

You are here: Home • Science & Technology • Gadgets • Does Technology Evolve?

Does Technology Evolve?

by RYAN KAPSAR on November 10, 2011

8 Comments

Like 1 AccessDeniedAc

Share

SUBSCRIBE USING FEEDBURNER

Enter your email address:

Subscribe

RELATED POSTS



New World Order: We,
The Markets



CES 2012: 10 Things to
Watch



Star Wars: The Old
Revolution. Source:
NightHawk24 on
flickr.com



Source: wikimedia

Tom Chatfield on the
Gaming Industry

Changing Mindsets on
Sustainable
Transportation



Apple Campus 2



Idea Bulb. Source:
flickr.com/photos/qisu

The Office Block: Apple
Style

Book Review: Race
Against the Machine

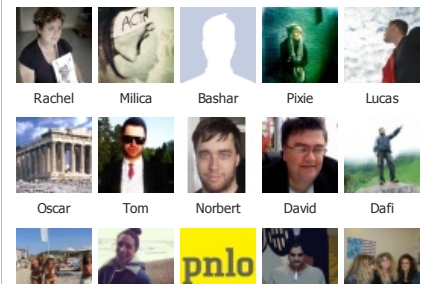
FACEBOOK



The Urban Times on Facebook

Like

2,418 people like The Urban Times.



Facebook social plugin

RECENT POSTS IN SCIENCE & TECHNOLOGY



Two Hammers and Darwin's Finches; All pictures from Wikimedia

Does technology evolve? The first step to answer this question is to define **evolution** in this case. Do we mean, evolution individual technologies changing over time or **Darwinian evolution**? Well, I think the first part is pretty easy to answer. Yes, we can see technologies changing in usage and in appearance. However, it's not as obvious if technology evolves in a Darwinian sense though.

To answer this question we need to take a step back and look at what Darwin wrote about evolution. Remember this is in a time before there was a wide spread understanding of gene theory. Despite the fact that Gregor **Mendel** had already discovered the hereditary nature of peas, Darwin knew **nothing** about this. Despite this gap in his knowledge Darwin was able to come up with an extremely compelling argument for evolution. The quote below is from the **Origin of Species**.

*"If during the long course of ages and under varying conditions of life, organic beings vary at all in the several parts of their organisation, and I think this cannot be disputed; if there be, owing to the high geometrical powers of increase of each **species**, at some age, season, or year, a severe struggle for life, and this certainly cannot be disputed; then, considering the infinite complexity of the relations of all organic beings to each other and to their conditions of existence, causing an infinite diversity in structure, constitution, and habits, to be advantageous to them, I think it would be a most extraordinary fact if no variation ever had occurred useful to each being's own welfare, in the same way as so many variations have occurred useful to man. But if variations useful to any organic being do occur, assuredly individuals thus characterised will have the best chance of being preserved in the struggle for life; and from the strong principle of inheritance they will tend to produce offspring similarly characterised. This principle of preservation, I have called, for the sake of brevity, Natural Selection."*

- (Darwin 1859, summary of Ch.4)

To summarize Darwin, "If... organic beings vary... If there [is]... a severe struggle for life.... Then... variation.. had occurred useful... If variations useful... [Then] Best chance of being preserved... if strong principle of inheritance." Or, if there's useful variation (useful in the sense of being selected), selection and inheritance then there's natural selection (evolution). As we know in the case of organic beings this happens and we understand the mechanisms. Additionally, the final way I wrote the summary, I excluded the bit about organic beings. Darwin's theory of evolution is something of a general heuristic that can be applied to a broader number of topics than just organic beings. If this is the case, then it is likely we can figure out a way to apply it to

technology.

What evidence do we have pointing towards evolution of technology? For variation of technology in general, there are currently over 8 million US **patents**, so in a broad sense there is a great deal of variation. On a more specific technology, like the hammer which **wikipedia** classifies into 15 different category types and according to George Basalla in "**The evolution of technology**" there were over 500 types of hammers in Birmingham in 1867. Each with a different purpose and use.

What sort of selection environments are in play with technology? It's not like technologies are alive in the Serengeti or anything. Well, in a way they were, or at least in the south western part of the US. Basalla also discussed various types of arrowheads found in the US. They show a diverse range of shapes and usages. Which indicates that some arrowheads must have been better at killing different kinds of game than others. In **modern times** we have a different type of selection environment, the marketplace. In this case, the products with higher number of sales end up being produced more and continued in a new and improve model. Technology developers can even get direct feedback on issues with the previous version of their product through customer reviews and professional organizations adoption or refusal to adopt a given technology.

Inheritance is much more difficult with technology than with **organic beings**. With organic beings there are only one or two parent(s) and inheritance is a single direction action from parent to child. With technology there can be many parents and influences from other unrelated technologies. For instance, the decision to buy a cell phone can be dictated by several factors, one being battery life. **Battery life** realistically has nothing to do with phone call quality or ability to use your cell phone, other than dictating if the phone is on or not and how long the phone will operate. Additionally, looking at the phone in a historical context we can see that initially there were no batteries in phones and that they pulled power from the network itself. It is likely that batteries were introduced into phones because of the use of batteries in communication radios in the military. It was this transfer of unrelated technology into telephony that allowed the creation of the portable home phone and eventually the wireless cell phone. However, in this case it is still obvious that inheritance was still at play.

In conclusion, it is clear that technology does evolve. While we don't have anything as concrete as the gene to carry information from one generation to the next, there is still a type of Darwinian evolution taking place.



ABOUT RYAN KAPSAR

Folow me on Twitter @kapsar. I'm currently an American studying in the Netherlands at Eindhoven University of Technology. I'm pursuing a masters in Innovation Sciences (Technology and Public Policy). I'm focusing my studies on academic entrepreneurship and the impact of...

[See full bio »](#)

advertisement

Recent Trackbacks


Evolution and Innovation | Lukor.net

[...] perspective. This comes from several several different arguments. The first is from the evolution of technology. If you ignore some of the human motivation behind the changing technology itself and focus on the [...]


Preserving the Global Voice: The Internet's Response to SOPA – Urban Times

[...] with ease and information is only a few clicks away. Perhaps this uncontrolled 'natural' evolution of the internet is a symbol of how today's society is progressing. Gone are the days of [...]


Preserving the Global Voice: The Internet's Response to SOPA – Urban Times

 The Dreyfuss Special by Uncle Oswald is My Hero. Photo by Robin Tiemey

CES: Power Tripping, Power Sipping

 RepRap version 2.0 (Mendel). Wikipedia

Rohit Talwar on 3D Printing

 Bike Brazilian Butt fitness plan demo. Photo by Robin Tiemey

CES: Sweat Tech and Buff Stuff



Moon Twins

 Melissa Sterry, futurist. Image Copyright: Earth 2 Hub Ltd

Back to the Futurist: Melissa Sterry

RECENT DEBATE

@StumpedMonkey on Homeopathy: Can it be a Success Story?

Dick Stallion on Homeopathy: Can it be a Success Story?

@StumpedMonkey on Homeopathy: Can it be a Success Story?

Dick Stallion on Homeopathy: Can it be a Success Story?

CES: Power Tripping, Power Sipping – Urban Times on CES: Sneak Preview

[...] with ease and information is only a few clicks away. Perhaps this uncontrolled 'natural' evolution of the internet is a symbol of how today's society is progressing. Gone are the days of [...]

[Patrick Blanc: Converting Our City Walls into Vertical Gardens – Urban Times](#)

[...] of the Future of Education – Urban Times on Interview With Roger Saul, Founder Of MulberryWhy Technology is a Vital Part of the Future of Education – Urban Times on Does Technology Evo...Professor Michael Birnhack on Privacy – Urban Times on About advertisement /* [...]

[Why Technology is a Vital Part of the Future of Education – Urban Times](#)

[...] were at school, did you learn from a blackboard, whiteboard, an interactive whiteboard, or an iPad? Technology may evolve, but so does education, and I feel, they go hand in hand. As a student, I have followed the way [...]

[Show more trackbacks](#)

Comments

[Login](#)

There are no comments posted yet. [Be the first one!](#)

Post A New Comment

Enter text right here!

Comment as a Guest, or login:

Name

Displayed next to your comments.

Email

Not displayed publicly.

Website (optional)

If you have a website, link to it here.

Subscribe to

Submit Comment