This is Peter Godfrey-Smith's summary of the [workshop on cultural evolution](#) convened by Dan Dennett in Santa Fe in 2014. Dennett's introduction is [here](#).

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I think that a lot of progress was made on clarifying disagreements, even where the disagreements themselves remain genuine. Many of the remaining disagreements are empirical. It's progress when an initially cloudy situation to gives way to a sharper and more definite set of empirical uncertainties.

Micro, Meso, Macro. To set things up I'll make explicit some distinctions between levels of description – between coarser and finer grained perspectives on a cultural system.
Micro-level: I take this to involve individual psychology, person-to-person social interaction, and the making of artifacts by individuals.
Meso-level: Coarser-grained facts about a single culture or population. The spread of a new bow design or a new taboo would be examples.
Macro-level: Cultural phylogenesis and related events. A whole culture might split into two or go extinct.

Explaining adaptation and design at the meso-level. I take Boyd, Richerson, and Henrich to make their central claims at the meso-level. They argue that given the low levels of comprehension in individuals, with respect to the complex tools they use and their knowledge of the world, selectionist processes (in a very broad sense) must be important in culture. Populations are smarter than their consituent individuals. The increase in "R&D" (Dennett) in cultures is not a simple accumulation of intelligent moves by individuals. Instead there must be a general pattern of accurate transmission of variants, with good options being passed on more than others. Then there can be the accumulation of improvements by small steps. Dennett I take to agree with B, R, & H here. Perhaps Blackmore does too, though she would describe these changes in a different way. Sterelny is also sympathetic, but not so convinced that the level of comprehension is generally low.

Looking up from the micro-level. Sperber, in contrast, starts from the micro-level, and things look different from there. I think that Claidiere and Morin are on roughly the same page as Sperber here, so this package will be 'SCM.' SCM think that at the micro-level, there is less of a role for faithful copying and a substantial role for psychological 'attractors.' People reconstruct cultural variants rather than copying them, and do so in a way guided by pre-existing psychological structures. As became clear in discussion, attractors need not derive from general features of human psychology. A previous round of cultural change can give rise to attractor-like constraints on how people reconstruct cultural variants in the next round.

Here is a question that became clearer without being resolved: does the SCM view of the micro-level conflict with BRH claims about the meso-level, or are they compatible?

Some micro-level stories that look antithetical to a Darwinian view of culture need not really be so. This is my interpretation of some of the S&C material about "hetero-impact." Cycles of hetero-impact look like something different from replication, but in fact the recurrence of cultural variants might be of the right kind to allow the BRH story to stand at the meso-level. As Boyd emphasized many times, when constructing a model, you must simplify and idealize in some places in order to reveal structure elsewhere. So the absence of explicit treatment of hetero-impact in the BRH models does not amount to a denial of its importance. A variety of possibilities at the micro-level are compatible with the central BRH claims at the meso-level. (See also Rob's summary, especially his final para, here.)

However, there are some micro-level possibilities that would make the BRH meso-level view less plausible. Here the role of comprehension is important. If individuals are smart enough in their choices, the BRH meso-level picture fades.

When people are smart and make good choices, the recurrence of good options and accumulation of design can occur without imitation-and-selection. Sterelny argues that recurrence of behaviors across generations at the micro-level often involves teaching and apprenticeship, and this is not a low-comprehension matter. So I took some of the debate on day 1 between Boyd and Sterelny about comprehension to be very important. This is an empirical debate. Morin's summary comments, and his talk, also make a plea for "improvisational intelligence" in at least some domains.
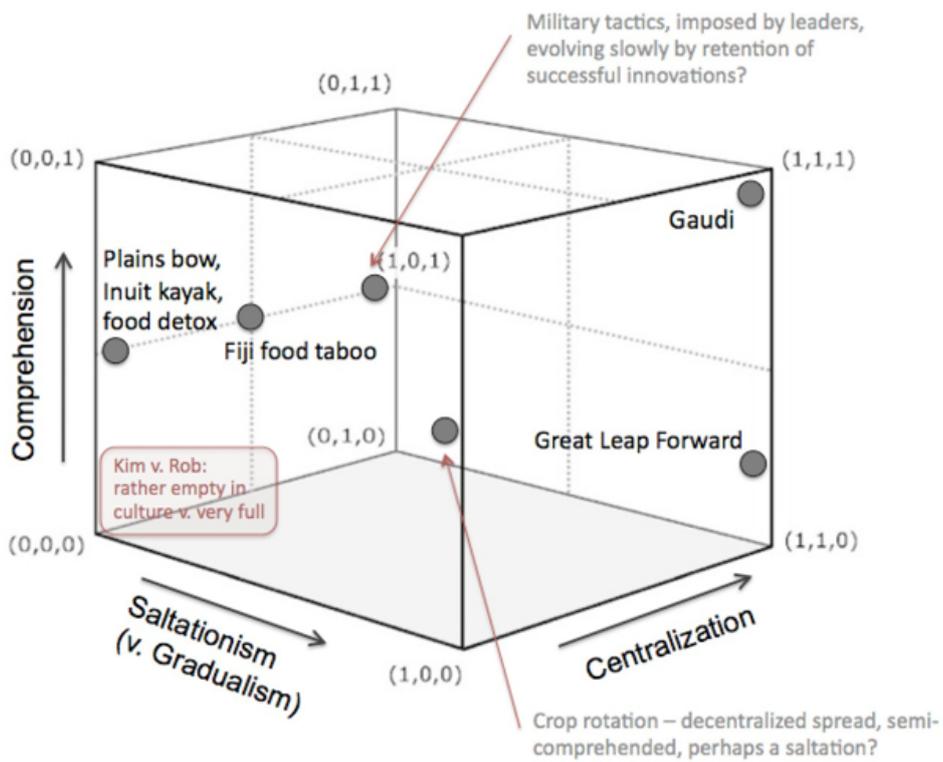
Memes. In this area I think there was a "move towards the middle ground" over the course of the week. Here is my attempt to make the middle ground explicit, combining elements from Dennett, Blackmore, and Sperber and linking them to the ideas above: meme-talk is appropriate as a way of discussing recurring cultural objects that are produced and used in a somewhat low-comprehension way. They need not be replicators, even in a relaxed sense. They might arise by hetero-impact. But there is (or should be) a real difference between a meme-based view of cultural variants and a traditional rational choice framework. It is not the case that memes are just whatever recurs in culture; Sperber pointed out that this would trivialize the meme framework, and I think that is right. But memes need not be copied. There might be a role for attractors, hetero-impact, and so on. So the viability of this relaxed view of memes is tied to the empirical disagreement described above about comprehension.

I guess I think that the future of meme-talk will be in informal summaries of low-comprehension processes of cultural change, rather than actual theory-building. To say that is to disagree with Blackmore and Dennett on the theoretical importance of the cui bono issue.

Spatial representations. Modifying Dan's initial chart, in my space I had three axes: comprehension, centralization, and saltation. Culture is more Darwinian when it has low values of all three. (And though there are plenty of populational and evolutionary processes that are not Darwinian, I think the chart captures something about the viability of evolutionary views of culture in a broader sense, too.)

I take it that the role of saltation is clear and uncontroversial, though there will be empirical disagreements. There was a lot of debate about comprehension, as I noted above. The locus of debate is especially the lower left "Kim versus Rob" part of the figure.

We did not discuss centralization very much, but I think everyone agrees that highly centralized societies are less amenable to an "evolutionary" treatment, in any non-trivial sense of that term. Something we did not discuss is the fact that a highly centralized society can still change by trial-and-error. In that case a different organic metaphor for culture becomes applicable, the idea of a culture as akin to an individual learning agent. Here's a slight update of my chart from the last day:

Military tactics, imposed by leaders, evolving slowly by retention of successful innovations?

(0,1,1)

(0,0,1)

(1,1,1)

Gaudi

(1,0,1)

Plains bow, Inuit kayak, food detox

Fiji food taboo

(0,1,0)

Great Leap Forward

Comprehension

Kim v. Rob: rather empty in culture v. very full

(0,0,0)

(1,1,0)

Saltationism (v. Gradualism)

(1,0,0)

Centralization

Crop rotation – decentralized spread, semi-comprehended, perhaps a saltation?

Cultural change is more Darwinian when it has low
levels of Comprehension, Saltation, and Centralization