THE FATHER, THE SON, AND THE HOLY SPIRIT

The Churchill Club with its 7000 members is Silicon Valley's premier business and tech forum. Howard High, an Intel retiree, attended the recent dinner which featured Michael Malone who spoke about his book, The Intel Trinity.

Michael Malone, the author of the new book *The Intel Trinity – How Robert Noyce, Gordon Moore, and Andy Grove Built the World's Most Important Company* – looked over the crowd gathered at the Churchill Club dinner. He knew it could be a tough audience, mostly made up of Intel veterans, who numbered into the hundreds. He remarked that he could see 1,000 years of Intel experience staring at him from the onlookers.

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Malone explained that Bob was the father, the most respected high-tech figure of his generation. Andy was the precocious son -- the brilliant, but also the ferocious, driven relentless task master that ultimately transformed himself into arguably the world's greatest CEO of the last 50 years. And Gordon was the creator and keeper of Moore's Law, the biennial doubling of computer chip performance that accelerated the pace of innovation and became the metronome of the modern world. The Law became the religion that Intel pursued and supported with unwavering faith. Malone told the crowd that it was (and is) Intel's faith in The Law that had separated the company from all others and The Law had provided the foundation of everything that had come to define today's technological world.

Personal computing, the Internet, mobility, cellular, wireless, the cloud, gaming, social networks and more owed their existence to the integrated circuit and most specifically to the microprocessor. He noted that that a reporter today that writes incisively on Apple and its next generation iPhone has little knowledge or understanding of the chips that drive that device. Malone lamented that the worlds of social networks and code writing are six or seven levels removed from the largely chemical business of making integrated circuits. "It's a pity," he would say. "…the semiconductor industry is more important to the modern global economy than ever before… Chips are still there at the heart of every electronic device. We've just stopped looking for them."

In the audience, Intel veterans like Bill Davidow, Ed Gelbach, Ted Jenkins, Jean Jones and many others acknowledged the tough times, but relished their roles in helping Intel change the world.

But Malone thinks there is still much that comes in the future. Log graphs do the world a disservice, he says. When Gordon plotted the doubling of transistors on a log graph it gave us a nice gradual incline. "But it has diluted us to what is really going on – the amount of change that is taking place," noted Malone. He recently plotted Moore's law on regular graph paper and the rate of change from 1960 to 2005 was pretty shallow, but then in 2005 the line started turning straight up. "Integrated circuits, minicomputers, smart phones, social networking, the Internet, big data – all of its sitting in the foothills

and we've just begun assaulting the Himalayas, and it's going to get crazy from here on out," observed Malone.

He wrapped up his formal comments by reminding the audience that the semiconductor industry is a chemical business, not code. It is a business in which you get your hands dirty. The creators of Silicon Valley and Intel were the sons and daughters of working class people. When he looks at the social networking, web 2.0 people, he notes that these are the sons and daughters of professional people. Quite well educated and they're creating non-physical things. Malone thinks there is a distinct "world view" difference between hardware and software.

"I think code people tend to be philosophical, in weird ways – like 'do no evil.' The code people think in huge, sweeping ways and that's wonderful. They talk about reaching a billion people, but they don't really understand any of those people. The old guard… they were just trying to get product out the door, they weren't trying to change the world. They looked up and realized that they had changed the world. They changed the world without really knowing they were doing it. I like hardware," Malone added.

It is one of the reasons that he believes Intel is the most important company in the world.

The book is available online or at bookstores and a video of the Churchill Club event is available on youtube.