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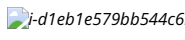
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By emjohnson (/author/emjohnson) on June 15, 2010.

(/author/emjohnson)

 *Chimpanzee Thinking.jpg* (URL)Chimpanzees have culture (or not) depending on your definition. Image: Irish Wildcat / Creative Commons (<http://www.flickr.com/photos/irishwildcat/3020466221/in/set-72157603847340383/>)

Author's Note: The following is an expansion on my reply to anthropologist Dan Sperber (<http://www.plosone.org/annotation/listThread.action?inReplyTo=info%3Adoi%2F10.1371%2Fannotation%2F872136b7-2ac9-4654-8945-34039502cb4c&root=info%3Adoi%2F10.1371%2Fannotation%2F872136b7-2ac9-4654-8945-34039502cb4c>) on the PLoS ONE article "Prestige Affects Cultural Learning in Chimpanzees."



(<http://www.researchblogging.org>)

Culture is like art or pornography, it's hard for people to define but everyone knows it when they see it. Cultural anthropologists have long struggled to develop a consistent definition of the very thing that they study, a problem that has resulted in bitter arguments between scholars that, to an outsider, may seem as esoteric as church doctrinal disputes (<http://books.google.com/books?id=dRw3AAAAMAAJ&pg=RA1-PA530&dq#v=onepage&q&f=false>) over how many angels can sit upon the point of a needle.

In his 1959 book *The Evolution of Culture* anthropologist Leslie White famously defined culture as "the extra-somatic means of adaptation for the human organism." His goal was to bring some consistency to a field that had 164 separate definitions of "culture" ([http://books.google.ca/books?id=s1gRZA9N7QYC&pg=PA15&lpg=PA15&dq=Kroeber+Kluckhohn+Culture:+A+Critical+Review+of+Concepts+and+Definitions+164+definitions&source=bl&ots=fd0xEd](http://books.google.ca/books?id=s1gRZA9N7QYC&pg=PA15&lpg=PA15&dq=Kroeber+Kluckhohn+Culture:+A+Critical+Review+of+Concepts+and+Definitions+164+definitions&source=bl&ots=fd0xEdid=s1gRZA9N7QYC&pg=PA15&lpg=PA15&dq=Kroeber+Kluckhohn+Culture:+A+Critical+Review+of+Concepts+and+Definitions+164+definitions&source=bl&ots=fd0xEdid=s1gRZA9N7QYC&pg=PA15&lpg=PA15&dq=Kroeber+Kluckhohn+Culture:+A+Critical+Review+of+Concepts+and+Definitions+164+definitions&source=bl&ots=fd0xEd)) being used interchangeably in the anthropological literature (which, predictably, made cross-cultural comparisons challenging at best). Today, this view has expanded beyond the human animal and a widely accepted definition is from Peter Richerson and Robert Boyd's celebrated work *Not By Genes Alone: How Culture Transformed Human Evolution* (<http://www.press.uchicago.edu/presssite/metadata.epl?mode=synopsis&bookkey=3615170>):

Culture is information capable of affecting individuals' behavior that they acquire from other members of their species through teaching, imitation, and other forms of social transmission.

By information, we mean any kind of mental state, conscious or not, that is acquired or modified by social learning, and affects behavior.

Earlier I reported on a new study in *PLoS ONE* (http://scienceblogs.com/primatediaries/2010/05/prestigious_chimps_and_culture.php) by Victoria Horner, Darby Proctor, Kristin E. Bonnie, Andrew Whiten, and Frans de Waal that found chimpanzees will adopt novel behaviors after watching them performed by high-ranking members of their group. The authors concluded that these findings demonstrate "prestige-based cultural transmission" for the first time in nonhuman animals.

Their results were consistent with Richerson and Boyd's definition of culture as well as their argument (http://books.google.com/books?id=hixQVxalRI8C&printsec=frontcover&dq=not+by+genes+alone+boyd+richerson&source=bl&ots=_Tj7rd6Fse&sig=PR6UUPus5jRmqYAj8ZKdrzubRxxw&hl=en&ei=VY0that):

[N]atural selection has shaped the psychology of social learning so that we are predisposed to imitate people with prestige and material well-being. . . [M]any phenomena, ranging from maladaptive fads and fashions to group-functional religious beliefs to symbolically marked boundaries between groups, might result from the properties of prestige bias.

However, French anthropologist Dan Sperber (Research Director at the Jean Nicod Institute, CNRS (<http://www.dan.sperber.fr/>) and 2009 recipient (<http://www.enseignementsup-recherche.gouv.fr/cid28486/dan-sperber-1er-laureat-du-prix-claude-levi-strauss.html>) of the Claude Levi-Strauss Prize in Social Science) has recently challenged these findings (<http://www.plosone.org/annotation/listThread.action?inReplyTo=info%3Adoi%2F10.1371%2Fannotation%2F872136b7-2ac9-4654-8945-34039502cb4c&root=info%3Adoi%2F10.1371%2Fannotation%2F872136b7-2ac9-4654-8945-34039502cb4c>) in chimpanzees and insists that it does not represent cultural transmission at all. In a critique, following from his work in linguistic anthropology, he suggests that humans alone are capable of culture. However, just like in anthropology's past, his conclusions rest on the definition that he prefers to use.

Responding to the study at *PLoS ONE* Sperber states (<http://www.plosone.org/annotation/listThread.action?inReplyTo=info%3Adoi%2F10.1371%2Fannotation%2F872136b7-2ac9-4654-8945-34039502cb4c&root=info%3Adoi%2F10.1371%2Fannotation%2F872136b7-2ac9-4654-8945-34039502cb4c>):



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Talking of prestige among the chimpanzees, who don't gossip about one another, extends the idea of prestige to that of being seen as superior. This then supports the prestige bias thesis only if, in that thesis, prestige does not mean more than this. In other words what it supports is at best a diluted thesis where the ordinary or the sociological notion of prestige plays no role at all.

In other words, because chimpanzees don't use language to gossip about one another, it doesn't fit the definition of prestige and therefore isn't a genuine example of cultural transmission. Sperber then goes on to state that the variables of age and rank were not properly accounted for and argues that the third criteria of prestige in this study (chimps with previous experience introducing novel behaviors) brings with it a "risk of circularity":

We don't know what factor had helped an individual chimpanzee to introduce novel behaviors in the past (imagine, for the sake of argument that it was something about her smell), and so it can be that same factor that explains her doing it successfully again.

There are a number of things wrong with this argument (some of which Horner *et al.* have responded to). First off, Sperber's insistence that prestige is limited to populations who "gossip about one another" (i.e. humans) doesn't take into account the amount of information that can be conveyed non-verbally. Chimpanzees are highly social and utilize grooming in much the same way humans use conversation. British anthropologist Robin Dunbar measured the number of individuals in the average human clique and estimated that human gossip was almost three times as efficient (<http://www.springerlink.com/content/n50138642w32882w/>) a bonding mechanism as chimpanzee grooming (he later expanded this hypothesis in his book *Grooming, Gossip, and the Evolution of Language* (<http://www.hup.harvard.edu/catalog.php?isbn=9780674363366>)). His argument was that human gossip evolved out of the same social utility that grooming served in our common ancestors with chimpanzees. However, in a reanalysis of Dunbar's data (<http://www.springerlink.com/content/lh4172l011v65550/>) by Japanese primatologist Michio Nakamura, he estimated that:

Chimpanzees can obtain about the same efficiency as humans in terms of quantity of social interactions because their grooming is often mutual and polyadic [involving three or more individuals].

In other words, the amount of social bonding that Sperber insists can only occur through gossip can be achieved nearly as well through nonverbal grooming behavior.

Second, it's difficult to understand how Sperber could object that Horner *et al.* didn't separate the variables of age and rank considering that research on prestige in human societies doesn't separate these variables either. Both are intertwined in the anthropological literature and contribute to the prestige of an individual within a given society.

For example, anthropologist Allyn Stearman wrote (<http://www.jstor.org/stable/3630335?seq=1>) of the Yuquá foragers in eastern Bolivia:

The Yuquá concept of leadership and prestige . . . consists of (1) being saya [upper caste], (2) being a good hunter and therefore provider of meat to the band, (3) having senior status based on age (but only relative to the ages of the rest of the band), and (4) possessing a certain charisma in terms of an aggressive personality and ability to deal with peers.

Elsie Begler, in her analysis of egalitarian societies (<http://www.jstor.org/stable/677013?seq=1>), likewise found age and rank to be intertwined:

Age almost invariably provides the basis for a system of ranked statuses, whether appearing as formal age-grades, or simply being recognized informally as stages through which a person passes in the course of his/her life.

Finally, Joe Henrich and Francisco Gil-White, the same researchers cited by Horner *et al.* as an example of denying prestige in nonhuman animals, likewise linked age and rank together (http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6T6H-43439X5-2&_user=1022551&_coverDate=05%2F31%2F2001&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&view=c&_searchStrId=1369602070&_rerunOrigin=sch) in their definition:

Age is a proxy for skill/knowledge/success; the longer someone has lived, the more and better skills/knowledge he/she has likely accumulated. Simply living longer is a complex "skill" with acquirable components. Deference toward elders allows proximity and thereby promotes the acquisition of useful information. This reasoning predicts a general correlation between age and prestige, and also that elderly individuals will maintain their status well past their prime.

If Sperber accepts this multifaceted understanding of prestige for human societies it would be hypocritical to object when the same standard is applied to nonhumans.

Furthermore, the suggestion that there was "circularity" in the study because Model A in both groups had previously been observed introducing novel behaviors can't be taken as a serious objection. The purpose of the experiment was to determine whether novel behaviors were adopted because of prestige or because they were more effective. In the experiment both high-ranking Model A and low-ranking Model B received a food reward after placing a token in their respective containers, so the only reason to follow one versus the other was the social prestige of the model. What Sperber calls introducing bias was actually the variable the researchers were interested in studying.

These methodological critiques suggest that Sperber may not have a great deal of familiarity with primates or the primate literature. An additional example of this is his suggestion that "something about her smell" may have influenced the decision to follow Model A versus Model B. Atsushi Matsui and colleagues have recently shown (<http://mbe.oxfordjournals.org/cgi/content/abstract/27/5/1192>) that there are no significant differences in the number of functional olfactory receptor genes between marmosets, macaques, and the hominoids (see Jerry Coyne's blog for a review (<http://whyevolutionistrue.wordpress.com/2010/01/18/you-smell-like-a-chimp-and-a-marmoset/>)). Humans and chimpanzees have nearly identical numbers of intact or truncated OR genes (396 in humans compared to 399 in chimps) and both species use olfaction in largely the same way. Furthermore, as Horner *et al.* reported, there were no threat displays by the chimpanzee models nor unusual vocalizations during the experiment that would have influenced other members of the group. The researchers further controlled for the color and appearance of the containers by using two separate groups and reversing the container used in each. In both groups it was the prestigious chimp alone who influenced others to follow her lead.

Sperber has shown this unfamiliarity with the nonhuman literature before. In his critique of Richerson and Boyd's *Not By Genes Alone* (<http://www.dan.sperber.fr/?p=131>) he made this rather shocking claim:

In non-human animals, relatively little information if any is acquired by social learning. Humans on the other hand owe much of their information to others.

This is profoundly wrong. There isn't space to do an adequate literature review of the many examples of social learning in nonhuman animals (but see the edited volume *Social Learning in Animals* (http://www.elsevier.com/wps/find/bookdescription.cws_home/678724/description#description) for an excellent overview). However considering that Sperber's area of expertise is cultural linguistics I will cite a few sources that he ought to be made aware of: "Vocal Learning in Mammals" (Janik and Slater, 1998 (http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B7J0V-4SDP64H-6&_user=1022551&_coverDate=12%2F31%2F1997&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&view=c&_acct=C000050484&_version=1&_urlVersion=1)) "The Evolution of Vocal Learning Systems in Birds" (Farries and Perkel, 1997 (http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B8GD3-4MYMJKP-39&_user=1022551&_coverDate=02%2F19%2F2007&_rdoc=1&_fmt=high&_orig=article&_cdi=42035&_sort=v&_docanchor=&view=c&_ct=976&_acct=C000050484&_v)) "Social Communication in Whales and Dolphins" (Tyack, 2009 (http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B98GH-4TVBCX5-1HN&_user=1022551&_coverDate=03%2F25%2F2009&_alid=1369821162&_rdoc=10&_fmt=high&_orig=mlkt&_cdi=59351&_sort=v&_st=17&_docanchor=&view=c&_ct)) "The Different Roles of Social Learning in Vocal Communication" (Janik and Slater, 2000 (http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6W9W-45FK6J8-3C&_user=1022551&_coverDate=07%2F31%2F2000&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&view=c&_searchStrId=1369532102&_rerunOrigin=sc))

"Social Processes in Communication and Cognition in Callitrichid Monkeys: A Review" (Snowdon, 2001 (<http://www.springerlink.com/content/apl3xfkjvel6wlyk/>)), "How Can We Know the Dancer From the Dance?: The Dynamic Nature of African Great Ape Social Communication" (King, 2003 (<http://spant.highwire.org/cgi/content/abstract/3/1/5/>)), "Ethological Studies of Chimpanzee Vocal Behavior" (Mitani and Wrangham, 1996 (<http://books.google.ca/books?hl=en&lr=&id=lzBIHPeE45IC&oi=fnd&pg=PA195&dq=social+learning+vocalization+chimpanzees&ots=MFCgUtMt9f&sig=xU-udXCv11ggBPQCWiRvr2vCjZY#v=onepage&q=social%20learning%20vocalization%20chimpanzees&f=false>)), "Geographic Variation in the Calls of Wild Chimpanzees: A Reassessment" (Mitani, Hunley, and Murdoch, 1999 (<http://www3.interscience.wiley.com/journal/30002814/abstract>)), and "Dialects in Wild Chimpanzees?" (Mitani *et al.*, 2005 (<http://www3.interscience.wiley.com/journal/110517796/abstract?CRETRY=1&SRETRY=0>)). This is, of course, just a partial sample of studies that identified social learning in vocal communication. Including other forms of social behavior would result in a great deal more.


Given all of this, I don't think the primary disagreement Sperber had with Horner *et al.*'s paper was its methodology. Rather, I suspect that his objection comes from the definition of culture that he prefers and the kind of cultural anthropology that he studies. Sperber is perhaps best known for his work with linguist Deirdre Wilson on the mechanisms of communication, what he refers to as the "epidemiology of representations" (http://www.edge.org/3rd_culture/sperber05/sperber05_index.html). These microprocesses involve the subtleties of human language that, by definition, would exclude any species that doesn't have the linguistic complexity of humans.

It is from this perspective that he challenged the definition of culture as "information capable of affecting individuals' behavior" presented by Richerson and Boyd and insisted that:

To explain culture so understood, the object of study must be the overall flow of information among humans, through its mental and public implementations; the question that must be answered is what causes some of [sic] causal chains to extend more than others in time and space and to stabilize better than others the contents they vehiculate. For this, the study of culture must be embedded in a more general epidemiology of representations and practices that attends--as does medical epidemiology--to the complexities of both individual and ecological mechanisms.

I admire a good deal of what Sperber has to offer in seeking to understand the complexities of human culture (and we share a common objection to Richard Dawkins' meme theory (http://scienceblogs.com/primatediaries/2009/09/misunderstanding_dawkins_the_r.php)), but in this case he appears to be using an unnecessarily narrow definition that would restrict any species but humans from demonstrating cultural behavior.

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Just like there is no value in defining locomotion to include humans walking, fish swimming, and frogs hopping so there is no value in doing the same thing for culture.

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By ds (not verified) on 15 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477980>)



ds: no, it's completely different. Human locomotion is a variation on a theme -- the same gene-clusters, the same spinal circuits, homologous tissues all control different vertebrate forms of locomotion. They're all perfectly analogical with each other.

Human communication, however, is symbolic in a way that few other animals are capable of. The wealth of communication, the total amount of information, the subtlety of the information, the forms, the spatial and temporal displacement possible, the levels of negation, recursion and meta-communication...

No other animal has Principia Mathematica. There is a great deal of value in not flattening everything into "more of the same" when there are important differences. There is no chimp internet, there is no chimp Vatican, there is no chimp Picasso, there is no chimp Godel. This is where we differ -- it's the only really important way we differ. Everything else is variations on a theme -- but this, culture, is why we live everywhere, eat everything, and destroy everything, in a way unparalleled in the biological record.

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By frog (not verified) on 15 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477981>)



I think your interesting critique is based on a misunderstanding.

Sperber does not deny the existence of chimpanzee cultures. He just pointed out that Horner et al.'s evidence does not show that cultural transmission in chimps is biased by the model's prestige - a quite different issue.

Though animal cultures exist, non-human animals are not as dependent on their culture for their survival as we are on our cultures. Most animals are able to survive without receiving information from their conspecifics, we can't. True, some animals rely heavily on cultural information for specific tasks, but none is so generally indebted to culture as we are. There are many genuine and interesting observations of social learning in animals, enough to establish without a doubt the existence of animal social learning. But a species' reliance on culture cannot be measured by the number of publications documenting social learning inside that species.

To sum it up :

Sperber does not deny that animals have culture. In his Plos comment, he said the evidence for a prestige bias in chimps is weak.

In the rest of his work, he says that humans rely on their culture much more than other animals do. The issue is one of impact, not one of existence.

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By Olivier Morin (not verified) (<http://www.cognitionandculture.net>) on 15 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477982>)



"..animal cultures exist, non-human animals are not as dependent on their culture for their survival as we are on our cultures. Most animals are able to survive without receiving information from their conspecifics, we can't"

@Olivier Morin

Disagree totally here. culture is more like an addiction in this instance, not a necessity. With our superior abilities we can live outside the constraints of culture. Granted doing your own dentistry is difficult, but not impossible. You're confusing wants with needs and won't with can't.

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By a smith (not verified) on 16 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477983>)



Is "proto-culture" illustrated by the difference between turtles laying eggs & swimming away, and crows building nests & "teaching" the babies not to peck each others' eyes out?

Is "culture" not a matter of degree but of a unique response to environs?

Does Sperber understand the difference between "prestige" & "notoriety"?

My assessment of the experiment- and its indications- would be judged by the response of the "prestigious" (A-group) chimp to the equally (or better) performing B-group individual. (Maybe Culture depends upon the existence of sarcasm...) ^..^

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By John Browne (not verified) (http://www.myspace.com/herb_robert) on 16 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477984>)



>> "Most animals are able to survive without receiving information from their conspecifics, we can't ..."

This is in fact not true. Try to release a home-raised chimp or wolf or killer whale, such as Keiko, and see what happens (Keiko tried to survive begging for food from humans). Animals need many skills to survive and most of these are acquired from others, such as what to eat, and what predators to fear (and which ones to ignore or attack). This is why successful re-introductions of captive animals to the wild are so rare -- those that succeed relied on lots of behavioral preparation.

I'd say most smart social animals are as culture-dependent as us humans.

As for Sperber's comments, little is to be added to Eric's blog and to our exchange with Sperber on the PLOS-One website: Sperber believes our evidence is weak, whereas in fact we feel it is the other way around. We have no idea what kind of evidence cultural anthropologists bring to the table. This field seems to get by without any empirical evidence, let alone controlled experimentation.

Once anthropologists start collecting the sort of data we collect on primates, we can compare notes and see if there are substantial differences. But until then anthropologists should think twice before asking others for evidence they themselves never produce.

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By *Frans de Waal (not verified)* on 16 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477985>)

 (user/0)

To zoologists, Anthropology sometimes seems almost comically self-constrained. The fact that people studying the biology of nonhuman primates (interesting, btw, that you guys seem to conventionally leave off the 'nonhuman') have historically self-identified as "anthropologists" and have had their own journals, societies, conferences, etc. has seemed to really limit the perspective of many.

'Anthropologists' would do well to learn more about crows.

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By *Sven DiMilo (not verified)* on 16 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477986>)

 (user/0)

To Frans de Waal : again, this is all a matter of degree. I said "most animals", I did not say "all smart social animals".

There is plenty of hard empirical evidence coming from ethnography, showing that humans' reliance on accumulated cultural traditions is important in an uncommon way.

If you are not convinced, I suggest you take the 1999 Nature paper by Whiten et. al., demonstrating the existence of chimpanzee cultures, and ask yourself : how many of these skills are absolutely indispensable to master, if a chimp is to survive ?

When you are done, take an ethnography of a human society - whichever one you want (I would suggest Thomas Gladwin's ethnography of navigators on Puluwat, or Melvin Konner's work on the !Kung - or see the last chapters of Robert Boyd and Joan Silk's handbook of human evolution, for other references). These books, by the way, are packed full with uncontroversial empirical facts, along with the occasional speculations. Then count the number of indispensable skills that are passed on culturally. I bet these will be more numerous than any chimpanzee cultural repertoire described in the Nature paper.

Or just look outside your window and count the number of things that you could hardly live without, and that you owe to cultural transmission.

To A. Smith : yes, if you are so sure of your point, do perform that dental surgery on yourself, I am curious. Who needs all these experts and doctors anyway?

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By *Olivier Morin (not verified)* (<http://www.cognitionandculture.net>) on 16 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477987>)

 (user/0)

Olivier Morin-

Ya do what ya gotta do. Could someone else do it better? Decidedly, but the search for better, cheaper, faster, is its own cultural slippery slope. Do we have to go there? No, you decided to go there because it gave you more dates & fresher breath at half the cost.

Quality of life is the issue, and there's a whole lot of baggage that is invented to keep everyone occupied. One good "handyman" could replace a lot. Does a handyman on some acreage constitute a culture, or is it the aberrant part of the larger picture? Just wondering.

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By *Anonymous (not verified)* on 17 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477988>)

 (user/0)

Please note that in their 2005 book, and which was used here to draw the definition of culture, Richerson & Boyd are highly critical of culture in apes. They state that the underlying reason is weak social learning skills.

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By Anonymous (not verified) on 17 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477989>)



(/user/0)

Doesn't this boil down to the (apparent) fact that for Sperber "prestige" is primarily verbal, while others are using the same word as synonymous with "status"?

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By Pierce R. Butler (not verified) on 18 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477990>)



(/user/0)

From the Oxford American Dictionary:

prestige |presËtÄ zh; -ËtÄj| noun

widespread respect and admiration felt for someone or something on the basis of a perception of their achievements or quality : he experienced a tremendous increase in prestige following his victory.

â€ [as adj.] denoting something that arouses such respect or admiration : prestige wines.

Nothing verbal in that.

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By chris (not verified) on 18 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477991>)



(/user/0)

chris @ # 12: *Nothing verbal in that.*

Nope - but if prestige is something that can only be generated by "gossip", as per Sperber, the non-verbal component approaches nothingness asymptotically.

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By Pierce R. Butler (not verified) on 18 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477992>)



(/user/0)

Gossip may not be necessary:

In: Russell, Y. I. et al. (2008). "Image Scoring in Great Apes." Behavioural Processes 78(1): 108-111.

From the intro:

"â€Reputationâ€ refers to knowledge about an individualâ€™s

typical behaviour based on knowledge of that individualâ€™s

past behaviour (Russell, 2007). Animals learn about the typical

behaviour of others in three ways (Smith and Harper,

2004): direct reputation (personal encounters), indirect reputation (observing events as uninvolved bystander), and reported reputation

(â€gossipâ€)."

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By Anonymous (not verified) on 19 Jun 2010 #permalink (<https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477993>)



(/user/0)

Dan Sperber replies

I should be glad and grateful that Eric Michael Johnson is discussing my ideas on his excellent blog, Primate Diaries. Well, I would be if he did. He might have for instance discussed, or at least reported our paper: Nicolas ClaidiÄ“re and Dan Sperber (2010) "Imitation explains the propagation, not the stability of animal culture." (<http://www.dan.sperber.fr/wp-content/uploads/ClaidiereSperber2009.pdf>) *Proceedings of the Royal Society B: Biological Sciences* 277(1681): 651-659, with a topic highly relevant to his blog. He might, for that matter, have looked at the mere title of that paper and its mention of animal culture and spared himself the embarrassment of attributing to me the view that â€humans alone are capable of culture.â€ I have known better ever since I read John Tyler Bonnerâ€™s *The Evolution of Culture in Animals* in 1983, and I have often found myself arguing against fellow anthropologists for the existence of animal culture.

Johnson's whole post consists in a series of misattributions and misinterpretations, followed by generous attempts to help me see the light. Regarding my comments, which Johnson misrepresents, on Darby Proctor, Kristin E. Bonnie, Andrew Whiten, and Frans de Waal's paper, "Prestige Affects Cultural Learning in Chimpanzees" *PLoS ONE* 5(5): e10625. doi:10.1371/journal.pone.0010625, see my comments and replies  (https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0010625&type=printable) there (http://www.plosone.org/annotation/listThread.action?inReplyTo=info:doi/10.1371/annotation/872136b7-2ac9-4654-8945-34039502cb4c&root=info:doi/10.1371/annotation/872136b7-2ac9-4654-8945-34039502cb4c).

Incidentally, Johnson also misrepresents the views of J. Henrich and F. Gil-White when he says that they "linked age and rank together in their definition" (my emphasis) of prestige. These authors point to the strong link between age and rank on the one hand and prestige on the other, but they define prestige in contrast to dominance ranking (the one being based on persuasion the other on force), and they make the following prediction: "prestigious individuals but not dominant ones are preferentially copied in many behavioral domains," which would not make sense if rank was a component of prestige.

Johnson is right in pointing to the "multifaceted understanding of prestige for human societies." Contrary to what he says, what I do is not object to the same standard being applied to nonhumans. What I do is point out that the standard is actually not the same, (and I don't object to that either).

Johnson writes:

"Sperber has shown this unfamiliarity with the nonhuman literature before. In his critique of Richerson and Boyd's *Not By Genes Alone* he made this rather shocking claim: "In non-human animals, relatively little information if any is acquired by social learning. Humans on the other hand owe much of their information to others." This is profoundly wrong."

He then proceeds to educate me with a bibliography of texts most of which I would recommend myself. What we meant, Nicolas Claidi re (a biologist) and me in the article Johnson cites is that nonhuman animals acquire, relatively to humans less information from their conspecifics, and I stand by this. This is true in two senses. The sheer amount of information acquired from others is vastly greater in humans. In reading the newspaper, you acquire more information from others in an hour than most animals do in their lifetime. It is true also in the sense that the part of individual learning relative to social learning is greater in nonhumans. Among humans, we claim, individual learning heavily relies on socially transmitted conceptual tools and inferential skills, and hence is never purely individual. To a large extent, all human learning is social learning. Moreover, when we talk of animals we do not just mean primates, and other highly social mammals and birds. "Animals" includes for instance a vast number of species of insects. Among insects, social learning is currently known only from a few well-studied examples in social Hymenoptera (Reuven Dukas (2008) *Evolutionary Biology of Insect Learning*, *Annual Review of Entomology*, Vol. 53: 145-160). Johnson may disagree with our claim, but he had to interpret it in the most negative manner to find it "shocking".

Minor corrections:

-I have worked in anthropology and in linguistics, but never in cultural linguistics, which Johnson says is my "area of expertise".

-Johnson writes: "Sperber is perhaps best known for his work with linguist Deirdre Wilson on the mechanisms of communication, what he refers to as the "epidemiology of representations." In fact, in fact, we describe to our work on human communication as "relevance theory". Relevance theory is quite distinct from my work done with several other collaborators but not Deirdre Wilson on the epidemiology of representations.

For more comments and in particular a reply to Frans de Waal's comment to Johnson's post, go to here

(http://cognitionandculture.net/index.php?option=com_content&view=article&id=660:oy-vey-have-you-got-the-wrong-vampire-a-reply-to-frans-de-waal&catid=29:dan&Itemid=34) at www.cognitionandculture.net (http://www.cognitionandculture.net)

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By Dan Sperber (not verified) (http://www.dan.sperber.fr) on 22 Jun 2010 #permalink (https://scienceblogs.com/primatediaries/2010/06/15/anthropology-primatology#comment-2477994)


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Science Codex

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[The Primate Diaries Has Moved to Scientific American \(/primatediaries/2011/07/05/the-primate-diaries-has-moved\)](/primatediaries/2011/07/05/the-primate-diaries-has-moved)

July 5, 2011

After nearly a year on the road I'm pleased to announce that The Primate Diaries now has a permanent home at the new Scientific American blog network. I would like to thank everyone who supported my work here and during my "exile." I look forward to the continuing conversation at my new home. Please...

[The Primate Diaries in Exile \(/primatediaries/2010/07/26/the-primate-diaries-in-exile\)](/primatediaries/2010/07/26/the-primate-diaries-in-exile)

July 25, 2010

Thanks to support from readers and fellow bloggers I'm pleased to say that The Primate Diaries has taken the show on tour. You can update your RSS feed here or follow the #PDEx hashtag on Twitter.

[Good-bye ScienceBlogs, and Thank You \(/primatediaries/2010/07/12/good-bye-scienceblogs\)](/primatediaries/2010/07/12/good-bye-scienceblogs)

July 11, 2010

Three years ago I didn't even know what science blogging was. Frustrated as a freelance writer, I typed "science blog" into my search engine and was thrilled when this network showed up first on the list. Here was a community of researchers and writers whose love of learning and the sharing of...

[Pepsi Has Been Defeated \(/primatediaries/2010/07/08/pepsi-has-been-defeated\)](/primatediaries/2010/07/08/pepsi-has-been-defeated)

July 8, 2010

In what was probably the worst idea since Crystal Pepsi, the corporate sponsored advertiblog has met an early and decisive end. The announcement was made this morning: We have removed Food Frontiers from SB. We apologize for what some of you viewed as a violation of your immense trust in...

[Hiatus \(/primatediaries/2010/07/07/hiatus\)](/primatediaries/2010/07/07/hiatus)

July 7, 2010

I'll be taking a break from blogging for the time being because I said I would. Follow me on twitter or facebook to keep tabs on what I'm up to. For more on this see here, here, and related issues here. But I'm sure everything is different now.

More reads

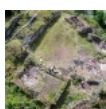
[Humans being loud under water, Cuttlefish \(/gregladen/2014/10/11/humans-being-loud-under-water-cuttlefish\)](/gregladen/2014/10/11/humans-being-loud-under-water-cuttlefish)



([gregladen/2014/10/11/humans-being-loud-under-water-cuttlefish](/gregladen/2014/10/11/humans-being-loud-under-water-cuttlefish))

Last June (and May and July and part of August) we had a lot of precipitation in Minnesota. This caused lake levels to rise modestly. One lake, which is large enough to have meaningful waves, has older settlement along it so lots of cabins, boat houses, and such are right on the shoreline. With the lake level up, waves threatened the material possessions of rich white people, so naturally...

[Second Week Of 2016 Excavations At Skällvik Castle \(/aardvarchaeology/2016/07/26/second-week-of-2016-excavations-at-skallvik-castle\)](/aardvarchaeology/2016/07/26/second-week-of-2016-excavations-at-skallvik-castle)



([aardvarchaeology/2016/07/26/second-week-of-2016-excavations-at-skallvik-castle](/aardvarchaeology/2016/07/26/second-week-of-2016-excavations-at-skallvik-castle))

Our second week at Skällvik Castle proved a continued small-finds bonanza, and we also documented some pretty interesting stratigraphy. More of everything in Building IV. In addition to more coins of Magnus Eriksson, dice and stoneware drinking vessels, we also found a lot of points for crossbow bolts. It's starting to look like the castle guards' day room! As for why we found crossbow bolts only...

[June Pieces Of My Mind #1 \(/aardvarchaeology/2015/06/17/june-pieces-of-my-mind-1-2\)](/aardvarchaeology/2015/06/17/june-pieces-of-my-mind-1-2)

([aardvarchaeology/2015/06/17/june-pieces-of-my-mind-1-2](/aardvarchaeology/2015/06/17/june-pieces-of-my-mind-1-2))

Despite the chaos of our kitchen renovation, I have managed to build myself a little reading nest. Gotta love German. Try saying it out loud: "Die Beobachtung ferner Quasare, das holografische Prinzip und der Quantenschaum der Raumzeit". Resolutely put away my phone in order to read a book instead. Then



remembered that the book is in the phone. Ever wonder what the scarf-wearing Somali girls...

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