# The Definitive "Are Beavers Born With The Innate Disposition To Build Dams, Or Do They Learn It From Older Beavers?" Thread

### Post by “Cassius” of July 7, 2024 at 8:06 AM

I would find it helpful to pin down Richard Dawkins' views on this, since I generally consider him to be a source of credible and well thought out positions:

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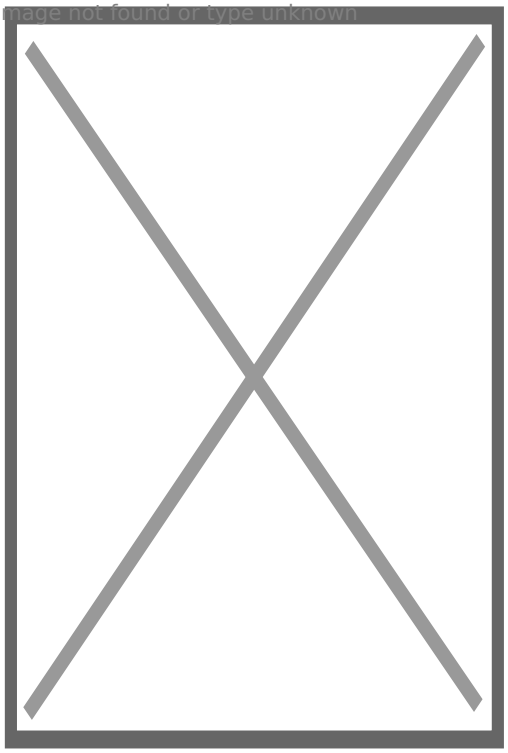

The Extended Phenotype - Wikipedia
en.wikipedia.org

Dawkins proposes there are three forms of *extended phenotype.* The first is the capacity of animals to modify their environment using *architectural constructions*, for which Dawkins provides as examples caddis houses and beaver dams.

Edit: I've never heard of a "caddis house."

Caddisflies are best known for the portable cases created by their larvae. About thirty families of caddisfly, members of the suborder Integripalpia, adopt this stratagem. These larvae eat

detritus, largely decaying vegetable material, and the dead leaf fragments on which they feed tend to accumulate in hollows, in slow-moving sections of streams and behind stones and tree roots. The cases provide protection to the larvae as they make their way between these resources.[25]

The case is a tubular structure made of silk, secreted from salivary glands near the mouth of the larva, and is started soon after the egg hatches. Various reinforcements may be incorporated into its structure, the nature of the materials and design depending on the larva's genetic makeup; this means that caddisfly larvae can be recognised by their cases down to family, and even genus level. The materials used include grains of sand, larger fragments of rock, bark, sticks, leaves, seeds and mollusc shells. These are neatly arranged and stuck onto the outer surface of the silken tube. As the larva grows, more material is added at the front, and the larva can turn round in the tube and trim the rear end so that it does not drag along the substrate.[25]

Caddisfly cases are open at both ends, the larvae drawing oxygenated water through the posterior end, over their gills, and pumping it out of the wider, anterior end. The larvae move around inside the tubes and this helps maintain the water current; the lower the oxygen content of the water, the more active the larvae need to be. This mechanism enable caddisfly larvae to live in waters too low in oxygen content to support stonefly and mayfly larvae.[22]