

These are Dan Sperber's thoughts on the [workshop on cultural evolution](#) convened by Dan Dennett in Santa Fe in May 2014. Dennett's introduction is [here](#).

Let me first express my heartfelt gratitude to Dan for this great initiative, and to Louis Godbout and to the SFI for making it possible. It has been a wonderful workshop of serious, demanding, insightful, informal, friendly discussion of a kind and quality rarely experienced.

I would like to thank all the participants for their contributions, which have all been inspiring, and also for their willingness to entertain and help develop the idea of cultural attraction that has been a long time in the making, but that is still very much in a work-in-progress stage. I am particularly grateful to Pete and Rob and Joe, who have done so much more for so long to develop our understanding of cultural evolution and our capacity to model it. Given the sheer qualitative and quantitative importance of their work in the area and their unique level of expertise, they could have been, if not dismissive, at least much more severe in their reaction to the work of the attraction gang. Instead of which, they have been attentive, constructive and really very helpful. This is what I had hoped for, but was not sure of getting. Rob's own post-meeting written comments shows how, given their expertise, they are in a position to improve on our suggestions and to make the very idea of attraction a better articulated one, especially but not uniquely on the modelling side, and I hope they will.

While much of the workshop turned on the differences and convergences between the two main approaches represented, I want to say also that I got a lot from Dan, Kim, Peter, and Sue, both from their own ideas – I would have liked to have had time to discuss Kim's and Peter's ideas in particular in much greater detail — and from their contributions to the framing of the exchanges. I am sorry, in the same vein that Mark could not make it. It would have been great to have had his viewpoint. Hopefully a next time.

Several of us have already listed points of agreement and differences, and I have nothing much to add to these summaries (that's an unfair benefit of being the last one). I agree with Dan – and I guess everybody else that a follow up, possibly enlarged, would be a good idea. At this stage, I will just share two or three of the several ideas that emerged from our discussions and that I would like to articulate and discuss in greater depth.

Adaptive and non-adaptive aspects of culture, and how to explain them. Cultures are full of adaptations or at least adaptive traits — and this is crucial to explaining the overall success (so far) of humans – but they are also of items that *prima-facie* are not or hardly adaptive.

Regarding cultural adaptive traits (with examples such as knots and canoes and guns and computers, but also efficient institutions) one issue is how much do they owe their existence and evolution to people's understanding of their usefulness and effective efforts at improving them, as opposed to selective forces without foresight? This is, I take it we agree, a more or less rather than an either-or question, with different answers for different items.

Take cases where people's understanding, foresight, and inventiveness are quite determinant. Does this mean that, in those cases at least, we have to change model and move to rational choice theory or something of the sort? None of us believe this. For me, in particular, not if we take into account attraction. Mental processes that can be assessed as 'rational' are just psychological factors of attraction among other. If presented with two variants of a tool, one of which is more efficient than the other, the second variant may be, because if greater efficiency is recognizable with human cognitive capacities, an attractor just as is the English pronunciation of "data" relative to the Latin pronunciation in an English-speaking population. Take a tool that is efficient but for which there is a close-by possible but not yet actual even more efficient variant. Cognitive capacities can be a factor that make this not yet present improved version attractive with a big homo-attraction potential that would kick in once the variant has been instantiated. And so on. The point is that adding attraction to the cultural evolution story allows to integrate evolved mechanisms that tend to produce rational choices, not as an alternative kind of explanation, but as a factor of attraction among many.

Take now cases of cultural traits that look non-adaptive, as there are many in religion, in the arts, and so on. One strong tendency in traditional social sciences and in evolutionary approaches alike is to try and show that they are adaptive (or 'functional') after all. With some genuine successes, actually. But, I would argue, with much overshooting, and a general tendency to look for the benefits and underestimate the costs. In general anyhow, the adaptationist explanations of religion, music, and so on, however good they may be, have little or nothing to say about the details of religious beliefs and rituals, the evolution of musical traditions, and so on, which are, of course — and for excellent scholarly reasons — of prime interest to social scientists, cultural anthropologists, historians, and so on. Factors such as 'prestige bias' may explain why such traits persist but, by themselves make no predictions about their specific contents. To the extent that these traits are not arbitrary — and I believe they rarely are — a variety of factors of attraction, some pretty general, other historically contingent, should at least greatly help do the job. Note that aesthetic judgment (and other psychological dispositions that are not or at least not clearly a matter of rationality) as psychological factors of attraction are not, from an explanatory point of view, that different from efficiency judgments.

Opacity: This relates to the previous point. At one point during a break, Rob and I agreed that we agreed that a most crucial feature of cultural evolution was the opacity to the people of much of the contents that they acquire and propagate. Indeed. This comes up everywhere, in technology, in religion, in norms and institution, and so on. People only partly understand what they are doing or thinking and why they are doing or thinking it. This opacity — which is a matter of degree of course — is what makes social transmission so important. It plays, I believe, a crucial role in the acceptability of cultural traits: it is, in important ways easier to trust what you don't fully understand and hence cannot properly evaluate on its own merits. The work of Gergely and Csibra on the role of opacity in natural pedagogy and on the role of natural pedagogy in cultural transmission comes also to mind.

Memes and memetics: There have been great insights in Dawkins' whole idea of memes even if it failed to spawn a successful scientific program. The idea that a trait that causes its own propagation will be successful is compelling and forces one to rethink many generally accepted ideas on cultural traits. A trait may help cause its own propagation because it favors the reproductive success of its carriers, but this is in no way a necessary condition. Or it may compromise its propagation by killing off its carriers, but this is rare. Many if not most cultural traits — with some blatant exceptions —, in their relatively short historical lives — again, there are blatant exceptions, especially on the side of technology — do not have effects on the fitness of their carriers strong enough to either benefit or harm themselves greatly. Note that the rightfully challenging 'meme's eye view' is not compromised if a meme is redefined as an attractor (or replaced by the notion of an attractor). Attractors or meme qua attractors don't even need to benefit themselves, let alone their carriers, they need to be in a

position to benefit from the pool of cultural traits in which they occur. In fact, I would argue - but not here - the challenge then becomes even more interesting.