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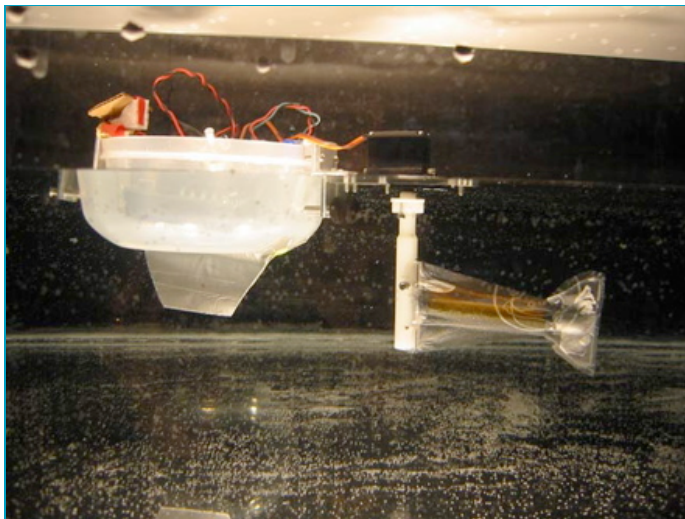
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Robotic tadpoles emulate evolution

Posted Nov 19th 2006 11:19PM by [Conrad Quilty-Harper](#)

Filed under: [Robots](#)



Robot tadpole mating. That's what a team of vertebrate physiologists at Vassar College in Poughkeepsie, N.Y. have been using to investigate the evolution of vertebrae. These little robot tadpoles -- lovingly named "Tadros" -- are modeled after the larvae of sea creatures called "sea squirts": each has an electronic eye, motor, computer brain, and gelatinous tail of varying lengths and stiffness. By racing the Tadros towards a light in 8-foot fish tanks and recording the results, the scientists have been able to carry out a simulated form of evolution by electronically mating each Tadros and producing a next-generation that shares the attributes of its two "parents." Over 10 generations of robot tadpole "relations," the scientists found that the tails became stiffer as the swimming performance improved. Apparently this stiffness accounts for only 40% of the improvements in swimming performance: further investigations will ascertain which factors account for the remaining 60%. Next, the team hopes to add a "hunter" to the tank which the Tadros can avoid using infrared sensors, to mimic the pressure sensitive organs of fish. Evolution emulating robot-tadpoles today, [giant killer robot-frogs](#) tomorrow?

[Thanks, Rod L.]

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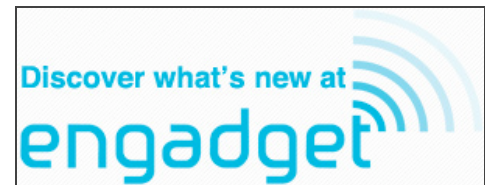
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ahhh... yes, another evolution simulation that relies on the guidance of a higher power.				
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maf654321 @ Nov 20th 2006 12:21AM	Neutral			
I, for one, welcome our evolving, robotic superfrog overlords.				
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i, for one...				
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jptech @ Nov 20th 2006 1:16AM	Neutral			
Did John Romero fund this special study?				
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Nick @ Nov 20th 2006 1:21AM	Neutral			
hence "simulation".				
the simulation that doesn't rely on the guidance of a higher power will be very interesting I am sure.				
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Jay T @ Nov 20th 2006 1:44AM	Neutral			
I agree human input stimulated the simulation. Interesting. Maybe there is a catalyst to everything. Something to get it going initially. . .				
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aadhu @ Nov 20th 2006 2:03AM	Neutral			

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this is cool... using evolution to program robots will lead to great breakthroughs.. see how far it got us humans eh... :)

Reply

Andy @ Nov 20th 2006 3:54AM

Neutral   

Yep, the key word for human intervention is "simulation", not "evolution". Man if the first poster was serious, is trying to poke (uneducated) holes the only thing creationists have going for themselves? Come up with an argument at least, ANY argument.

This seems like a very interesting experiment, I won't be surprised if someone makes machines evolve by themselves. Some software can act like it, so hardware shouldn't be too far off. Not saying that there is a need for some being to start evolution, only that replicating beings starting by themselves is very improbable (what comes after it starts is VERY, very probable and provable), that it took off only one time in one planet in many light years' radius. Just making it faster and controlled. Fascinating stuff indeed.

Reply

Alric @ Nov 20th 2006 8:42AM

Neutral   

This is very interesting! The underlying idea is that tunicate larvae are the ancestors of all chordates (including ourselves). Chordates are named thus because there is a stiff cord that runs the length of their bodies called the notochord. It has been hypothesized that tunicate larvae were the first to develop a notochord. This experiment is cool because it shows how stiffness is a desired trait that gives a competitive advantage.

On last tidbit, humans have a notochord during development but atrophies and becomes part of the spinal cord.

Reply

JOhn Smith @ Nov 20th 2006 8:08AM

Neutral   

Perhaps, in a Galaxy far far away, but then He came down to man.....and brought the first robot with Him???

Reply

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