Moore’s law can’t continue. Doubling transistor density has a limit as transistor areas reach single-digit nanometers. For two primary reasons this size becomes infeasible. First, the heat produced by billions of tightly-packed transistors begins to melt the chip itself. Second, errors begin to appear when approaching 1nm transistors (chips are currently at around 5nm). For Moore’s law to remain true, transistors’ gates would necessarily become too small for classical mechanics to triumph over the electron flow.

Parallel processing is a temporary solution to these catastrophic errors; however, quantum computing will soon be required to improve searching or simulation time. From that point on, people will be buying computers with the fastest antennas to decrease latency as that will be the final frontier for observable computational improvements.

There exist other byproducts of the first major voltage issue that limit Moore’s law as well. These include the inability to provide enough power to the billions of transistors quickly enough. This causes voltage scaling and leakage throughout the board, throttling its performance past temperature throttles.