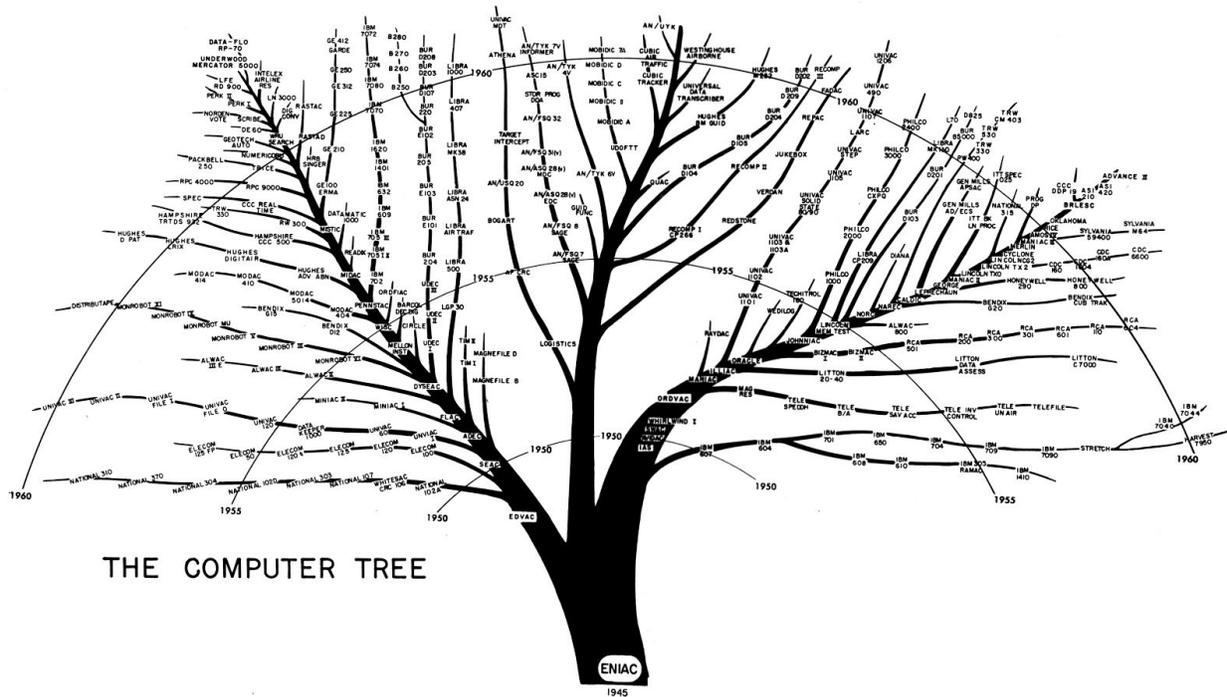


# Evolution as Programming

by Finch, November 2015



Computational thinking pervades the public consciousness. Everyone wants to be a hacker. “Hacking” has been applied to topics as diverse as baking, bicycling, and coffee-making.

It’s useful to trace the origins of this, the adaptation of “computational logic” or strict rationality, to a vast array of human activities. After all, this sort of thing, this application of a type of logic to a new object of analysis, is nothing new when we think about how humans maintain relationships with animals and machines.

1800s London was a time and place before “professionalization” built walls between the natural sciences, art, and mathematics. The heavy thinkers all went to the same parties and read the same books. Charles Darwin is rumored to have found himself in the

company of one Charles Babbage, inventor of the analytics engine, widely credited as the father of programming.

Babbage in 1837 had written *The Ninth Bridgewater Treatise*, positing that nature was a sort of engine of technological determinism, like a machine logic program. Further, and this is key here, the eventual product of those accumulated interactions could produce unanticipated results.

He wrote that it was possible the events which the public perceived as miraculous, were actually the result of generations of interactions between deterministic algorithms, which God had pre-defined.

This flew in the face of the widely held idea that God interacted with the world via random construction. He speculated that his theory could assist in representing the complexity of many functions, including combat formations and “animal life.”

Darwin read the book. He commented on it in his diary.

Twenty-two years later, Darwin published *On the Origin of the Species*.

He argued that species could be moderated over long periods of time through interactions with their environment, responding within the predefined laws of nature, a process which could produce animals very different from those which had come before.

Sound familiar?

Further reading:

Philip Mirowski. *Machine Dreams. "Some Cyborg Genealogies."* Cambridge University Press: London. 2002.

Darwinism. "The Stanford Encyclopedia of Philosophy."  
<http://plato.stanford.edu/entries/darwinism/>

Laura J. Snyder. *The Philosophical Breakfast Club.* Random House, Inc.: New York. 2011.