

## Re: Replicating What?

**Source:** <http://sci.tech-archive.net/Archive/sci.bio.evolution/2004-09/0273.html>

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**From:** Michael Ragland (*ragland37\_at\_webtv.net*)

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Guy Hoelzer <hoelzer@unr.edu> wrote or quoted:

If you find my view to be implausible, then I would ask you why natural selection would result in the unnecessary encoding of information in the genome, which would be relatively inflexible in the face of unpredictable environmental variation, when it would be far more efficient to take advantage of the opportunities for automatic information generation through physical tendencies for self-organization? I expect that fighting those tendencies through rigid and expansive genomic encoding would be highly maladaptive.

Tim Tyler:

When nature builds things in, the things it builds in are usually not strongly dependent on the environment.

It builds them in because there are costs associated with the flexibility of learning things after birth.

The trial-and-error process involved in learning can be time consuming – and mistakes made while it is occurring can be expensive.

Michael Ragland:

Where is your evidence when "nature builds things in", the "things it builds are usually not strongly dependent on the environment"? Natural selection is the principle mechanism of evolutionary change described by Darwin in 1859; the mechanism whereby those individuals best "adapted to the environment" contribute more offspring to succeeding generations than do the remainder, so that as their characteristics are inherited, the composition of the population is changed.

[www.chias.org/www/edu/cse/wdnglo.html](http://www.chias.org/www/edu/cse/wdnglo.html)

I'm willing to say Darwinian evolution is very slow and that currently individuals are not best adapted to their environment in certain ways although in caveman days they would have been adapted to their environment. But this isn't the same as stating when "nature builds thing in, the things it builds are usually not strongly dependent on the environment. On the contrary, when natural selection builds things in the environment is critical in whether the organism is adaptive or not. Just because natural selection selects individuals best adapted to the environment does not mean that will always be the case. In terms of evolutionary time scale the environment could change so radically that

natural selection hadn't had time to adapt to this new environment.

You state, "When nature builds things in, the things it builds in are usually not strongly dependent on the environment.

It builds them in because there are costs associated with the flexibility of learning things after birth. The trial-and-error process involved in learning can be time consuming – and mistakes made while it is occurring can be expensive." Well, I would certainly agree with you as an organism we are generally not highly developed when it comes to the flexibility of learning things after birth but that depends on your definition of highly developed and flexibility of learning things. Most human toddlers can be toilet trained, taught how to walk, speak a few words (eventually learning a language), and as they grow older learn how to read. Illiteracy and many other ills to society [world] are partially a result of a lack of education, necessary infrastructure and not to mention social, political and economic turmoil. Does nature build these things in because there are costs associated with the flexibility of learning things after birth?

You write, "The trial-and-error process involved in learning can be time consuming – and mistakes made while it is occurring can be expensive." Of course, learning is time consuming. Medical doctors go to school a total of 12 years. Are mistakes made? Sure. The most important thing is one learn from a mistake but of course there are incompetents in every profession.

"It's uncertain whether intelligence has any long term survival value.

Bacteria do quite well without it."

Stephen Hawking