects and phenomena. They strive for insights that explain something about the human mind in general and therefore consider cross-cultural comparisons as just one means to test assumptions on universals. Anthropologists, on the other hand, tend to concentrate on one specific cultural group. They appear to have a preference for exploring how specific phenomena are related to each other and unfold within a specific cultural context. Findings like these may be interesting in themselves, but often do not allow generalizations to be drawn or even comparisons to be made. Anthropologist Mary Douglas once coined the term "Bongo-bongo-ism" to describe the exceptionalism mentality nourished in anthropology that "in my tribe it is different" (Richards, 2008). Some hold that cultural comparisons do not help to solve interesting issues, and some even hold that comparisons should not be made at all, but that any phenomenon must be assessed in its own cultural context only (see Astuti & Bloch, 2010). With this focus on the culture-specific, anthropology may provide useful counter-examples for theories proposed in cognitive science, but it will not make a substantial contribution to the science of the human mind.⁶

2.3.3. *Combining anthropological and cognitive science methods is like squaring the circle*⁷ (3c)

Cognitive scientists and particularly psychologists prefer controlled experiments in labs while anthropologists prefer qualitative research in the field (cf. Boster, 2011). The former seek to model their empirical findings by way of computer-based symbolic, subsymbolic, or statistical models, while the latter seek to describe their data in a holistic manner and to relate them to some broader theoretical framework. Ideally, the interests in generalizable effects on the one hand and in context and interaction on the other (cf. 3b) would seem to be complementary, and yet, in practice, they are incommensurate. Establishing equal conditions for cross-cultural comparisons is already a challenge. In the field, and particularly when studying groups of people, the conventional scientific procedure of testing for generalizable effects under controlled conditions is even more difficult. And the ethical questions related to research in entirely different cultural contexts may render such an approach inherently impossible.

2.3.4. *Cultural psychology and cultural anthropology had a struggle for survival, and cultural psychology won* (3d)

We use the term “struggle for survival” rather than “fight” because the competition has been indirect. At the risk of stereotyping, cultural psychology can be as easy as finding colleagues at some foreign university and then encouraging them to run some task with some local sample of college students.⁸ This collaboration encourages a comparable sample and escapes the cost of going to the field, learning a foreign language, adapting to local customs, and so on, because your foreign colleague covers these bases. This practice gives the cultural psychologist an enormous advantage over the anthropologist, and even if researchers were exploring the same issue, the cultural psychologist can easily produce ten papers for every one completed by the cultural anthropologist.

Despite these numerical odds, anthropologists experience more chagrin than envy. In our 2008 survey, a common theme mentioned by anthropologists was that, if cross-cultural research was going to be done in such a naïve manner, it would be full of error and ultimately doomed to failure (see also Astuti & Bloch, 2010; Medin, Bennis, & Chandler, 2010). Convenience comes at a price, in their view, just as others have argued that mainstream cognitive psychology pays a steep price for its convenience samples of undergraduate students (Henrich et al., 2010). Out of frustration, anthropologists may be inclined to let psychologists stew in their own juices until they are ready to take study samples seriously.⁹ In short, the cultural psychology victory may be pyrrhic (however, this does *not* imply that anthropology will be back on the road to victory either).

2.3.5. *Anthropologists tend to do their fieldwork in the summer; other cognitive scientists do not* (3e)

A productive strategy for cross-disciplinary discussion and settling disputes on theoretical approaches and empirical findings is to bring the proponents together for a symposium at joint conferences. However, the annual meetings of the Cognitive Science

Society take place in July or August—the very time most anthropologists (and, for that matter, also field-working linguists) go out for their fieldwork. This leaves fieldworkers with the choice of attending the conference *or* doing their research, and in this situation, most opt for the latter.

2.4. Challenge (4): Culture is crucial for cognitive science; anthropology is not

For the sake of the argument, let's assume temporarily that the majority of cognitive scientists accept the need of adopting a more diversified perspective, and in particular of taking cultural diversity into account (Medin et al., 2010). They might be even convinced that empirical findings may only be considered valid and general after having been re-appraised cross-culturally and cross-linguistically. Would that necessarily entail that cognitive science embraces anthropology? Actually, none of the desiderata just mentioned necessitates anthropological involvement. Psychologists, linguists, and other cognitive scientists have expert methodological knowledge at their disposal that could help them to adapt their research procedures for cross-cultural and/or cross-linguistic studies.

In fact, there is something of a practical bonus associated with the absence of anthropology from the scene. For instance, if you are interested in language and thought, you might be tempted to think that language is like an independent variable and that you can get by with the assumption that language differences are not deeply confounded with cultural differences. At the risk of more stereotyping, some cross-cultural comparisons in psychology are conducted as if by judicious selection of items and tasks, a single component of a cultural complex could be isolated (e.g., individualism vs. collectivism) and treated as an independent variable. This strategy can be useful and effective, but it is not acceptable to most anthropologists, who would strongly object to it—if they still took an active part in cognitive science debates.

2.5. Challenge (5): We do not know what we are doing, so strategic diversity may be a good idea

A rapprochement of anthropology with the rest of the cognitive sciences carries the potential risk of reaching a consensus and a set of compromises that would be ultimately unproductive. Before we all agree to pursue the same single approach for our research, it would be comforting to know for sure that this will earn us the insights we are striving for. With all due respect for 30 years of progress in cognitive science, the challenges that humankind faces—most important, environmental decision-making and inter-group conflict—are daunting. In our humble opinion, cognitive science has embarrassingly little to say about these issues, despite the fact that they involve the behavior of intelligent organisms and systems.¹⁰ If we are not transparently on the right track, diversity in our research strategies and humbleness in our conclusions may be the safer way. However, this may bear the risk of losing some on the way, as alluded to in 3d.

3. Summary and conclusions

Attempts to re-calibrate the relationship between anthropology and the other cognitive sciences are faced with several challenges, some of which simply spring from diverging habits (like 2c or 3e), while others are much more profound (like 3c). The question to be debated here is whether and how we rise to these challenges. What would reconciliation have to look like to serve both sides, and how could it be achieved? Are enough of us willing to tackle these issues and strive for reconciliation? And what moral may other (sub-)disciplines of the cognitive sciences that feel marginalized draw from this process?

Notes

1. There is some hope for a change now: In his presidential address at the 2010 meeting, the president of the GK claimed social and cultural sciences to be of increasing importance for the future of the cognitive sciences (Hamburger, 2011).
2. It is also worth mentioning that anthropology seems to be not the only discipline feeling marginalized; many others raise similar concerns or simply stay away from the Society and its meetings. However, in this debate we will focus on the role of culture for cognition, and of anthropology for the cognitive sciences.
3. To be fair, it needs to be stated that in 2011, the round table discussion on the past and future of SASci attracted nearly as many next generation scholars as it attracted senior ones, and serious efforts are being undertaken to engage more students.
4. Although this practice has become the focus of discussion and severe criticism in recent decades as part of the postmodernist turn, the line of attack did not so much aim at the lone ranger model itself but at the interpretation of the data thus collected.
5. Of course, there are important exceptions to this picture. However, we refer to these only in passing, as key figures in most of these initiatives will provide comments on our introduction (for research on decision making, see also the work by Rob Boyd and Joe Henrich; e.g., Henrich et al., 2005).
6. However, if this were the only reason for the disregarding of anthropological research, psychology should suffer the same fate as their preferred study population is at least as “exotic” as those of anthropologists: Typically, it consists of undergraduates, who appear to be very unrepresentative of the world at large in a host of psychological effects ranging from perception to decision-making (Henrich et al., 2010).
7. We thank one of our anonymous reviewers for this suggestion.
8. As is clear from this description, the term “cultural psychology” is used here not in the sense of a psychology involving the whole culture, as intended by Michael Cole (1996) or Rick Shweder (1991, 2007), but rather as the type of *cross-cultural psychology* that has become so popular in recent years.
9. Here is an experiment you can do. Go to a Cognitive Science Society talk and listen for a description of the study sample. Odds are that one of two things will happen: (a) The study sample will not be mentioned at all, or (b) there will be the one-word

description “people,” which means “undergraduates taking Introduction to Psychology at my university.”

10. We betray latent optimism by our use of the word “intelligent.”

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