

DECOLONIZE COMPUTATION

enderverse



Every modern desktop, laptop, and phone is designed using the von Neumann hardware architecture. The development of this hardware architecture was funded by a contract from the U.S. Navy.

The von Neumann model of computation has no real world counterpart (Pane). You can't say that von Neumann computer hardware "is like" or "is similar to" something.

There is no metaphor.

The real world inspiration for the von Neumann hardware architecture is the calculation of “ballistics tables for projectiles fired from weapons”(Flamm).

John von Neumann, the inventor of the von Neumann hardware architecture, died from exposure to radiation from the nuclear weapons he designed.

The most common metaphor for modern computation is imperialism.

In college, computer science students learn about “divide-and-conquer” algorithms.

“[T]here are browsers called Explorer and Navigator that take you to explore the Amazon or trade in the eBay”
(McNeil).

Our vision of computing is held back by a dedication to the past. This past is defined in terms of military conquest.

Here's one possible path into the future: what would a high-level parallel programming language look like?

- David Hirshnal has explained that the C language's sequential structure maps well to old computers like the PDP-11, but maps poorly to the hardware of modern computers whose processors execute instructions in parallel.
- John F. Pane's research on user-centered programming language design reveals that people don't naturally think in sequences.
- In my experience teaching programming to children, I've seen first-hand that thinking in sequences does not come naturally.

We can imagine anything, so why are we chained to what currently exists?

The philosopher b. binaohan posits that computers are designed by white/Western logicians trying to remove humanity from reasoning. Being “logical,” then, requires sacrificing one’s humanity for the colonizer’s ideal of rationality.

For a person of color, your body being separate from your mind is not a useful concept.

The cultural anthropologist Maggie Appleton cuts into rationalist models of cognition by pointing to academics like George Lakoff who show that you actually need emotions to think.

When we shake off our dedication to the past, we can imagine programming languages that are modeled after how humans think, instead of programming languages that require us to think in a “logical” way.

What would hardware without logic gates look like? What would a programming language with the “both/and” of intuitionist logic as its foundation look like?

There are so many paths into the future, more than I can even enumerate.

There are a million
paths into the future,
and many of them
can be
transformative for
the whole.

adrienne maree brown

