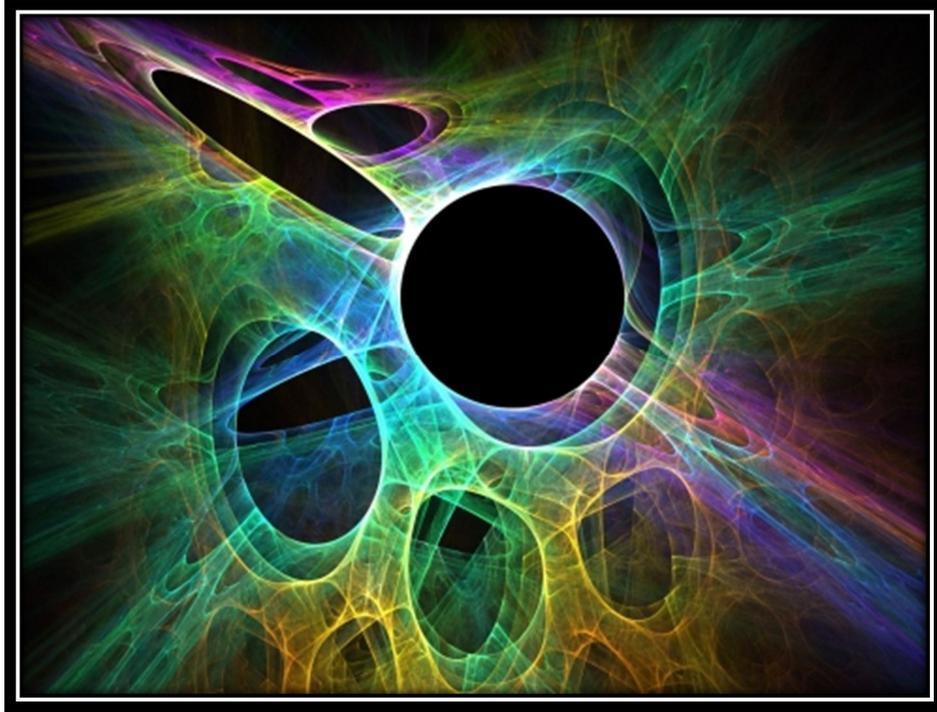




## The Emergent Principle

### Chapter 4



String theory

Thinking vibrates the particle into a spectrum of resistance that is the universe (resistant cloud). Quanta, string theory, M theory are all describing the structural supports for the thinking process. We are creating complexity where it did not exist nor has ever existed. Nothing is waiting to be discovered, all is created on demand.

(Memory keeps things alive – there is no history).

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Back to Basics (0/1)



*Leonhard Euler (1707 -1783)*



*Pushing the Binary Pony.*



*Nought from the Greeks towards me hath sped well.*

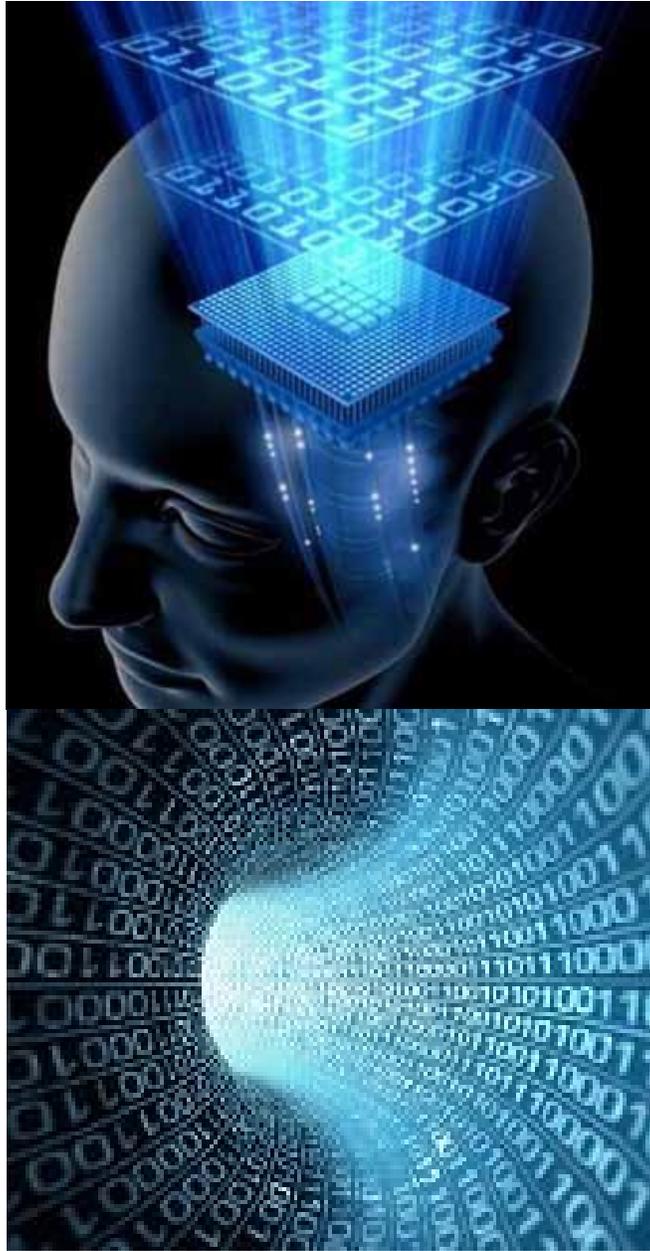
*So now I find that ancient proverb true*

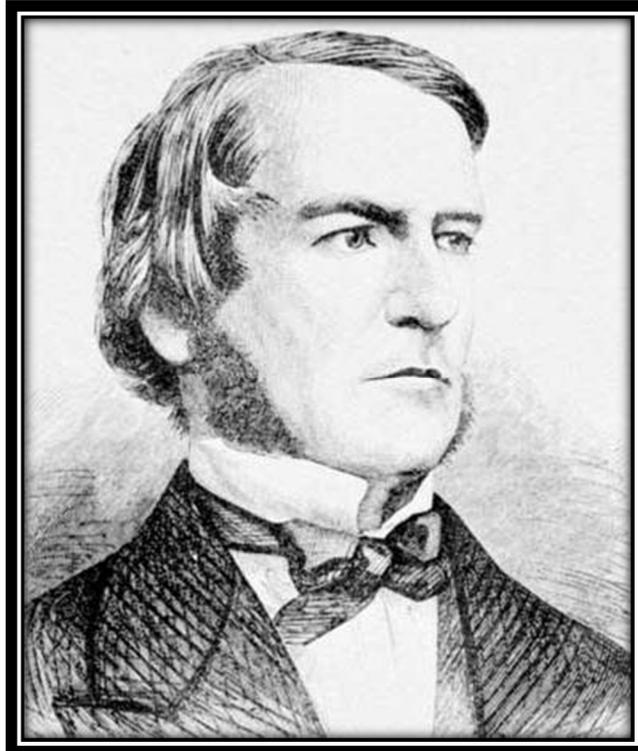
*Foes' gifts are no gifts: profit bring they none.*

*- Sophocles (496 - 406 BC),*

Binary code is the mathematical representation of vibration and, because all things emerge from the one repetitive event the binary code for the universe is the fastest and least complex of all – **0/1**.

The ultimate black hole (0/1).





**George Boole** (November 1815 – 8 December 1864) was an English mathematician and philosopher.

Boolean logic is a form of algebra in which all values are reduced to either TRUE or FALSE. Boolean logic is especially important for computer science because it fits nicely with the binary numbering system, in which each bit has a value of either 1 or 0. Another way of looking at it is that each bit has a value of either TRUE or FALSE.

Wikipedia

## Boolean Logic

As the inventor of Boolean logic—the basis of modern digital computer logic—Boole is regarded in hindsight as a founder of the field of computer science.

George Boole's father, John Boole (1779–1848), was a tradesman of limited means, but of "studious character and active mind". Being especially interested in mathematical science and logic, the father gave his son his first lessons; but the extraordinary mathematical talents of George Boole did not manifest themselves in early life. At first, his favourite subject was classics.

It was not until his successful establishment of a school at Lincoln, its removal to Waddington, and later his appointment in 1849 as the first professor of mathematics of then Queen's College, Cork in Ireland (now University College Cork, where the library, underground lecture theatre complex and the Boole Centre for Research in Informatics are named in his honour) that his mathematical skills were fully realised. In 1855 he married Mary Everest (niece of George Everest), who later, as Mrs. Boole, wrote several useful educational works on her husband's principles.

The personal character of Boole inspired all his friends with the deepest esteem. He was marked by true modesty, and his life was given to the single-minded pursuit of

truth. Though he received a medal from the Royal Society for his memoir of 1844, and the honorary degree of LL.D. from the University of Dublin, he neither sought nor received the ordinary rewards to which his discoveries would entitle him. On 8 December 1864, in the full vigor of his intellectual powers, he died of an attack of fever, ending in effusion on the lungs. He is buried in the Church of Ireland cemetery of St Michael's, Church Road, Blackrock (a suburb of Cork City). There is a commemorative plaque inside the adjoining church.'

[http://en.wikipedia.org/wiki/George\\_Boole](http://en.wikipedia.org/wiki/George_Boole)

## The first integrated circuit

It took almost 94 years from Boole's discovery to finally have it implemented on a grand scale via the micro-chip. Jack St. Clair Kilby (November 8, 1923 - June 20, 2005) was a Nobel Prize laureate in physics in 2000 for his invention of the integrated circuit in 1958 while working at Texas Instruments (TI). He is also the inventor of the handheld calculator and thermal printer. In mid-1958, Kilby was a newly employed engineer at Texas Instruments who did not yet have the right to a summer vacation. He spent the summer working on the problem in circuit design that was commonly called the "tyranny of numbers" and finally came to the conclusion that manufacturing the circuit components in mass in a single piece of semiconductor material could provide a solution. On September 12 he presented his findings to the management, which included Mark Shepherd, of Texas Instruments: he showed them a piece of germanium with an oscilloscope attached, pressed a switch, and the oscilloscope showed a continuous sine wave, proving that his integrated circuit worked and thus that he solved the problem. U.S. Patent 3,138,743 for "Miniaturized Electronic Circuits", the first integrated circuit, was filed on February 6, 1959. Along

with Robert Noyce (who independently made a similar circuit a few months later), Kilby is generally credited as co-inventor of the integrated circuit.

[http://en.wikipedia.org/wiki/Jack\\_Kilby](http://en.wikipedia.org/wiki/Jack_Kilby)

Blue-prints:

The physical on/off switching that enabled the means for Boolean logic to be finally implemented on a grand scale was made from one of the most abundant materials on earth: sand. Sand is technically known as the element Silicon thus the 'silicon chip'. The process of turning silica into a switching device is called doping. Doping is the addition of impurities in order to enable/disable conductivity (semi-conductor). To understand how all this logic transfers to practicality just consider the Boolean arrangements as blueprints, such as any construction blueprint. All computerization is based on Boolean binary logic or 'truth values' and when a silicon chip is packed with semi-conductors (0/1) and energized it will re-produce the logic it has been programmed for.

### Unlimited possibilities

The possibilities that may be produced from the ordering of on/off switches are as endless as the number of different sequences that may be strewn together. Therefore, it is reasonable to conclude that everything in the universe has a mathematical blueprint that may be represented by an exact arrangement of binary code.

The reason why Boolean logic may be used to create a blueprint for everything under the sun is because when George Boole came up with his theory he inadvertently tapped into eternal recurrence. We are constantly disappearing and re-appearing but until we become conscious of this fact we will continue to oppose it with distracting binary equivalents. George Boole tapped into the eternal truth of everything and technology hitched its wagon to its possibilities and voila! We are enthralled by our own reflection and allow the achievement of faster technologies to overwhelm the higher purpose of realizing the particle. The difference between Boole's algebra and the universal on/off is that while technology is driven by mathematics the universal on/off is driven by thinking. Thinking creates mathematics but there is more to thinking than math, there is emergence.



## Robots

The worldwide web continues to grow. We are literally becoming more and more connected, or assimilated. From across the world we can see one another as we talk and information on any subject can be accessed instantly as desired.

If we string together enough of these bits of logic it is conceivable that we may reproduce the mathematical equivalent of a human being. The current level of robotic science is already touching the surface of this possibility and as the blueprint develops so will we. And then ...

We will have robots that are smarter than any one of us because they will be programmed with not just individual information packets but may ultimately gain all information packets in one awareness – sound familiar? Subjectivity becomes objectivity as we put a suit of clothes on the Emergent Principle who will be laughing harder than ever. It would serve us well to reflect that the technology we give our devotion to is an illusion that began with an idea that required impurity to give it life.

We are the dopes.

## Pandora's Box



Pandora opens the *pithos* given to her by Zeus, thus  
releasing all the bad things of the world



## Flash Crash

**Newsline**  
Polls: British Conservatives lead Labor, lack majority  
Top three parties scramble to form alliances in uncertain election, 7A

**River flow eyed in oil fight**  
Experts consider boosting current from Mississippi River into the Gulf, 5A

**Bomb-plot prevention under review**  
Attorney general says authorities are probing whether feds failed to target Shabazz as threat, 2A

**Volunteers search for teen lost in floods**

**Panic on Wall Street, 1B**  
**'The machines took over'**  
The wildest day in Wall Street history ended with a 348-point drop, almost a relief after a dizzying hour-long chain of events:

**Dow Jones industrial average**  
10,569  
10,478

**"The machines just took over. There's not a lot of human interaction."**  
— Charlie Smith

**What happened?**  
Stocks plunged 999 points.

**In shift, more fill the same home**  
Occupancy trend seen as harm to housing demand  
By Haya El Nasser  
USA TODAY

The number of people living under one roof is growing for the first time in more than a century, a fallout of the recession that could reduce demand for housing and slow the recovery.  
The Census Bureau had projected the average household size would continue to fall to 2.53 this year. Instead, the average is likely to hit 2.63, a small but significant increase because it is a turnaround.  
"A funny thing happened on the way to the future," says Arthur C. Clarke.

The **Flash Crash**, was a United States stock market crash on Thursday May 6, 2010 in which the Dow Jones Industrial Average plunged about 1000 points (about 9%) only to recover those losses within minutes. It was the second largest point swing, 1,010.14 points, and the biggest one-day point decline, 998.5 points, on an intraday basis in Dow Jones Industrial Average history.

*Wikipedia*

*“Algorithms normally behave as they are designed, quietly trading stocks or, in the case of Amazon, pricing books according to supply and demand. But, left unsupervised, algorithms can and will do strange things. As we put more and more of our world under the control of algorithms we can lose track of who - or what - is pulling the strings. This is a fact that has sneaked up on the world until the Flash Crash shook us awake.*

*Algorithms entered evening newscasts through the door of the Flash Crash, but they didn't leave. They soon showed up in stories about dating, shopping, entertainment,*

*medicine - everything imaginable. The Flash Crash had merely been an auger for a bigger trend: algorithms are taking over everything.*

*When a process on the Web or inside a machine happens automatically a pithy explanation often comes with it: "It's an algorithm." The classical definition of an algorithm says the device is a list of instructions that leads its user to a particular answer or output based on the information at hand.*

*One could, for instance, write an algorithm for determining what jacket to wear to work in the morning. Inputs: presence of rain, temperature, presence of snow, wind speed, distance and pace you plan to walk, sun or cloud cover. An input of 25 degrees, light snow, 20 mph wind, cloud cover, and a short walk of two blocks might produce an output of, say, your down-filled Gore-Tex parka. That's likely the coat you would have plucked from the closet on your own, but the invasion of algorithms starts with simple tasks. These algorithms operate much like decision trees, wherein the resolution to a complex problem, requiring consideration of a large set of variables, can be broken down to a long string of binary choices. Each piece of*

*required data pushes the process to another choice, or node, and closer to producing an output.*

*This rudimentary definition of algorithms, however, gives little justice to the colossal webs they have become thanks to computers. In this book I often refer to multiple linked algorithms all aimed at performing one task as bots. These bots feature thousands of inputs, factors, and functions. The most complicated among them are like neurons firing in your brain: they spin up and they spin down based on need, they're dynamic and they're capable of self-improvement.*

*Math makes possible all of these algorithms that have come to invade and almost run our lives. For centuries, math was something we drew on in making observations about our world, now it is a potent tool we use to shape our planet, our lives, and even our culture.*

*As algorithms and the math behind them became the standard on Wall Street, other less-affected fields drew the attention of mathematicians, engineers, and physicists – a group Wall Street came to call quants (after quantitative analyst). These quants*

*and programmers now scout new industries for soft spots where algorithms might render old paradigms extinct, and in the process make mountains of money.*

*The bounds of algorithms gets pushed further every day. They've displaced humans in a growing number of industries, something they often do well. They're faster than us, they're cheaper than us, and, when things work as they should, they make far fewer mistakes than we do. But as algorithms acquire power and independence, there can be unexpected consequences. Perhaps Pandora, the Internet radio outlet that learns users' musical tastes is aptly named.*

From *Automate This: How Algorithms Came to Rule Our World*. By Christopher Steiner, Penguin Books, 2012.