The article, “A New Golden Age for Computer Architecture” informs the reader of the history which computer architecture has undergone and many future possibilities. They cover some important parts such as the introduction of integrated circuits and how this revolutionized the computer industry of the time. Describing the differences between complex and reduced instruction sets and their roles and impacts in the industry from the beginning of their introduction and how they have evolved and changed to take advantage of different developments. Ultimately it's important to note that at it’s introduction RISC was significantly faster than CISC instruction sets. Along with this many different ISA’s were developed and found to have faults that they could not operate to their full potential due to compiler technology lacking for these ISAs. Ultimately the CISC ISA ruled in the PC Era, however, it would be eclipsed in the Post PC Era with the introduction of the internet of things. Many processors are focused on improving the efficiency of the processor as they are very power constrained. Today the main issue is that laws which we previously relied on such as Moore's law or dennard scaling being the source of improvements have reached their upper limits. Thus the introduction of more cores was introduced allowing the workload to be parallelized and split among different cores. However Amdhals law states that the overall value of having multiple cores depends on the amount of a program that can be ran parallel compared to that which must be run sequentially. This meant that programs must be programmed to run parallel which may not be possible with complex programs. With the end of Dennard Scaling, increasing cores meant increasing power consumption and increasing operating temperatures. Because only so much heat can be dissipated This became a limitation as not all processors could have intense large cooling systems creating another wall.

However, the authors also propose some potential opportunities for the future of Computer Architecture. Particularly in two different Fields Optimizing code and DSAs, both of can increase the performance of Processors. Optimizing Code can come from making compilers more efficient in the way that they translate High level code into simpler languages. The other Domain Specific Architecture are accelerators which run certain portions of code more efficiently and faster, due to many different reasons. These kind of approaches can be thought of as things such as GPUs, TPUs, and FPGAs all of which use specific architecture to accomplish a task faster and often using less energy, however, it is important to note that these DSA's typically require their own Domain Specific Language (DSL).

They also Bring to the fact that Security is a long forgotten part of hardware design and show that recently there have been many hardware flaws that have allowed for security breaches. Not only this but it is common to be finding these flaws relatively often. They then Bring to light that Open source development allows for the community to find these flaws and fix them overall improving security.

I think that this paper overall is very strong. It explains the history of computer architecture and explains much of the future developments which may be the future. Though it does this well in my opinion I think that the organization of the paper is a little confusing and i found that some portions of the paper simply have too much blank space. I also found it a little frustrating that figure didn't contain descriptions as to what they are about. Though I don't think that i could create a better paper overall, I think a contribution I could make is adding captions to figures to fix the flow of the paper