



Imagination: Quantum Change in the 21st Century

Imagination is more important than knowledge. For knowledge is limited to all we know and understand, while imagination embraces the entire world, and all there ever will be to know and understand. – Albert Einstein



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Much of the contemporary technology that we enjoy was largely influenced by the brilliant physicist Albert Einstein. Walter Isaacson writes of Einstein, “His fingerprints are all over today’s technologies. Photoelectric cells and lasers, nuclear power and fiber optics, space travel and even semi-conductors all trace back to his theories.”¹ Recent advances in technology have only been made possible by the foundation laid by the work of Einstein, as well as a few other amazing minds.

Due in large part to the advent of the computer, human thought-processes have progressed rapidly. Alan Turing, a recluse British computer genius, developed the first functioning computer during WWII. His task was to decipher the German code machine known as “The Enigma.” Turing used his imagination to visualize how such a computer might be built. Then he painstakingly proceeded to build the first ever Automatic Computing Engine (ACE).² Like Einstein, Turing had to overcome the social prejudices of his day. In spite of innumerable challenges, both men became incredibly successful.

In 1947, John Bardeen, Walter Brattain and William Shockley co-invented the semiconductor at Bell Labs.³ Intel, founded by Andrew Grove, Gordon Moore, and Robert Noyce, was the first to manufacture the semiconductor.⁴ Each of these advances was building on the fundamental work by Einstein and Turing.

Today there are more than 7.5 billion people on Earth, and approximately one tenth of one percent have the IQ levels of a genius.⁵ Through the combination of greater knowledge, the marriage of Einstein’s string theory of quantum mechanics, and the continual advancement of the computer, we now are entering a new phase of human and artificial intelligence. This new phase of science is known as quantum computing.

In theory, a quantum computer will process trillions of bits of data per second. For example, a problem that might take an advanced 21st century computer years to find a solution could be solved by a quantum computer in a matter of minutes.⁶ When combined with the intelligence of brilliant humans, the possibilities seem unlimited. With such technology, one can only imagine the advances that will be made in the near future. There will be vast transformations in the development of new forms of medicines, energy, transportation, communications, food production, education, and the like. These new technologies will transform life in an unimaginable way. Like Einstein, Turing, and others: Imagine it! Creativity knows no bounds!

¹ Einstein: His Life and Universe, pp 5, Walter Isaacson 2007

² Alan Turing: The Enigma. Andrew Hodges 2014

³ <http://abt.cm/2jobegZ>

⁴ <https://successstory.com/companies/intel-corporation>

⁵ <http://www.iqtestexperts.com/making-genius.php>

⁶ <http://bit.ly/2iC50wV>