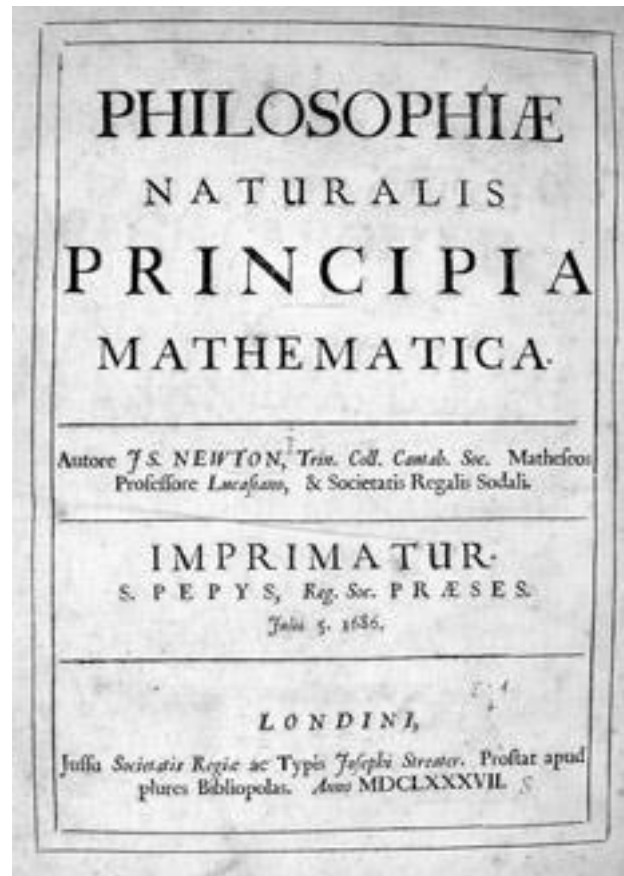


How Science Has Changed Our World

I have made a short and surely incomplete list of some of the most important publications by scientists of the modern scientific era starting with Isaac Newton. I have provided other publications and works to give you a perspective of what was going on in the non-science world. My thanks to Wikipedia that was a major source of pictures and explanations. The blue text has hotlinks. Suggestions are welcome!

Peter Faletra



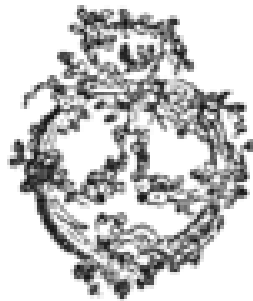
Isaac Newton

Philosophiæ Naturalis Principia Mathematica 1687

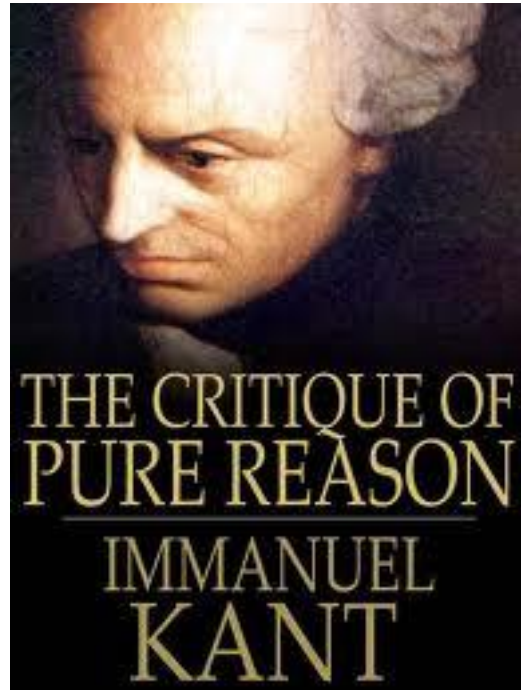
This book allows engineers to design and build accurate cannons, airplanes, rockets, skyscrapers, bridges, and just about anything that moves, or supports something. It remains to this day a major part of any physics textbook... arguably, the most influential book of all science.

Kritik der reinen Vernunft

von
Immanuel Kant
Professer in Königsberg.

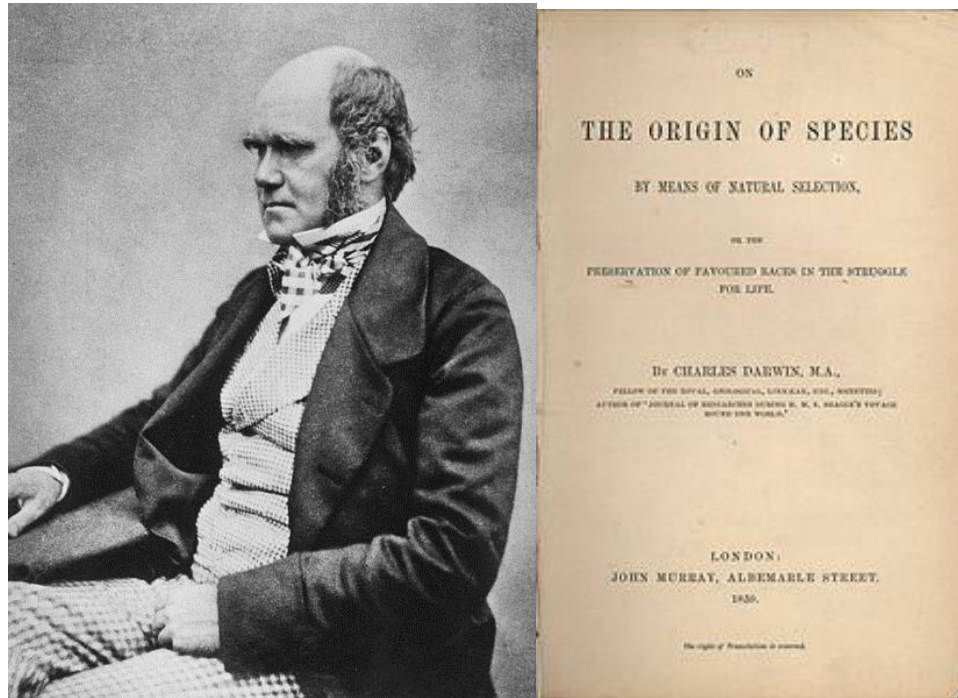


St i g a,
verlegt Johann Friedrich Hartnoch
1781.



The ***Critique of Pure Reason*** (**German**: *Kritik der reinen Vernunft*) by **Immanuel Kant**, first published in 1781, second edition 1787, is one of the most influential works in the history of **philosophy**.^[1] Kant published other important works on ethics, religion, law, aesthetics, astronomy, and history. In Kant's essay "**Answering the Question: What is Enlightenment?**", Kant defined the Enlightenment as an age shaped by the **Latin** motto *Sapere aude* ("Dare to Know"). Kant maintained that one ought to think autonomously, free of the dictates of external **authority**. His work reconciled many of the differences between the **rationalist** and **empiricist** traditions of the 18th century. He had a decisive impact on the **Romantic** and **German Idealist** philosophies of the 19th century. His work has also been a starting point for many 20th century philosophers.

Kant is known for his theory that there is a single **moral obligation**, which he called the "**Categorical Imperative**"... whether an action is moral or not depends entirely on the intentions of the person carrying out the action.



In the 19th century [Charles Robert Darwin](#) reads [Malthus's](#) theories on what causes populations to increase or decrease...food! But food resources are dependent on economics. Malthus also stated that populations would not be able to expand forever even though other said that advances in science and agriculture would allow it to. Darwin begins forming a theory of how populations of organisms change in their traits and what allows a species to flourish or become extinct. Darwin takes many years to write *On the Origin of Species* and publishes it in 1859. It is one of the most influential books of that century and possibly the most controversial book in all history. (Darwin often listens to Beethoven written in the early 1800's.)



<http://www.youtube.com/watch?v=YAOTCtW9v0M&feature=related>



Experiments on Plant Hybridization Written in 1865 by
[Gregor Mendel](#),

This publication was never read by Darwin but is the genetic mechanism by which traits are inherited. This publication almost died in obscurity.

ANNALS OF SCIENCE

A QUARTERLY REVIEW OF THE HISTORY OF
SCIENCE SINCE THE RENAISSANCE

VOL. 1

APRIL 15, 1936

No. 2

HAS MENDEL'S WORK BEEN REDISCOVERED ?

By R. A. FISHER, M.A., Sc.D., F.R.S.,
Galton Professor of Eugenics, University College, London.

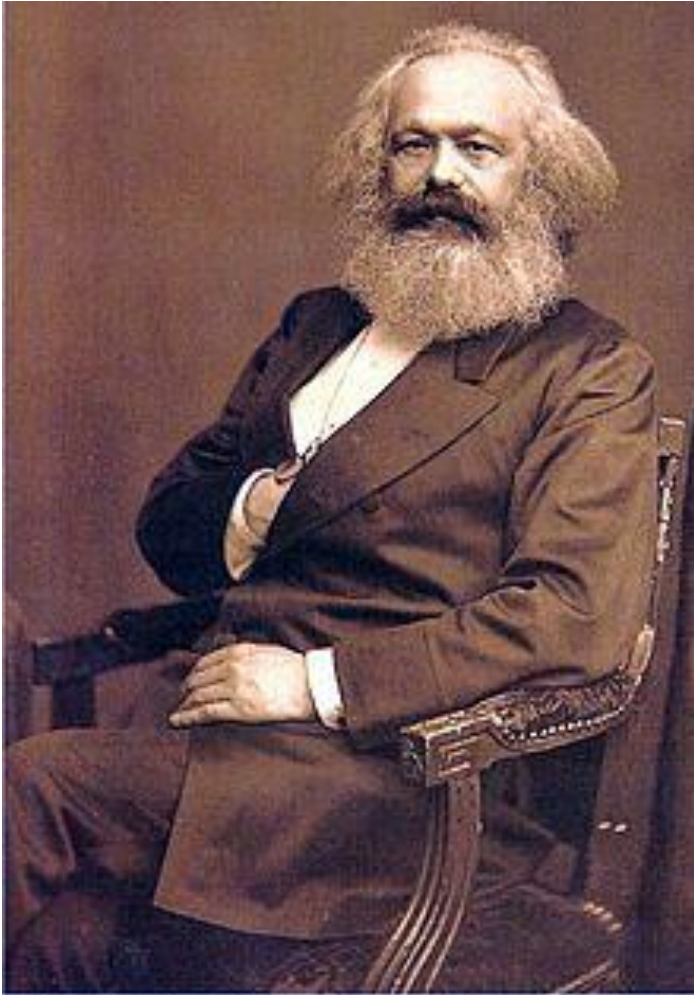
1. THE POLEMIC USE OF THE REDISCOVERY.

THE tale of Mendel's discovery of the laws of inheritance, and of the sensational rediscovery of his work thirty-four years after its publication and sixteen after Mendel's death, has become traditional in the teaching of biology. A careful scrutiny can but strengthen the truth in such a tradition, and may serve to free it from such accretions as prejudice or hasty judgment may have woven into the story. Few statements are so free from these errors as that which I quote from H. F. Roberts' valuable book *Plant Hybridisation before Mendel* (p. 286) :

"The year 1900 marks the beginning of the modern period in the study of heredity. Despite the fact that there had been some development of the idea that a living organism is an aggregation of characters in the form of units of some description, there had been no attempts to ascertain by experiment, how such supposed units might behave in the offspring of a cross. In the year above mentioned the papers of Gregor Mendel came to light, being quoted almost simultaneously in the scientific contributions of three European botanists, De Vries in Holland, Correns in Germany, and Von Tschermak in Austria. Of Mendel's two papers, the important one in this connection, entitled 'Experiments in Plant Hybridization', was read at the meetings of the Natural History Society of Brünn in Bohemia (Czecho-Slovakia) at the sessions of February 8 and March 8, 1865. This paper had passed entirely unnoticed by the scientific circles of Europe, although it appeared in 1866 in the Transactions of the Society. From its publication until 1900, Mendel's paper appears to have been completely overlooked, except for the citations in Focke's 'Pflanzenmischlinge', and the single citation of Hoffmann, elsewhere referred to."

Ann. of Sci.—Vol. 1, No. 2.

K



The Communist Manifesto (*Das Kommunistische Manifest*), originally titled *Manifesto of the Communist Party* ([German](#): *Manifest der Kommunistischen Partei*) is a short 1848 publication written by the political theorists [Karl Marx](#) and [Friedrich Engels](#).



Resistance to Civil Government (Civil Disobedience) is an essay by American [transcendentalist Henry David Thoreau](#) that was first published in 1849. In it, Thoreau argues that individuals should not permit [governments](#) to overrule or atrophy their [consciences](#).



Edgar Allen Poe publishes *Eureka* in 1848. Poe was a science enthusiast. In his book *Eureka*, Poe solve a paradox of science called “[Olbers Paradox](http://en.wikipedia.org/wiki/File:Olber%27s_Paradox_-_All_Points.gif)” [http://en.wikipedia.org/wiki/File:Olber%27s_Paradox - All Points.gif](http://en.wikipedia.org/wiki/File:Olber%27s_Paradox_-_All_Points.gif) ...If the universe is filled with so many stars why is the night sky not bright?

VINCENT VAN GOGH PAINTS CRAZY STUFF!



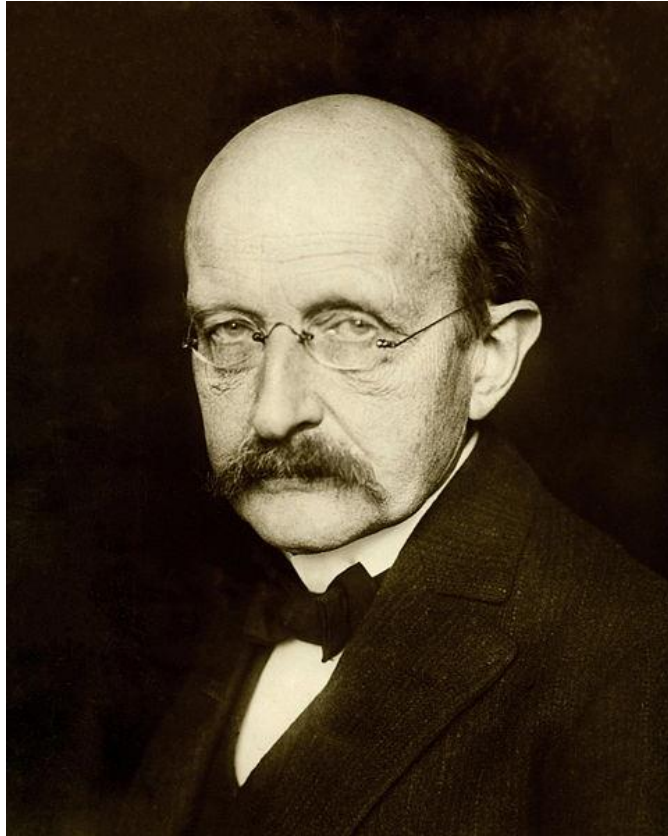




JAMES CLERK MAXWELL PUBLISHES HIS WORKS ON MAGNETISM AND ELECTRICITY A *Treatise on Electricity and Magnetism* 1873 HELPING TO LAUNCH THE WORLD OF ELECTRICITY...ELECTRIC MOTORS...



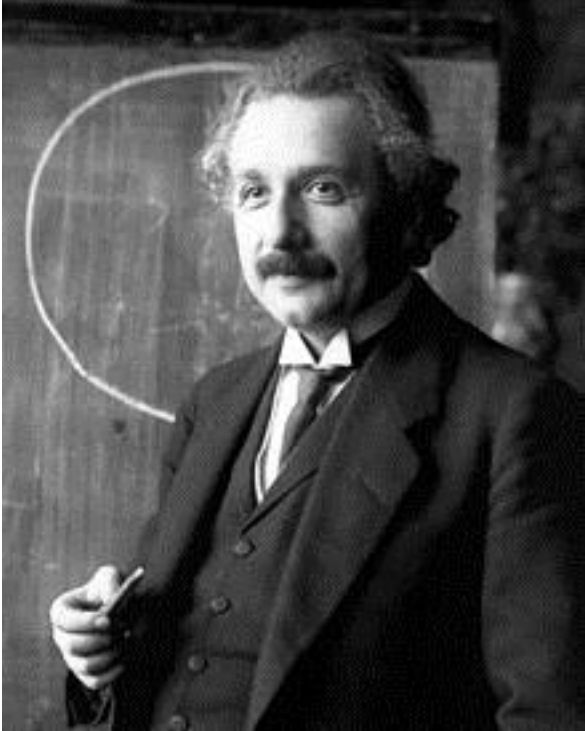
Interpretation Of Dreams 1900 by Sigmund Freud
This book is Freud's most popular book and greatly influences the development of personality theories in psychology.



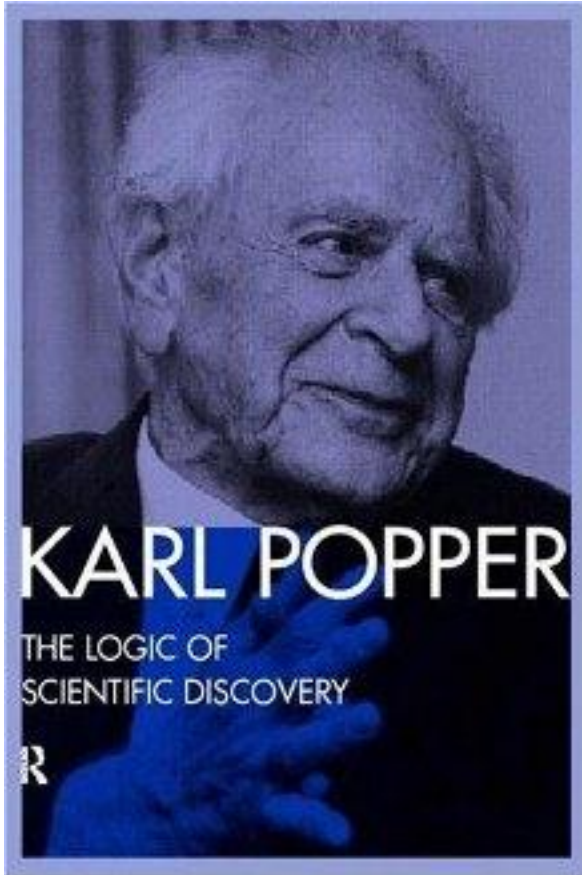
Planck, Max. (1900). "*Entropy and Temperature of Radiant Heat.*"

Planck, Max. (1901). "*On the Law of Distribution of Energy in the Normal Spectrum*".

Planck made many contributions to theoretical physics, but his fame rests primarily on his role as originator of the [quantum theory](#). **Quantum mechanics** (QM – also known as **quantum physics**, or **quantum theory**) is a branch of [physics](#) dealing with physical phenomena at atomic scales, where the [action](#) is on the order of the [Planck constant](#). Quantum mechanics has had enormous[42] success in explaining many of the features of our world. Quantum mechanics is also critically important for understanding how individual atoms combine covalently to form [molecules](#). A great deal of modern technological inventions operate at a scale where quantum effects are significant. Examples include the [laser](#), the [transistor](#) (and thus the [microchip](#)), the [electron microscope](#), and [magnetic resonance imaging](#) (MRI). The study of [semiconductors](#) led to the invention of the [diode](#) and the [transistor](#), which are indispensable parts of modern [electronics](#)...including computers. QM has great philosophical implications.



Albert Einstein developed the [general theory of relativity](#), effecting a revolution in [physics](#). **General relativity** is a [geometric theory of gravitation](#) published by [Albert Einstein](#) in 1916 and the current description of gravitation in [modern physics](#). General relativity generalizes [special relativity](#) and [Newton's law of universal gravitation](#), providing a unified description of gravity as a geometric property of [space](#) and [time](#), or [spacetime](#). This theory shows gravity is a distortion of spacetime by large masses and what we perceive as gravitation is somewhat of an illusion by our senses.



[Karl Popper](#), who argued that all proper scientific theories must be potentially falsifiable and that scientific theories make accurate and risky predictions, claimed that Freud's psychoanalytic theories were presented in unfalsifiable form, meaning that no experiment could ever disprove them.[154]



B. F Skinner

Beyond Freedom and Dignity 1971 (proposes that humans have no free will...they “make decisions” based on their conditioning)



One of the most influential books of the 20th century was written by a biologist, Rachel Carson.

Some scientists are even cartoonists Steve Hillenburg Spong Bob Square pants ...