



## Thinking naturally

### Description

Does nature make you think, or at least help it along? Consider first work environments. The world of work is filled with tools that help us think through and solve problems: notepads, pens, networked smartphones, and computers.

Effective thought relies on such cognitive prosthetics. Expert professionals are so dependent on tools to aid their thinking that it's difficult to imagine undertaking any demanding cognitive task without some aid or other. We used to think that a designer at least needed a pencil in hand in order to think through a design task. Now such thinking tools include drawing and CAD systems, smartphones, and browsers that access online image repositories. This much is obvious.



As these thinking tools become more sophisticated it gets easier to attribute some of that cognitive effort to the tools themselves. So CAD systems include libraries of pre-designed parametric elements; paint programmes include palettes of colours and textures; and a scholar writing an essay draws on the work of others via books and articles delivered through search engines.

Most of us for much of the time still preserve the idea that there's a person (agent), or possibly a group, who controls and takes responsibility for the cognitive task at hand, and there are methods for appropriately acknowledging other people, devices, and systems that helped us on the way.

But, thanks to networked computers it's also easy to adopt the view that there's an aspect of cognition that's **distributed**. Some theorists then expand this observation into the idea that it's just as sensible to consider this entity that thinks, the mind, as also distributed.

### **Extended minds**

Is the computer ushering in a brave new world of disembodied minds that meld into each other and our machines? That's a popular subject of fantasy and science fiction.

But to counter this techno-idealism it's worth considering not just computer tools but everyday tools and environments, and not just professionals who solve difficult problems but the rest of us caught up in everyday, mundane cognitive tasks such as finding our way from the kitchen to the living room, calculating whether it's time to re-stock the fridge, or even just speaking and making ourselves understood.

### **Situated cognition**

Philosophers Robert Wilson and Andy Clark provide a helpful summary of the arguments for and against the fields of *situated cognition*, *embodied cognition*, and *extended mind*: "One way or another, all these locutions aim to suggest that the mind and the cognitive processes that constitute it extend beyond the boundary of the skin of the individual agent" (5).

Wilson and Clark seek to show that "Thinking is a kind of building, a kind of intellectual niche construction that appropriates and integrates material resources around one into pre-existing cognitive structures" (6).

Their model couples people's personal cognitive apparatus (brain and body) to environment. Are they simply saying that the way we think, and even what we think, is influenced by the environments we are in? That's long been a conceit of architects and designers "that environments influence thoughts, feelings, and actions. The idea of extended cognition goes further than that however.

### **Cognitive resources**

I was drawn to this particular article as Wilson and Clark frequently use the terms "nature" and "natural" (a theme that I'm pursuing at the moment):

"Natural resources, including cognitive resources, can simply be used by organisms, but sometimes this use does not merely fuel a pre-existing system " as in the above-mentioned

cases of the respiratory and digestive systems â?? but augment the system itself and the capacities it possessesâ?• (11).

On the subject of biological evolution they re-quote an earlier paper in which they asserted: â??Evolved creatures will neither store nor process information in costly ways when they can use the structure of the environment and their operations upon it as a convenient stand-in for the information processing operations concernedâ?• (12). They then focus (in this paper) on the artificial, high-tech socio-cultural world of sophisticated human being.

## Cognition in the wild

But the case for extended cognition is strong even if we appeal only to the unadorned low tech world of the human in the wild. I presented the case in my [previous post](#) that animals and our relationships with them furnish us with sophisticated cognitive constructs such as classification, boundaries, transitions, and a sense of *the other*.

In this and other respects nature features as the primary thinking place. Thatâ??s as useful a definition as any: nature as a place to think with.



## Reference

- Wilson, Robert A., and Andy Clark. 2009. How to situate cognition: Letting nature take its course. In M. Aydede, and P. Robbins (eds.), *The Cambridge Handbook of Situated Cognition*: 55-77. Cambridge, England: Cambridge University Press. Available online as a pre-print, starting with page 1.

## Note

- First image is on a train; the second is an artwork called "Flux and Puddle" by David Altmejd at the Louisiana Museum of Modern Art, Denmark, December 2015. It features a bizarre quasi-museum animal taxonomy installation.

## Category

1. Nature

## Tags

1. architecture
2. mind
3. place
4. situated cognition
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## Author

rcoyne99