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THE INFLUENCE OF BOOKS

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There is a popular misconception which holds that books are futile objects, with very limited power and influence. The idea prevails widely that books are harmless, innocent, and ineffective, full of theory, and of little significance for the practical man of affairs. According to this attitude, books have a place in the schools; they are appropriate for children, invalids, and club women, and perhaps they may have some value for recreational purposes. Otherwise, they are of slight consequence.

The savage in the jungle is given a more realistic understanding than this, as he bows down before the printed page, with its strange power for carrying messages. Throughout history, the evidence is piled high that books frequently are not inanimate, peaceful articles, belonging to the cloistered shades and academic quiet of monasteries, universities, and other retreats from the evil world. On the contrary, books may be dynamic and vital, capable of changing the whole direction of events, sometimes for good, sometime for evil. Whenever dictators and other tyrants have wanted to suppress opposition and to kill ideas, their first thought, almost invariably, has been to destroy the books, and oftentimes their authors. They were shrewd enough to realize the explosive forces pent up in books.

In order to demonstrate the enormous power wielded by books, I have selected fifteen titles which, in my opinion, have exerted the greatest influence on the history, economics, culture, civilization, and science of our time. There would be general agreement, probably, on about fifty per cent of the list. After that, individual choices would vary. My principal criterion is that each book selected must have had a profound effect on human thought and action, not in one nation alone, but for a large segment of the world.

A further limitation has been placed on the list by confining it to works in science and the social sciences. This omits the vast field of religion and philosophy - the Bible, the Talmud, the Koran, Confucius, the Greek philosophers, St. Thomas Aquinas, and Martin Luther. It also leaves out the great literary masterpieces - fiction, poetry, drama, essays -, many of which have deeply impressed society in various periods

My reasons for excluding religion and literature are not caused by any failure to see their importance - actually their total impact may well be greater than all other areas combined -, but rather by the intangible nature of their influence, and the difficulty in measuring their effect by any objective, non-controversial standards.

Of the fifteen selected titles, six classify as science, published from 1543 to 1915; and nine as social science, printed from 1523 to 1927. Such a classification has no particular significance, however, for the social influence of the several scientific works that are included has been fully as profound as those defined in the social sciences proper. Three of the scientific books belong in the physical sciences and three to the biological sciences. Each group can be most logically treated in chronological order, with every one building upon what has gone before, a characteristic of modern science.

Following this order, the first name to appear is that of Nicolaus Copernicus, with his book *Concerning the Revolutions of the Celestial Spheres*, 1543. "The father of modern astronomy," as he is called, was born in Poland in 1473.

For more than fourteen centuries, a system devised by Claudius Ptolemy, an Egyptian astronomer, had been accepted as the true conception of the universe. Ptolemy held that the world was a fixed and immovable body, situated at the center of the universe about which all heavenly bodies, including the sun and the fixed stars, revolved.

Doubtful of this theory, Copernicus started testing a new system which he conceived. This was a century before the invention of the telescope, and his instruments were primitive. His conclusions, described in his celebrated book, were cataclysmic. The sun was center of the universe, the earth only a planet, like Mars, and it and all the planets revolved about the sun. Upon the Copernican system, modern astronomy was built. The book was completed in 1530, and dedicated to Pope Paul III, a strategical consideration, but not published for thirteen years. Copernicus did not care to state his views too bluntly for fear of the Inquisition and heresy trials. Finally, when Copernicus was age 70, he was persuaded to release the book for publication. It did not come off the press until a few hours before his death.

Later astronomers added to and corrected Copernicus' theory: Kepler showed that the planets moved not in circles, as stated by Copernicus, but ellipses; Newton formulated the laws under which the planets moved;

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Galileo made important contributions; and some of the remaining riddles were solved by Einstein. Perhaps more than any of these, however, Copernicus' book revolutionized man's outlook upon the universe, and shook the foundations of philosophy and religion.

The next great figure is Sir Isaac Newton, whose *Philosophiae Naturalis Principia Mathematica* came out in 1687. One authority has commented that Newton's "laws of physics are employed in the design of every motor car, every airplane, every Diesel locomotive, every safe railway bridge."

Newton conceived his two greatest contributions to physics and mathematics in the 1660's, as a young man in his mid-twenties. These were the principles of gravitation and the differential calculus. It was not until about twenty years later that his great treatise on physical science was given to the world.

Within two years after graduation from Cambridge University, Newton made three great scientific discoveries, each of which would have entitled him to a distinguished place in the history of science. First was the mathematical method known today as the differential calculus, which forms the basis of modern mathematics, and is the chief instrument by which problems in theoretical physical science are now solved. The second was the law of the composition of light, which led Newton on to the study of the nature of color, the character of white light, and an explanation of the rainbow. The third, and most famous discovery was the law of universal gravitation, which is said to have stirred the imaginations of scientists more than any theoretical discovery of modern times, with the possible exception of the Copernican system. According to a well-known story, Newton arrived at the law of universal gravitation by observing an apple falling from a tree, and from a contemporary biographer who knew Newton, there seems to be an actual basis for the tale.

The three volumes of the *Principia* were produced in a period of about seventeen months, an incredible achievement, during which it is reported that Newton was so engrossed he often went without food and took very little time to sleep. He probably would not have written or published his monumental work except for the urging of his friend Edmund Halley, the astronomer, and a promise made to the Royal Society. The work was finally issued in a small edition in 1687, bearing the imprimatur of the learned diarist, Samuel Pepys, as President of the Royal Society. Newton himself became president of the Royal Society in 1708, remaining in that position until his death in 1727, at the ripe age of 85.

Jumping now in this progression from the seventeenth to the twentieth century, brings us to Albert Einstein, who has been called "the godfather of the atomic age."

In 1905, while serving as an obscure official in the Swiss patent office, Einstein published a paper entitled "On the Electrodynamics of Moving Bodies," in which he set forth the special theory of relativity. This theory

challenged man's existing concepts of time and space, of matter and energy, and has since profoundly affected science and philosophy. In a second article on relativity, published the same year, Einstein developed a new equation for the conversion of mass into energy. The equation reads: multiply a mass by the speed of light and again by the speed of light, and you have its enormous potential field of energy. As one physicist commented, "Without that equation experimenters might still have stumbled upon the fission of uranium, but it is doubtful if they would have realized its significance in terms of energy, or of bombs. . . Influence is a weak word for the work of Albert Einstein. The theories he advanced were revolutionary. In them was born the atomic age."

Einstein's first comprehensive book on relativity was published in Germany in 1915, and this is therefore the work listed for him.

Turning from the physical to the biological or "life" sciences, the first name chronologically is William Harvey, author of *Essay on the Motion of the Heart and Blood*, 1628, a seventy-two page book published in Latin in Frankfurt, Germany. In this treatise was described for the first time the discovery of the circulation of the blood. Harvey exerted a greater influence perhaps upon modern medicine than any other individual, because of his use of experimental methods.

For more than a thousand years before Harvey, no substantial contribution to man's knowledge of blood circulation had been made. Aristotle had taught that blood originated in the liver, went from there to the heart, and then through the body to the veins. Others of the time taught that the arteries carried a subtle kind of air or spirits. Galen in the second century, A. D., discovered that the arteries carried blood, not air, but for centuries after him physicians believed that a spirit of some sort had a part in the blood system, perhaps animating the heart

After graduating from Cambridge, Harvey took a medical degree in Italy, and returned to England to become personal physician to James I, and later Charles I. By nature, he was more of an experimenter than a practitioner of medicine. He dissected and watched for evidences of circulation in dogs, pigs, serpents, frogs, fishes, oysters, lobsters, shrimps, and even insects. By the time he published his theory, it was well known to his contemporaries through his lectures, and already widely accepted, though it naturally met with conservative opposition at first.

Skipping a little over two centuries, we come to another great biologist, Charles Darwin, and another book that shook the world, *The Origin of Species*. Darwin's career was profoundly influenced by his five-year voyage as naturalist on the *Beagle*, 1831-1836. He came back to England full of thoughts on evolution, which he had gained from a study of South American fossils, Galapagos birds, and from the general knowledge of the complex inter-dependence of all living things which he had picked up in wander-

ings. He began, as a result, his first notebook on evolution, the beginning of *The Origin of Species*. The first rough draft of his theory was written out in thirty-five pages in 1842, and this was enlarged to a fuller sketch of 230 pages in 1844. From 1844. to 1858 when Darwin began to write *The Origin of Species*, he read enormously, going over whole series of periodicals, books of travel, sport, general natural history, horticulture, and the breeding of animals. He prepared skeletons of many kinds of domesticated birds, comparing the age and weight of their bones with those of the wild species. He kept tame pigeons and made laborious crossing experiments. Extensive correspondence was carried on with other scientists on the transport of seed, geological questions, geographical distribution, and many other points. Finally, the book came out in 1859 in an edition of 1250 copies, all of which were sold on the day of publication. A second edition of 3000 copies came off the press about two months later.

Darwin's thesis had an explosive effect on scientists, clergy, and laymen the world over. It has had a penetrating influence on our whole contemporary world, not only in the biological sciences, but in nearly every other discipline, particularly psychology, religion, sociology, political science, and education, and to a considerable degree the physical sciences.

The third and last of the great biologists is Sigmund Freud, founder of psychoanalysis. Freud, a Viennese, set out to become a medical doctor, and was engaged at first in the practice of neurology and pediatrics. He became interested in clinical psychology, especially in hypnosis as a means of treating hysteria and reviving hidden memories. Later, about 1894, he replaced hypnotism by the method of "free association", which is the core of the psychoanalytic method. He investigated various types of psychoneuroses, particularly the influence of the subconscious upon consciousness, the interpretation of dreams, the existence and importance of infantile sexuality, and repressed complexes. Freud developed an elaborate array of concepts, terms, and dogmas which constitute psychoanalytic theory.

The book which placed Freud and psychoanalysis on the map originated in the United States. In 1909, Freud received an invitation to be the honored guest at the twentieth anniversary of the founding of Clark University, and to deliver a series of lectures there. Present on that notable occasion were the greatest psychologists of the time from Europe and America. Freud's five lectures were at once translated into English, and subsequently published in many other languages. Literally millions of copies have sold of this Freudian product on American soil, *Introductory Lectures on Psychoanalysis*.

Freud's influence is difficult to weigh, but it may not be too much to say that he changed our whole outlook on civilization. The prejudices which he had to surmount in order to spread his gospel are more intense

than even Copernicus and Darwin had to contend with. Nevertheless, psychoanalytic principles are now widely accepted in medicine, psychiatry, and psychology, as well as by millions of the lay public, including Hollywood, the novelists, and the playwrights.

Proceeding now to social science books whose impact has been similar in force to those named for the sciences, a chronological approach is perhaps as logical as any. The first title, then, would be Niccolo Machiavelli's *The Prince*, printed in 1523, certainly one of the great books of all time. As one commentator suggested, "So much observation on the facts of political life has never been compressed in so small a package by anyone else." *The Prince* has been the treasured handbook of those who have aspired to tyrannical rule. It was the favorite nightcap of Louis XIV, and guided the career of Frederick the Great. A carefully annotated copy of it was found in Napoleon's coach at Waterloo. Statesmen of the Talleyrand-Metternich-Bismarck type have always followed the Machiavelli code. Mussolini claimed Machiavelli as his spiritual ancestor. These are a few of many influenced by Machiavelli's work.

Machiavelli was a minor official in Renaissance Florence, who learned politics by first-hand observation as a secretary and ambassador. He was sent as envoy to Cesare Borgia. Machiavelli was charmed by Cesare's combination of political audacity, prudence, cruelty, fraud, firmness, and flexibility. In *The Prince*, Machiavelli idealized Cesare's political character, seeing in him the strong man who might some day unite Italy.

The Prince was written after Machiavelli lost his government job, and records what he had learned about realistic politics. He analyzed how power is won, lost, retained, consolidated, transformed, and what it is that moves men to obey, fight, betray, and revolt. Taking the Medici in Florence, the Borgias in Rome, and the King of France as examples, he was the first to understand that the main purpose of politics is success. Machiavelli assumed that man is a political animal and will behave like an animal. Necessity overrules ethics. Machiavelli was almost inhumanly detached and unemotional. He believed that fair dealing may be too costly a luxury for a ruler. Over and over again he had seen chicanery beat clumsy honesty, and the experience impressed him. Nevertheless, Machiavelli did not assert that the state ought to be immoral. What he taught was that the state had nothing to do with morality. He wished to separate politics from ethics. He believed in a strong state, and a well-trained governing *elite*, stressed war and militarism. All these things entitle Machiavelli to be called not only the father of power politics, but also the father of the martial spirit, of the propaganda technique, and of the totalitarian state. His writings are generally accepted today as the greatest expositions of the realistic tradition of political theory. That is why *The Prince* has been a best seller for over 400 years.

Next in order is Adam Smith, with his *The Wealth of Nations*, in 1776. In this work, Smith produced one of the most hard-headed, fact-füled, and influential books about business ever written. It has made him the patron saint of free enterprise and a businessman's hero, considered by many to be the founder of modern capitalism. Buckle in his *History of Civilization* doubtless exaggerated in calling *The Wealth of Nations* "in its ultimate results probably the most important book that has ever been written." But even Max Lerner, who is unfriendly to Smith's doctrines, conceded that, "It has done as much perhaps as any modern book thus far to shape the whole landscape of life as we live it today."

Smith may have begun work on his *magnum opus* as early as 1750, but it matured slowly, and was not published until 1776. A work of 380,000 words, readable but discursive, it discussed everything from history to money and taxes, the state of education, and the agricultural practices of the Romans, plus contemporary economic problems. Essentially, the book was a rebellion against the established economic order of Smith's day. His sympathies were with the workers and farmers. He argued against the mercantilist notion that a nation's wealth consists of gold and silver, and for the idea that a nation's real wealth is the consumable goods it produces. He was against tariffs, export subsidies, and so-called "favorable balances of trade." Instead, he favored free competition and a free market, with as little governmental interference as possible, high wages for workers, and other ideas which we would classify today as "enlightened capitalism."

The enormous, world-wide prestige of *The Wealth of Nations* did not come for some years after its publication, when Britain had become industrially revolutionized in the nineteenth century, and by following Smith's precepts, became, for a time, the world's richest nation.

Published in the same year as Smith's *Wealth of Nations* was another title on my list, but of a very different nature. This was Thomas Paine's *Common Sense*.

The revolutionary political pamphleteer and agitator, Thomas Paine, was born in England, and did not come to America until 1774, when he was thirty-seven years of age. In England, he had followed a variety of occupations: privateer, corset maker, exciseman, school teacher, tobaccoist, and grocer. He had done little writing in England, but in America took naturally to journalism.

A little over a year after his arrival, on January 10, 1776, Paine published an anonymous pamphlet of forty-seven pages, priced at two shillings, and entitled *Common Sense*. It urged an immediate declaration of independence, not merely as a striking political gesture that would help to unite the colonies and secure French and Spanish aid, but as the fulfillment of America's moral obligation to the world. Paine argued that the colonies must break with Britain eventually, in any case, because, as he put it, "a

colony could not remain tied to an island." In this little book, Paine may be said to have discovered America's mission. His political ideology was close to Thomas Jefferson's, though he insisted on the need for a strong federal union as opposed to too much state sovereignty.

The success of *Common Sense* was amazing. In less than three months, 120,000 copies were sold, and in all about half a million, a large total in relation to the population of the colonies.

As one discerning commentator, Crane Brinton, pointed out, "Conceivably the United States of America might have become a free nation had *Common Sense* never been written. But even those who see history determined by economic and other physical, concrete forces can hardly deny that *Common Sense* helped to humanize and to concentrate such forces."

Next on our list is another American, a striking contrast to the firebrand, Thomas Paine, but similar in his effect. This is Henry Thoreau. During the summer of 1845, Thoreau was arrested for non-payment of poll tax. He was protesting against slavery and chose "civil disobedience" as a form of protest. He spent one night in jail, the tax, to his disgust, being paid by one of his aunts. Thoreau told the story of his jailing in his essay "On the Duty of Civil Disobedience," published in 1849. He quoted Jefferson's statement, "that government is best which governs least," and carried it further by declaring, "that government is best which governs not at all." What Thoreau actually meant was that the citizen's duty is to resist evil in the state even to the point of open and deliberate disobedience to it. Thoreau was an individualist rather than an anarchist. His essential thesis was: The state was made for man and not man for the state.

Now we come to the next chapter in the story. During the period when Mahatma Gandhi spent in South Africa, 1893-1914, he encountered problems of racialism, imperialism, and nationalism. While in South Africa, he read Thoreau's essay on "Civil Disobedience." and it made a profound impression on him. Under its inspiration, he used South Africa as a laboratory for the development of a new weapon — the weapon of non-violent resistance in the struggle of a handful of Hindese against the might of the British Empire and the government of South Africa. Later, the same weapon was used by Gandhi in India, a campaign which ended by India gaining her independence from Britain.

Gandhi was also greatly influenced by Thoreau's ideas on the simple way of life and anti-industrialism. The spinning wheel, the emblem of non-violent resistance in India, had both political and sentimental significance for Gandhi.

Another relentless enemy of slavery threw her bombshell about three years after Thoreau's, when Harriet Beecher Stowe's *Uncle Tom's Cabin* appeared. Harriet was the daughter of Lyman Beecher, pastor of the Congregational Church, who moved to Cincinnati to become head of the Lane

Theological Seminary. There Harriet married Calvin Ellis Stowe, Professor of Biblical Literature. The Seminary was a hotbed of anti-slavery sentiment and abolitionism, but apparently Harriet's only first-hand contact with slavery was on a visit she paid to a Kentucky plantation, where she saw the life of the slaves in their cabins.

It was not until her return to New England in 1850, during discussions over the Fugitive Slave Law, that Mrs. Stowe's anti-slavery feelings became intense. She began work on a book, *Uncle Tom's Cabin or Life Among the Lowly*, first published as a serial, 1851-52, in the the *National Era*, an anti-slavery paper of Washington, D. C. In 1852, it was brought out in two volumes, with a woodcut of a Negro cabin as the frontispiece. About 10,000 copies were sold in less than a week, and by the end of the year 300,000 copies. It was pirated in England, where sales of 1,500,000 copies were reported. It was translated immediately into a score of languages.

The hero of *Uncle Tom's Cabin* is a colored man, a slave, who passed from the ownership of a Kentucky planter to that of a New Orleans gentleman, and finally to that of a cotton planter on the Red River. The third owner, Simon Legree, who caused Uncle Tom's death, is a historic villain.

Uncle Tom's Cabin served as a match which lighted a fuse leading to a powder keg. The success of the book depended upon its timeliness. Accusations of unfairness and inaccuracy were made against Mrs. Stowe, but the violent feelings aroused helped to create the atmosphere for civil war. *Uncle Tom's Cabin* brought the slavery system home to, and stirred the emotions of multitudes of people who had never read a political speech or heard a serious debate on any subject. Though exact figures are not available, it seems certain that as a best seller *Uncle Tom* in the century since it first made its appearance has outstripped any work of American fiction, and possibly any work of fiction in any language.

Shortly after the end of the great Civil War, which Mrs. Stowe's book helped to precipitate, another world-shaking book made its appearance, in Germany. In the year 1867 was published the first portion of Karl Marx's *Das Kapital*. Other parts were issued in 1885 and 1894. Marx-social philosopher, revolutionary leader, and founder of the chief current in modern socialism - originally planned an academic career, but later turned to journalism. After the suppression of the *Rheinische Zeitung* on which he was employed, Marx went to Paris in 1844 to study economics. Expelled from France, he went to Brussels to continue his studies until 1848, returned to Germany for a brief period of revolutionary activity, and finally to London in 1849, where he remained until his death in 1883, living with his family in dire poverty.

Beginning in 1844 and continuing for about twenty years, Marx engaged in writing an enormous work intended to cover the entire field of economics. The manuscript was never published in its original form, but

a less comprehensive book, *Das Kapital*, was issued by Marx in 1867. *Das Kapital* is Marx's description and analysis of the capitalist system as he found it in nineteenth-century England. The chief arguments offered by the book are that: (1) Most of the world's troubles have sprung from the exploitation of class by class; (2) The ascendancy of the working class would abolish classes by making every man a producer; and (3) Abolition of private property in the means of production would mean that no one would have anything to exploit anybody with. *Das Kapital* is full of involved economic and metaphysical abstractions that make it hard going in spots, as is true of most Communist literature, with its exposition of dialectical materialism, etc.

Marx is generally recognized as the intellectual father of the Soviet regime and as perhaps the most influential political economist of the past century, if not of all time. Today he is a sort of demigod to Communists throughout the world; to them, his doctrines, as interpreted by Lenin and Stalin, are an official gospel with the force of a religion.

A little more than two decades go by, until we reach another high water mark in the world of books, and I use the term "water mark" advisedly, for the book is Admiral Alfred William Mahan's *The Influence of Sea Power Upon History*. Admiral Mahan was called to lecture on tactics and naval history at the newly-established War College in Newport in 1886, after twenty-seven years experience as a United States naval officer. In 1890 the lectures were published under the title *The Influence of Sea Power Upon History, 1660-1783*. This celebrated book contains the essence on Mahan's teachings, the first 100 pages tracing rapidly the rise and decline of the great maritime nations, and pointing out the elements constituting a nation's sea power, while the remainder treats in detail, over the period indicated, the inter-relation of naval and political history.

The book won immediate recognition, though far greater in Europe than in America. It offered perfect propaganda for the naval expansion already under way in Great Britain, Germany and the United States. Kaiser Wilhelm II was so fascinated by the work that he had copies placed in all ships of the German Navy, and Britain accepted it as "the gospel of England's greatness." Mahan has rightly been called "the first philosopher of sea power." *The Influence of Sea Power* and his later writings were translated into many languages, and were nowhere more assiduously studied than in Japan. By encouraging rapid naval expansion and armament races, Mahan helped to promote the philosophy of big navies, leading to World War I. He has many followers today, as is shown, for example, by the Russians' great fleet of submarines, though naval power is having to make way to some extent for air power.

An exponent of land power as opposed to sea power is our next candidate for the hall of fame: Sir Halford Mackinder, author of a little book

entitled *The Geographic Pivot of History*, 1904. Mackinder was a British geographer, who warned statesmen that the power which controlled the great inner reaches of Eurasia — a spacenow roughly synonymous with Soviet Russia — could one day rule the world. His argument ended with the oft-repeated warning: Who rules East Europe commands the Heartland; who rules the Heartland commands the World Island; who rules the World Island commands the world.

This formula was Mackinder's way of expressing a basic geographic conception: the three continents, Europe, Asia, and Africa, constitute the great central land mass of the earth, a mammoth island set in oceans which of themselves cover some seventy-five percent of the surface of the earth. The minor land units — the Western Hemisphere, Australia, etc. — are appendages, as it were, supplemental to this World Island of the Eastern Hemisphere. The key to the World Island, Mackinder maintained, was the inner area which extends roughly from the Himalayas to the Arctic Ocean, and from the Volga to the Yangtze, stretching 2500 miles north and south, another 2500 miles east and west. Invulnerable to sea power because of its inland position, this Heartland could, if properly developed and organized militarily, become the seat and pivot of effective world power.

Mackinder's theories were extremely influential in the Germany of Hitler's day and before, and in present-day Soviet Russia. His writings were swallowed with little change by Karl Haushofer in his geopolitical writings and research for Nazi Germany, and substantially influenced Hitler in his plans to conquer Russia. As for the Soviet Union, Russia has long been interested in geopolitics and has a geopolitical institute. Moscow's institute for "World Economy and Politics" concerns itself with the conflict between the United States and what Mackinder called the "World Island" which Russia hopes to dominate.

There follows logically the final book on the list: Adolf Hitler's *Mein Kampf*, first published in two volumes, 1925-27, which however much we may dislike it, has to be acknowledged as a powerfully influential work. Hitler wrote his inflammatory testament from 1924 to 1926, in 781 ranting pages. It has been called "The anatomy of megalomania," but whether or not it made sense, it became the philosophy of millions of people. In 1939 alone, 5,000,000 copies were sold in Germany. It is a spoken rather than a written book; the first half was dictated to his secretary while Hitler was a prisoner at the Landsberg fortress, after the 1923 "Beerhall Putsch."

The underlying idea in *Mein Kampf* is blood and race, His anti-Semitism and anti-Marxism grew out of his theories of racism. Doubtless the most significant contribution to political science in the book deals with power—how to capture, extend, and consolidate power— a theme which, of course, obsessed Machiavelli several centuries earlier. Hitler has been

called "probably the greatest master of propaganda and organization in modern history. To find his equal one must go back to Loyola and the Jesuits." Hitler studied the propaganda techniques of the Marxists, the organization and methods of the Catholic Church, British propaganda of the first World War, American advertising techniques, and Freudian psychology to perfect his own understanding of the propaganda art. All the principles of psychological warfare are there.

In his book, Hitler divides men into leaders and the herd. According to his theory, "only a fraction of mankind is energetic and bold." The rest are cowards and dupes. Therefore, human material must be divided into two great groups: followers and members. The followers are the mass, the mass, the members are the ruthless, disciplined group who will stop at nothing in the struggle for power. Great emphasis is placed on state control of education, in order to train tools for the state.

It is the world's misfortune that Hitler's ideas did not expire with him. They still have many adherents in Germany, the Communist governments have borrowed and are making extensive use of them, and dictators are likely to continue to find primary source material for their evil purposes in *Mein Kampf*. If free, democratic nations are to combat these ideas successfully, we must understand them, and be prepared to use them against our enemies on occasion.

As one reviews these fifteen dynamite-laden books, there is always a question present: Did the times make the book, or vice versa, i. e., was a particular book influential chiefly because the period was ripe for it? Would the book have been equally significant in another era, or could it even have been written at any other date? It is impossible to escape the conclusion in nearly every instance that the times produced the book. In some other historical epoch, the work would either not have been produced at all, or if it had appeared would have attracted little attention.

Examples are on every hand, Machiavelli's *The Prince* was written for the express purpose of freeing his beloved Italy from foreign aggression. England was ready for a vast expansion of her commercial and industrial economy when Adam Smith was writing *The Wealth of Nations*. Thomas Paine's *Common Sense* triggered the American Revolution, already primed for explosion; and Harriet Beecher Stowe's *Uncle Tom's Cabin* did likewise for the Civil War. Except for dreadful conditions prevailing in European industry, especially the English factory system, in the mid-nineteenth century, Karl Marx would have lacked ammunition for *Das Kapital*. Inauguration of a naval race among world powers after 1890 was inspired by Admiral Mahan's *Influence of Sea Power*, but the pressure for expansion and imperialistic adventure already existed. Adolf Hitler might well have remained an unknown Austrian house painter except for the chaos in Germany following World War I.

On the other hand, like slow fuses, there are books which did not make their full impact until years after their initial publication. Adam Smith and Karl Marx, to illustrate, were dead when the importance of their books was perceived. Thoreau had been gone half a century when his doctrine of civil disobedience was applied by Mahatma Gandhi in India and South Africa. Not until the rise of the German school of Geopoliticians under Haushofer's direction did Mackinder's theories, formulated years before, receive the notice they deserved. These are among names of pioneering thinkers who knew the disappointment of having their first editions go begging.

Also a recurring question in the back of one's mind, while pondering the select roll, is this: how can influence be measured? As previously indicated, the aim always has been to choose books whose effects can be judged in terms of concrete results or actions. That is, they must have demonstrated a direct connection with certain courses of events. Frequently, the books were attempting to find solutions to problems in a particular field at some particular period. Dealing as they do, therefore, with timely and topical matters, such books inevitably tend to date more rapidly than the great works of religion, philosophy, or literature.

Specifically as to means of estimating extent of influence, a well-nigh infallible index is the strength of contemporary sentiment, pro and con. If a book stirs up violent opposition and equally partisan feeling in support of its point of view, the probabilities are that it has deeply affected the thinking of the people. Official censorship and other efforts at suppression are also indicative of its reception. Insight into these attitudes is provided by such sources as contemporary newspapers, controversial pamphlet literature, accounts of historians, and biographical studies. The crucial test is whether or not the theories, programs or ideas advocated eventually win acceptance, cross international borders, are translated into other languages, cause disciples, imitators, and rivals to rise, and are gradually incorporated into the lives and thoughts of peoples and nations.

A curious manifestation of fame is the creation of new terms drawn from an individual to describe a particular concept or pattern of thought. Thus there have been added to everyday vocabulary such words as Machiavellian, Copernican, Newtonian, Malthusian, Freudian, Darwinism, Marxism, and Hitlerism, each connoting a definite set of ideas, and attesting to the fame or infamy—depending upon the point of view—of the prototype. A well-known instance of this kind of invention in our own time is McCarthyism.

In view of the extreme difficulty as to readability of perhaps a majority of titles on the select list, it could logically be asked: How could these works exert influence on any except a narrow band of specialists? Certainly few laymen could comprehend and follow with ease the original Latin

texts of Copernicus, Harvey, and Newton, or Einstein's theories in any language. Only the trained social scientist will be able to appreciate fully the often tortuous reasoning of an Adam Smith or a Marx, while a biological background enriches the understanding of a Harvey, Darwin, or Freud. The answer to the question is that the mass of people obtain ideas second-hand, predigested, by way of a filtering-down process, through such media as popularizations in books, magazines and newspapers, classroom lessons, public lectures, and, more recently, radio, television, and motion pictures. Except for *Common Sense*, *Uncle Tom's Cabin*, and *Mein Kampf*, none of the fifteen select titles was a best seller in its own time, if ever. Their influence, accordingly, has resulted from interpretation by experts. Oftentimes, applications to daily living are made without the conscious knowledge of people generally, as, for example, the mechanistic discoveries of Newton, or Einstein's theories in relation to nuclear fission and atomic energy.

Reviewed chronologically, the most striking single impression made by the fifteen books is the continuity of knowledge—the connecting threads which tie them together. Truly, as Hutchins phrased it, there is in progress here "The Great Conversation." Copernicus received inspiration from the ancient Greek philosophers. Newton, in turn, "stood on the shoulders of giants"—Copernicus, Galileu, Kepler, and others. Without them, an Einstein might never have existed. Darwin freely acknowledged his debt to a host of preceding biologists, geographers, and geologists, on whose work he built in developing the theory of the origin of species. The experimental laboratory approach to science, as opposed to the strictly philosophical, may be said to have begun with Copernicus and to have been practiced by all his great successors, including Harvey, Newton, Darwin, and Freud.

The passion for freedom, conceivably an age-old obsession with man, is exemplified by the stirring pleas of Machiavelli, Adam Smith, Paine, Thoreau, and Stowe. Karl Marx drew heavily on classical English economists, especially Adam Smith, Malthus, and Ricardo, and tried to pattern his work on Darwin's. Mahan's *Influence of Sea Power Upon History* was essentially a secondary work, utilizing as sources the writings of earlier naval, military, and general historians.

While not accepting some of Mahan's conclusions, Mackinder and later geopoliticians found his ideas provocative and stimulating. Consciously or unconsciously, Hitler's *Mein Kampf* derived much from Machiavelli, Darwin, Marx, Mahan, Mackinder, and Freud.

Certain additional comments might be made on the present selection of books and authors. Has the natural tendency, for example, to emphasize one's own country or language been avoided? Probably not. The list includes four Americans: Paine, Thoreau, Stowe, and Mahan; and five Bri-

Another point open to criticism is the definition of a book. What is a book? Should it be judged by size alone? The thought is preposterous. Nevertheless, strictly defined, Thomas Paine's *Common Sense*, Thoreau's *Civil Disobedience*, Mackinder's *Geographic Pivot of History*, and the original statement of Einstein's *Special Theory of Relativity* are no more than pamphlets. The last three, in fact, first appeared as periodical articles. What a contrast these offer to heavy tomes like the *Principia Mathematica*, *The Wealth of Nations*, *Das Kapital*, and *Mein Kampf*. Voltaire is quoted as having said that the big books are never the ones to set a nation on fire; "it is always the little books, packed with emotions, aflame with passion, that do the business" - a quotation that would apply to Paine and Thoreau, but not Mackinder and Einstein. Actually, for the present list, size is virtually without significance.

A related point is the length of time spent in writing - short or long. The record, apparently, was set by Copernicus, whose *De Revolutionibus* was more than thirty years in the making, though the author was certainly not continuously engaged in its production. Who would be willing to say that the Copernican treatise is a more profound work than Newton's *Principia Mathematica*, which was completed in an eighteen-month period? By a curious coincidence, Adam Smith's *Wealth of Nations*, Darwin's *Origin of Species*, and Marx's *Das Kapital* were each seventeen years in the writing. At the other end of the scale, Machiavelli's *Prince* was turned out in six months, and Paine's *Common Sense* in perhaps three or four months.

The wide variations in writing periods may be attributed to several factors. Individual personalities account for some of the differences. Scientists like Copernicus, Newton, Harvey, and Darwin refused to rush into print until their findings had been thoroughly verified and subjected to stringent laboratory tests. Even after the most careful checking, they hesitated to publish, because of fear of controversy, potential censorship, their desire for absolute perfection, possible criticism by fellow-scientists, dislike of publicity, or like reasons. The economic treatises of Smith and Marx involved the time-consuming assembling of an enormous mass of data, with neither author being willing to go to press until his work had been revised over and over again. On the other hand, such impetuous fellows as Machiavelli, Paine, and Thoreau had urgent messages to deliver without delay.

Perhaps connected with the question of writing time is the fact that a majority of the fifteen selected authors are known principally for a single book. With few exceptions, the fame of each rests upon one title and all else is forgotten. Harvey, Newton, Smith, Marx, Stowe, and Einstein wrote further books—in some cases were prolific authors—but who save a few specialists could name them? Paine, Thoreau, Darwin, and Freud are exceptions to the rule, for their fertile pens produced other books that are in some as celebrated as those here listed.

tish representatives: Harvey, Newton, Smith, Darwin, and Mackinder. In the remainder are three Germans (Marx, Einstein, Hitler), an Italian (Machiavelli), a Pole (Copernicus), and an Austrian (Freud). Of the six Continental European names, three are Jewish. If a Chinese, a Frenchman, or a Russian were making the list, no doubt there would be biases in other directions.

A few biographical notes may be revelatory of certain additional aspects of the authors' characters and personalities. Does marital status, for example, have an important bearing on the creation of a masterpiece? Copernicus was a monk. Also unmarried were Newton, Smith, Thoreau, and Hitler. Harvey, Mahan, Mackinder, and Paine were married, but childless, and Paine's two marriages turned out disastrously. Einstein had two children and was married twice. Several others—Machiavelli, Darwin, Stowe, Marx, and Freud—were not only devoted spouses but producers of large families. Again, one would hesitate to draw any inferences from these facts.

It might be supposed that age and maturity would be almost essential ingredients in the author of a great book. What import did they actually have for the select fifteen? When their first editions came from the presses, the oldest of the lot, Copernicus was 70, and the most youthful, Einstein, was about 26. One (Thoreau) was in his early thirties, and two others (Paine and Hitler) in their late thirties. The ten-year period from age 44 to 54 was most fruitful of all, for coming within that range were, from youngest to oldest, Machiavelli, Freud, Newton, Marx, Mahan, Darwin, Harvey, and Smith. Stowe and Mackinder were in their beginning forties.

By way of summary, certain characteristics shared by a majority of the authors stand out. Omitting the scientists in the group, for whom the whom the comments are less pertinent, the books included were written by non-conformists, radicals, fanatics, revolutionists, and agitators. Often, they are badly-written books lacking in literary style. The secret of their success, to repeat, was that the times were ready for them. The books carried messages, frequently of a highly emotional nature, appealing to millions of people. Sometimes the influence was beneficent and sometimes evil; clearly books can be forces for both good and had. The intention here, in any case, is not to measure moral values, but instead to demonstrate that books are dynamic and powerful instruments, tools, or weapons.