Article Review: Computing beyond Moore's Law

**Bibliographic Reference (Use APA style)**

Shalf, J. M., Leland, R., & Sandia National Lab. (SNL-NM), Albuquerque, NM (United States). (2015). Computing beyond moore's law. Computer (Long Beach, Calif.), 48(12), 14-23. <https://doi.org/10.1109/MC.2015.374>

**Objectives**

* Explain how modern computers affect business
* Explain how Moore’s law will have an impact on everyone
* Explore the different avenues conputing could take in the future.

**Summary**

The article is an attempt to define Moore’s law with an emphasis on what we will move to once we have reached atomic computing. It searves as a research agenda, not a decisive guide to the technologies like superconductor technologies and Cystalline Metals.

It also elaborates on the knowledge of current computing. Knowing how our computers work and the technology they employ helps us know what we can do to get out of the drastic effects that Moore’s law can cause.

**Results**

There are a variety of options that could potentially replace modern computers such as chemical swithches or specialized computer chips, but the difficulty lies in getting them up to scale.

**Worldview Consideration--Ethical or Legal Considerations**

I think that this lab has made me think about how much business relies on the innovation of computers. The business world depends on computers, and the innovation that computers have, so we have a responsibility to work on computers and try to make them better. This responsibility is one that only computer scientists can do.

**Worldview Consideration--Christian Worldview**

I think this article demonstrates the amazing innovation that God has given people in the field of computer science. The theological stance of technology holds onto the beliefe that what we have made is insipired and given by God, since without God, we wouldn’t have been able to make anything.

**Questions**

One question that came from this reading is “If the size of transisors keep shrinking, wouldn’t the next logical step be to use quantum computers?” I have a feeling that the answer is yes, but I also think that we will start to see the rise of new computer systems, such as larger computers, and possible dual processor computers. Just like ram is swappable in modern machines, The cpu core may become swappable as well.

Another concern I had was for the limit of what people need. At a certain point the marginal gains will decrease, and consumer’s need of computing power would be based on the requirements of the software they intend to run.

A final concern was for the ambiguous route of quantum computing. Specifically if a qubit is impossible to identify when it is unobserved, how can we store data with it? I think this answer requires a lot of research and may take a lot of time to find.