

A history of knowledge by charles van doren



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Author to Reader: Part 1 Progress in Knowledge Universal History-progress of knowledge can never cease as long as man is man>-just because we know about topics such as 'revolutionary ideas of governance' and 'human excellence' through the past, doesn't mean it's inevitable for us to have a 'just government system' or be 'better human beings'-universal history deals with the accomplishments and the failures of the race as a whole> universal history is NOT a chronology of every discovery and invention ever made> the more clearly we see how knowledge has changed and grown in the past, the more accurately we can predict the future

Author to Reader: Part 2 Knowledge of Particulars General Knowledge Certain Knowledge Knowledge and Happiness-the knowledge of a primitive man includes the particulars that most animals (dogs, cats, foxes, mice, etc) know> they know where they are, understand timing, where to get food and protection, where the best shelter is-animals know particulars (a squirrel has a nest in that tree)-humans know particulars AND have general knowledge (all living things are born and also die)-therefore animals and the primitive man are "dumb", while human beings are "conscious"-two types of our general knowledge are characterized by certainty> self-evident propositions (a finite whole is greater than any of its parts) (a thing cannot both be and not be at the same time and in the same respect)> faith (—the certainty in mathematics is the certainty we put there—the notion that the world must be what we believe it to be because we believe it to be that way, brings both comfort and discomfort-knowledge does not always bring happiness> ignorance is bliss as long as you remain ignorant—once you know you are ignorant, you can't stop the thirst for knowledge, and humans can become unhappy from this

Chapter 1: Wisdom of the Ancients 3000 BC:-humans learned how to

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survive and cultivate nature, and humans made man-made tools, systems, and products-new ways of killing and torturing, which were used to rule large populations-everywhere, a state of war existed, between one people and another, as well as between a ruler and his people-enemies (such as the saber-toothed tiger & mammoth) of humans became extinct, domesticated, or denominated as "game"-the exploitation of the animal and vegetable kingdoms was justified by divine decree (Adam and Eve story)-in kingdoms where the strong ruled the weak, rulers and priests worked together, so laws of force, although possibly cruel, were also "divine", so they were also right

-Egypt:> change is bad-India:> caste system-Chinese:> birth doesn't mean anything, but knowledge does*Literacy controls business*The idea of social equality is inherently revolutionary (influenced through religious figures like Jesus, Confucius, Buddha, and Muhammad)-Greeks first to create a complete alphabet-Babylonians and Egyptians first to understand what zero is

Chapter 2: The Greek Explosion-Thales:> the world changes, but there must be a primary element(s) that don't change (the universe can be comprehensible to humans)-Pythagoras:> real world is intelligible in mathematical terms, discovery of Pythagorean theorem-Democritus [Laughing Philosopher]:> atoms and the void make up the universe-Socrates:> uninterested in scientific research> all humans are equal, but not all equally able to rule-Plato (Socrates's pupil):> Forms [not material, underlay matter]-Aristotle (Plato's pupil):> Matter [pure potentiality. Matter can't exist without Form, and vice versa]> science of logic>"real man" includes only Greek male aristocrats-Greece vs. Persia> Greece victors-Greek tragedians (play writers)-Stories of history were written (beginning,

middle, end)-organized knowledge:> only one truth> world just too complicated to know everything> education- curriculum> boom of science and math

Chapter 3: What the Romans Knew-Romans prefer their home, not adventure-Rome fell, Greeks won war (culture is preserved & used), although they lost the actual battles-What Greeks knew, Romans knew-Romans are practical-Common Law:> Twelve Tables.... The Code of Justinian- Knew about roads...improved communication-The Arch> temples, basilicas, bridges, and aqueducts-Lucretius:> epic poem, On the Nature of Things> brought philosophy down to human level-Cicero:> solution: always do the right thing, because the wrong is not advantageous in the long run> The Right Thing:~what is required by law~what is open, honest, and fair (keep your word, tell the truth, treat everyone alike)> near-universal belief [in the law] = both peace and freedom in a state-Seneca> kept great tradition of his Greek predecessors alive through philosophy and drama> guided the mad young man who would become ruler of the world-Tacitus> famous for novels: The Histories, and The Annals-What the Romans Did Not Know:> Roman science lagged> Rejected technological innovations> Rome cripples at its heart by a political disease, and barbarians cure it by wiping it out

Chapter 4: Light in the Dark Ages-The Fall of Rome> barbarians (Hsiung-nu...Huns, Goths—> Visigoths, Vandals, Ostrogoths,> absorbed into what is now western Europe-Post-Roman Europe:> Art, philosophy, and discussion ended> government didn't work> the roads weren't used> money lost, so they mostly bartered> focus on the protection of individual families-Dark Ages lasted for five hundred years (longest darkness in Europe)-The Triumph of Christianity: Constantine the Great-Constantine:> made Christianity the official language of the empire> founded Constantinople-The Promise of

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Christianity: Augustine> Romans accused Christians of a defeat> Augustine converted to Christianity~Write The City of God:*not an earthly city, but lives within the heart and soul of every true Christian*therefore cannot be conquered-After the Fall> Christians tried to build The City of God, instead of the Roman City of Man> New Romans*obsessed by health, diet, exercise, travel, news, entertainment, fame, and success*proud, greedy and vain> New Christians:*true wealth= poverty*tried to live a simple life and praise God

Chapter 5: The Middle Ages: The Great Experiment-Struggle for Sustenance:> 1) challenge is to survive> society became primitive-A World of Enemies:> 2) challenge is lives filled with danger> needed protection, but it was very expensive> feudalism-The Problem of God:> 3) challenge is interest in God> became obsessed with God-The Science of Theology:> peace and freedom from giving ourselves and will to God> rewards were in the discoveries, in the truth-Christians, Jews, and Muslims caught up in frenzy of theological study-Theocracy:> means God rules> For Christians, Pope created so they can say God rules-Leo III crowned Charlemagne in basilica of St. Peter's-Charlemagne gained legitimacy, the Pope claimed superiority over Emperor-Power swayed back and forth between Emperor and Pope*Pope leaves Rome to Avignon, loses some power over emperor forever-Monasticism:> Benedictine Order, Franciscans, and Dominicans> Middle Ages lost its best human beings in intelligence, imagination, and creativity to monasticism-The 8 crusades accomplished almost nothing*lives, treasure, and hope were lost

Chapter 5 continued: The Middle Ages: The Great Experiment-Christians feared the year 1000> passed without anything occurring> new millennium brings new inventions in farming, lifestyle, alchemy, trade, and commerce*even in new world, oldest questions about

faith, reason, the will of God, and nature of truth stayed-Dispute about Truth:> Boethius:*translated Aristotle from Greek to Latin~only translated Organon*while in prison wrote The Consolation of Philosophy*the truths of faith and of reason were the same> Pseudo-Dionysius:*" negative theology"*Creator cannot be understood in terms of his Creation*City of God couldn't be reduced to City of Man*the truth of faith only thing that matters, given to man by grace of God> Avicenna:*Muslim philosopher-scientist*wrote The Book of Healing, about philosophy and science*wrote Canon of Medicine, about medicine> Peter Abelard:*had a famous, fateful love affair*was castrated, but still taught and wrote books*reason over faith; Aristotle over Augustine> Bernard of Clairvaux:*loved God, it even affected his health*claims you can't comprehend God by human reason> Averroes:*Arabic philosopher and commentator (of Aristotle)*failed to raise philosophy to rightful place in Islam (too God-obsessed)*little or no effect on Islamic thought*people incorrectly thought there were two truths, one of God, and the other of nature> Thomas Aquinas:*very fat*doctrine of universals (Realists) (others were Normalists)*he was in-between (Modified Realist):~form and matter (soul and body)-Faith over Reason:> but in the end, reason wins, building a new City of Man-the middle ages ends in 1300> marked with The Divine Comedy> Renaissance begins> Dante's poem shows us a universe structured by reason and unified in heaven by faith coming together and working> middle ages is a failed experiment, along with theocracyChapter 6: What Was Reborn in the Renaissance?-Gothic Style comes to Europe-perspective in art-superficial stuff are more important than religion-revival of classical learning by Petrarch-harder to get people to read-Renaissance man doesn't exist by today's definition> but it's better to be "

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educated" in nearly all subjects rather than specialized in one specific subject-True Renaissance men:> Aristotle:*science, ethics, politics, rhetoric, poetics, physics, metaphysics> Leonardo da Vinci:*painting, anatomy, architecture, animals, angels, forces of nature (failed)*restlessness and force are the supreme principles of the cosmos> Pico della Mirandola:*Aristotelian philosophy, canon law, Hebrew, Aramaic, Arabic (failed)> Francis Bacon:*politician, scientific method** (failed)-Liberal Education:> taught 7 subjects:*grammar, rhetoric, logic, arithmetic, geometry, astronomy, and music-people specialized in one subject-the vernacular language used more for literary works instead of Latin-Montaigne sought to see himself as he truly was, which is both hard and crucial-Shakespeare:> created English dramaturgy>" created" the English language in his own way-Cervantes:> first a soldier, then a writer> famous for two characters in a book, which makes fun of medieval times-The Black Death:> death toll was high (worst epidemic)> spending spree with leftover money, property, and articles*manufacturing of rag paper> urge to read and study Greek and Roman texts expanded> printing press invented-Greek idea of the city-state did not die-Europe became nation-states-Religious Reform:> Erasmus:*philology (study of language)*translated New Testament> Thomas More:*lord of chancellor to Henry VIII*sentenced to death because of treason> Henry VIII:*married with Catherine, but no male heir, so tried to get a new wife, but Catherine has connections with a powerful king*had several more wives and killed them all when not bringing an heir, so eventually hated by everyone> Martin Luther:*founder of Protestantism*fomenter of Reformation*believed man is justified by faith*95 thesis, to which the Church opposed adamantly*whatever Jesus asks, he will do, and that faith is

personal-Protestants killed for their faith> Church had inquisition*many people died> John Locke:*you can't kill people and earn salvation-Renaissance concept:> man is the focus of human concern*man is responsible for its decisionsChapter 7: Europe Reaches Out-human population increases-Mongol leaders:> Genghis Khan:*unified Mongol tribes> The Great Khan Ogedei:*advanced to the west, but didn't reach Europe> Kublai Khan:*founded Yüan dynasty*reunited China> Timur Lang:*conquered a vast empire-Marco Polo:> adopted by Kublai Khan as an ambassador> suddenly China sealed itself off to foreign lands-Portuguese Prince Henry the Navigator suggested to go around Africa's southern tip, along with Diogo Cão and Bartolomeu Dias> Vasco de Gama:*reached India and conquered the spice trade-Columbus:> wanted to reach East Indies through the west> found the Americas instead> made America known to everyone-Ferdinand Magellan:> went around South America's southern tip, reached the Philippines, then died-Juan Sebastián Elcano brought one ship with spices back to Europe, therefore circling the world-Europe discovered the riches of North America-Portuguese brought slaves from Africa to found sugar plantations-gunpowder in China-> Arab guns-> European guns-Military strategy: more firepower, wins the war-Eastern mystery vs. Western military power-ideas dominated tradeChapter 8: The Invention of Scientific Method-Meaning of Science:> science will never understand the secret of life*science only tells us so much about life> mathematics is the language of science*math is used in science, but they are not the same> literary criticism (book review) isn't really scientific because it isn't predictive (whether you will like the book)*science isn't science unless you can predict how it is going to work under a circumstance> being bilingual doesn't mean

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you know anything about language*science isn't useful for ordinary people, unless it's your job> sooner or later, scientist will find a cure for AIDS*we put a lot of faith in science to solve the practical problems> I know the answer, but I can't explain it*science cannot be exclusively intuitive, but intuition is involved in some discoveries> Science and art have nothing in common*false, because there are similarities, but true, because they see what they do in different ways and do it for different reasons-3

Characteristics of Science: 1) science is practiced by special people with a specific view of the world2) science deals almost exclusively with things, not ideas or feelings3) science deals with whatever it deals with in a special way, employing special methods and a language for reporting results that is unique to it-Aristotelian Science:> Matter:*four elements: Earth, Water, Air, Fire*moon, sun, universe: Quintessence> Motion:*the natural state of all sublunary things is rest*two types of motion:~natural motion because an object seeks its proper place~unnatural/violent motion because it is the result of a force being applied to a thing-Galileo challenged Aristotle's theory of motion-Jean Buridan and Nicholas of Oresme are Parisian theologians came up with a certain 'impetus' theory of violent motion-Epicycles created to map out the planets' courses (incorrect)-Nicolaus Copernicus:> the earth did rotate once a day, and did revolve around the sun once a year-Tycho Brahe:> Danish astronomer who left all of his astronomical data including a nova-William Harvey:> discovered the way the heart works to pump blood through the arteries and veins of the body-William Gilbert:> discovered that the world is a magnet, due north-Kepler:> assistant to Tycho> planets moved freely in space> claimed no description of the world with the earth instead of the sun at the center would be accepted> 3 laws: 1) planets travel

around the sun in ellipses²) at a certain time, a planet will travel more quickly along its orbit when it is closer to the sun than when it's farther away³) asserted a mathematical relation between the periods of revolution of the planets and their distance from the sun

Chapter 8 continued: The Invention of Scientific Method-Galileo:> Roman Catholic> fixed telescope to make the best telescope of his time> surface of moon is not smooth> Jupiter had moons> sun's surface is inconsistent> therefore the Quintessence didn't exist, and all matter everywhere is similar*Robert Bellarmine, chief theologian of Roman Church, disagreed because it clashed with the Bible-Rene Descartes:>" I doubt; therefore I am"*apply math to physical problems> analytic geometry> Mathematics is at the root of everything> theology ceased to be interesting because math could not be applied-Isaac Barrow:> Newton's predecessor and teacher-Newton:> discovered binomial theorem> invented the differential and integral calculus> Newton's Laws: 1) an object stays in motion until stopped, and stays resting until moved²) Acceleration is produced when a force acts on a mass. The greater the mass (of the object being accelerated) the greater the amount of force needed (to accelerate the object). 3) to every action there is always opposed an equal reaction-Rules of Reason: 1) we are to admit no more causes of natural things than such are both true and sufficient to explain the appearances²) therefore to the same natural effects we must, as far as possible, assign the same causes³) the qualities of bodies which are found to belong to all bodies within the reach of our experiments, are to be esteemed the universal qualities of all bodies whatsoever⁴) hypothesis are not science-Galileo and Descartes deserve more credit for the 17th revolution

Chapter 9: An Age of Revolutions-more efficient machines-most important human invention: the factory-Adam

Smith:> wrote about pin factory-division of labor-18th century is the age of Reason and Revolution> believed in necessary progress-Oiver Cromwell:> lord protector of the commonwealth> wanted complete rule, and only men with property had a voice> John Locke (again):*government comes into existence because of property*property needs to be legitimate*there is a right to property, but only within reason*revolution is legitimate when the governor has become a tyrant-Americans and British problems> Edmund Burke sympathized with American colonists-Thomas Jefferson:> principles: 1) all men equal and have equal rights that can't be taken away2) governments instituted among men to secure these rights3) government is legitimate only so long as it continues to secure rights4) when government doesn't give rights, the people have the right to abolish it5) if the government has a long train of abuses and usurpations, it is the duty of the people to overthrow it (King of England at the time and those before him should be overthrown by America)-Reasons America won the war:> The distance between the countries> natives were better at fighting in the terrain than foreign mercenaries of Great Britain> France switched sides to aid colonists> Englishmen thought West Indies more valuable than America> America's rightness by English law-James Madison:> man has a right to his property, and equally has a property in his rights-French Revolution:> Voltaire, Rausseau, and Diderot, inspired people to attack the concept of tyranny> Jacobins promulgated a Declaration of the Rights of Man and of the Citizen> French Revolution ultimately failed:*British, Austria, Russia, and escaped French all attacked the revolution*Robespierre tried to purge France of non-revolutionaries*killed the enemy's wife*France found Napoleon Bonaparte, the best soldier in European history*Napoleon eventually crowned himself, <https://assignbuster.com/a-history-of-knowledge-by-charles-van-doren/>

wanting power*he was defeated by Duke of Wellington (most important battle)*France went back to the old ways-Alexis de Tocqueville:> believed progress toward equality was inevitable> accurately predicted totalitarianism> geniuses become more rare, and averages become more common-America first to allow religious freedom-Mozart attacked religious intolerance through Don Giovanni-Don Juan:> a legend> written by Tirso de Molina-Faust legend> by Johann Wolfgang Von Goethe-bargain with God hasn't worked, so only the Devil is left

Chapter 10: The Nineteenth Century: Prelude to Modernity-money is a modern thing in the sense that before the 1800's, no one cared that much for money-before 1800's> The Peasant:*life was work*worked for protection and food, not money> the lord:*worked for land, not money> the cleric:*worked to get more power in the church> the king:*worked for glory> The merchant:*sort of " worked" for money-famous economists:> Adam Smith, Malthus, Ricardo, J. Mill, J. S. Mill, George, and Keynes-Karl Max:> economist and historian> wrote the Communist Manifesto> partner is Friedrich Engels-the bourgeoisie inaugurated a permanent revolution the can't cease-life in the past is not easier than life today-steam power brought war and peace> a consequence: how to control this new power-Henry Adams> related to US presidents> obsessed with machinery-Hiram Stevens Maxim:> created the modern machine gun-Benjamin Franklin:> Lightning is Electricity-Allesandro Volta:> batteries-Sir Humphrey Davy:> Electricity could produce heat or light between two electrodes separated in space and connected by an arc-Hans Christian Ørsted:> An electric current created a magnetic field around a conductor-Michael Faraday:> A magnetic field induces a current in a moving conductor-James Clerk Maxwell:> electromagnetism-Thomas Alva Edison:> invented

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the phonograph> invented the lightbulb-Electricity is complex mathematics-Nicéphore Niepce:> first successful photograph*the camera catches us in the act of being human (shocking truth)-Mathew Brady:> photographed the Civil War-19th century greatest achievement: legally abolishing slavery-Walt Whitman and Herman Melville:> tried and failed to get recognition they wanted> Melville wrote Moby-Dick> Whitman is a poet-Charles Baudelaire:> French writer and also a possible psychopath-Gustave Flaubert, Emile Zola:> writers-Friedrich Nietzsche:> had a lonely life and died because he became ill with madness from being ignored-George Eliot:> female writer who lived in opposition-Thomas Hardy, and Oscar Wilde:> writers who tried to wake people up with their ideas-Charles Darwin:> evolution is the principle that underlies the development of all species and that man evolved from the apes-Sigmund Freud:> discovered the unconsciousness> sex is always underneath our conscious thoughtsChapter 11: The World in 1914-Economic Divisions: 1) industrial labor force surpassed the number of people in agriculture2) agriculture population twice as large as industrial force3) begun to industrialize but primarily preindustrial4) Third World Countries, depended on domestic handicrafts, artisanal work, and unskilled labor-Alfred Nobel:> created dynamite-there was a thirst for war-many European countries were colonizing Africa, except Germany> no more countries left to take, so war starts-The Boer War> British won-Thirty Years War:> World War I and II*Germany attacked France, which fought back with England. Russia also in the war and America and Japan.-Atomic bomb:> ended the war, destroyed Japan> started a new something with this amount of power-Humans were now cruel, and it was normal-Governments lied-Civilization stopped and people seemed to not want it back-Death intruded everyone's lives-Causes

of War: 1) Freud's explanation that men need war 2) Boredom-War started because enough people wanted it to

Chapter 12: The Twentieth Century: The Triumph of Democracy-Democracy:> government of laws, NOT men> all men are equal> government of the people, by the people, for the people-democracy is the only perfectly just form of government-Communism:> the idea is somewhat understandable and reasonable, but the practice has failed completely> Stalin-Totalitarianism:> only about power and "national honor"> Adolf Hitler*Fascism of Benito Mussolini might have taught Hitler something-Theocracy:> Islamic nations (Iran)-the state of nature:> no law other than the law of reason-the state of civil society:> constitution and prescriptions that forbid certain actions-United Nations:> Countries can veto being "sued"> live in a state of nature-racism, most serious diseases of the human species-Wendell Willkie:> ran against Franklin D. Roosevelt and lost> became US president's personal ambassador> "one world"*world organized for peace*communication and travel everywhere*not one single community of like and equal souls, but a crowd of better and worse, etc.

Chapter 13: The Twentieth Century: Science and Technology-atomic theory-Robert Hooke:> properties of matter could be understood in terms of motion and collision of atoms-Amadeo Avogadro:> modification to hypothesis (two parts)-Dmitry Mendeleev:> periodic table of elements-Albert Einstein:> Brownian Motion, the composition of light, Special Theory of Relativity, General Theory of Relativity> won Nobel Prize for Physics> $E = mc^2$ *atomic bomb-Gregor Mendel:> founder of the science of genetics-Watson and Crick:> described structure of DNA molecule-Abbé Georges Lemaître:> Primordial Atom-George Gamow:> The Big Bang Theory-Werner Heisenberg:> Uncertainty Principle-Kurt Gödel:> knowledge can never be certain-Neil Armstrong,

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Edwin Aldrin, Michael Collins:> 1st on the moon-Thor Heyerdahl:> saw garbage at sea-Digital and Analog Computers-Alan Turing:> Turing Machine:*founder of modern digital computing and artificial intelligence-medicine has increased life expectancy-Alexander Fleming:> penicillin (drugs)Chapter 14: The Twentieth Century: Art and Media-Marshall McLuhan:> The medium is the message1) oral tradition2) writing and print technology3) Electric media-Picasso and Braque> Cubists-Jack Pollock:> drip painting-Mark Rothko:> simplistic-The Bauhaus:> founded by Walter Gropius> artistic training and arts and crafts-Le Corbusier:> famous architect-William Butler Yeats:> poet who loved and hated Ireland-E. M. Forester:> passage to India-Franz Kafka:> Famous writer that wrote the Trial and the Castle-Thomas Mann:> famous writer that wrote the Magic Mountain and Felix Crow, Confidence Man-Samuel Beckett:> wrote plays that reduced life and drama to their bare bonesChapter 15: The Next Hundred Years-thinking computers-3 worlds: big, small, and middle-sized-New Science: Chaos-ideonomy:> laws of ideas*founded by Patrick Gunkel-The Gaia Hypothesis> James Lovelock-Eugenics> improving human race genetically-mapping the genome eventually will happen-democracy's only threat is oligarchy-speed of travel is faster-addiction to drugs is deadly-humans are addicted to war:> 3 categories of warfare:*limited, civil, and total-the problem of war can only be fixed through law and force