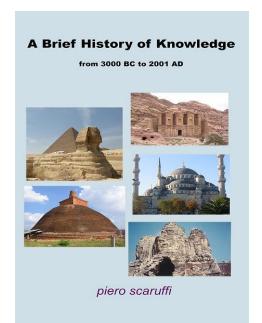
# History of Thought: 3. Rome, Christianity, Islam, Middle Age

Sep 30, 2014

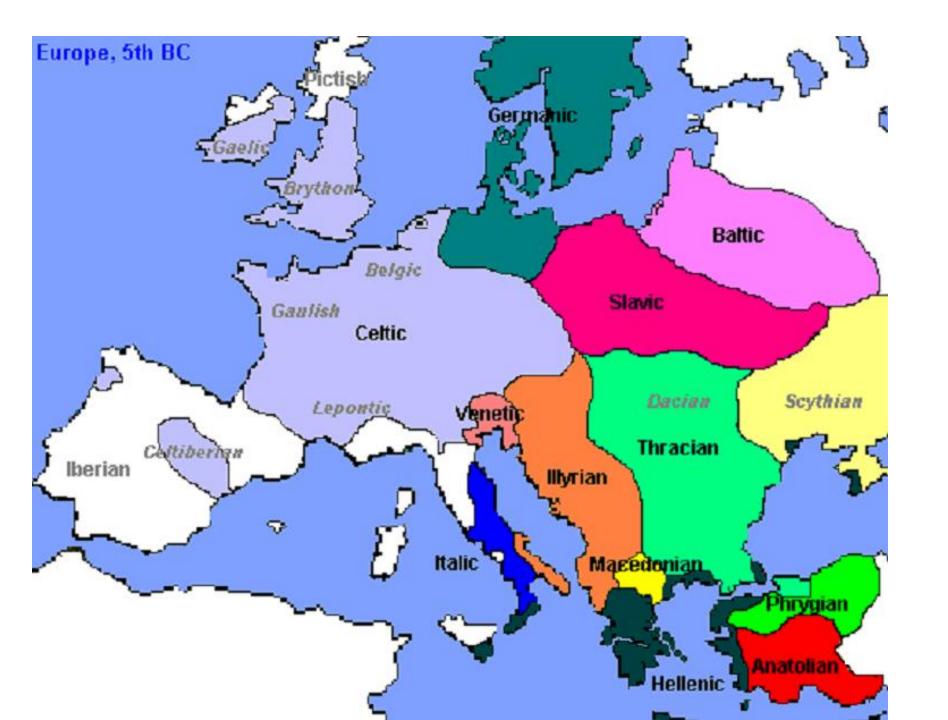
Piero Scaruffi

www.scaruffi.com



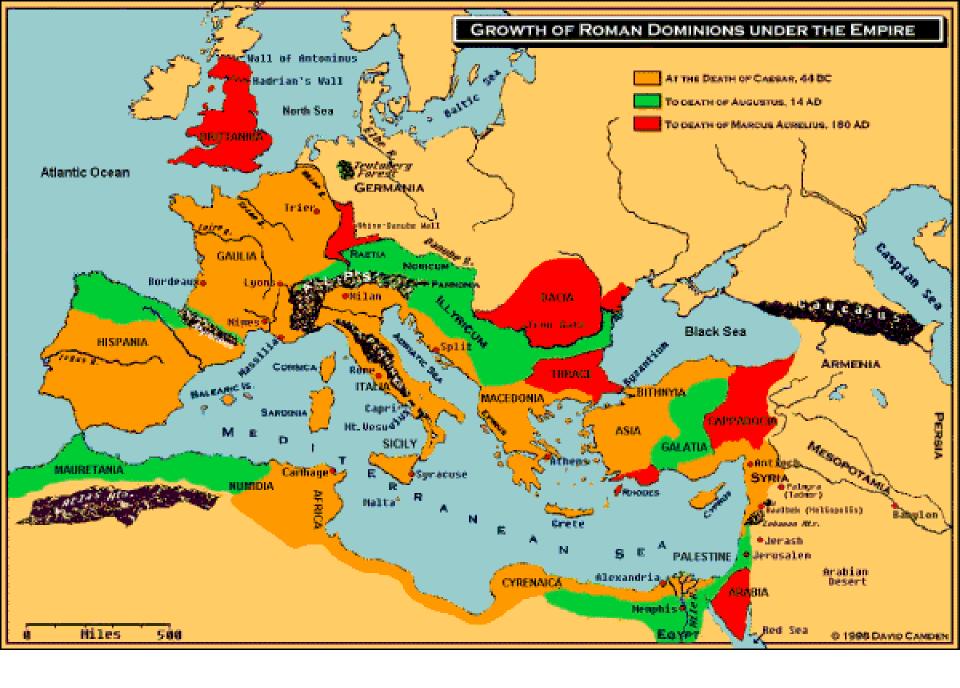
## Table of Contents

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- Oldest Knowledge: Ancient Greece, India and China
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- 6. Modern Knowledge: The 20th century



# The Roman Republic

- 275 BC: Rome conquers southern Italy (Greek colonies)
- 202 BC: Scipio defeats Carthage and Rome annexes Spain
- 146 BC: Rome conquers Greece at the battle of Corinth
- 63 BC: Pompeus captures Jerusalem and annexes Palestine
- 53 BC: the first war against Persia (Parthia)
- 49 BC: Julius Caesar becomes dictator
- 31 BC: Octavianus (Augustus) becomes the first emperor
- 6 BC: Jesus is born in Palestine



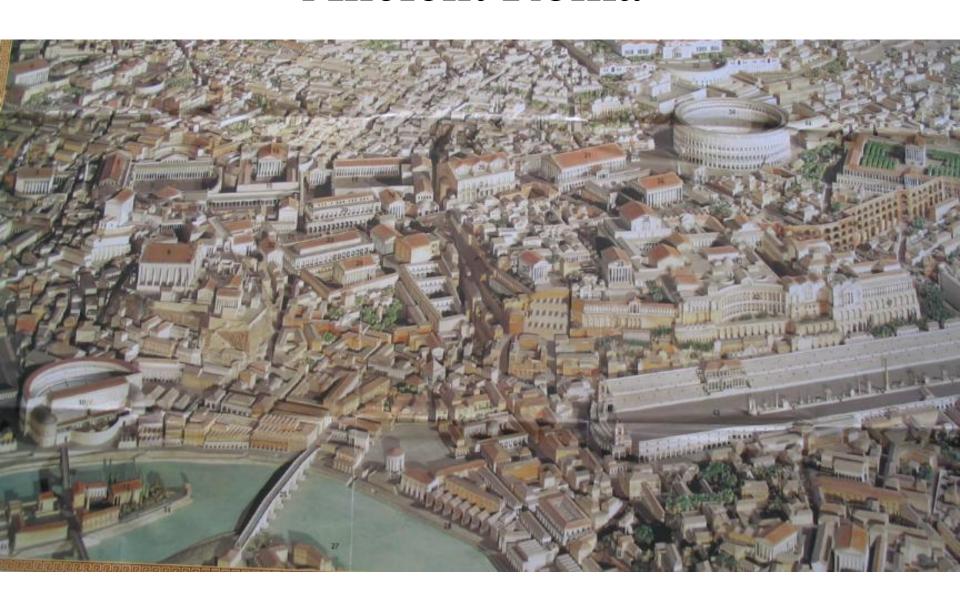
http://gbgm-umc.org/umw/corinthians/empire.stm

# The Roman empire



http://www.hyperhistory.com/online\_n2/maptext\_n2/barbarian.html

## **Ancient Roma**



#### Greek!

- Greek pantheon (Zeus=Jupiter, Juno = Hera, Minerva = Athena, Mars= Ares, Mercury = Hermes, Hercules = Heracles, Venus = Aphrodite,...)
- Greek city plan (agora/forum, temples, theater, stadium/circus)
- Beginning of Roman literature: the translation and adaptation of Greek epic and dramatic poetry (240 BC)
- Beginning of Roman philosophy: adoption of Greek schools of philosophy (155 BC)
- Roman sculpture: Greek sculpture

#### Greek!

- Greeks: knowing over doing
- Romans: doing over knowing (never translated Aristotle in Latin)
- "The day will come when posterity will be amazed that we remained ignorant of things that will to them seem so plain" (Seneca, 1st c AD)
- Indifference to metaphysics
- Pragmatic/social religion (expressing devotion to the state)

- Roman vs Greek religion
  - A religion for the protection of the state, not of the individual
  - Morality = patriotism
  - Roman gods do not quarrel
  - Roman gods do not mingle with humans

- The Afterlife
  - Romans not interested in individual immortality
  - Immortality via the state: the Roman Empire is eternal

- The Mediterranean Sea (Mare Nostrum)
  - Rome was mainly a sea power
  - Battle of Actium (31 BC) created the "mare nostrum",
     a peaceful, safe sea for trade and communication
  - Disappearance of piracy
  - Sea routes were used by merchants, soldiers, migrants, craftsmen, politicians, philosophers...
  - Age of the maritime villas (instead of maritime fortifications)

- Society of the early Republic
  - The patricians
  - The plebeians (can acquire property and wealth, but initially no political rights)
  - The proletarii (plebeians with no property)
  - The slaves
  - The women

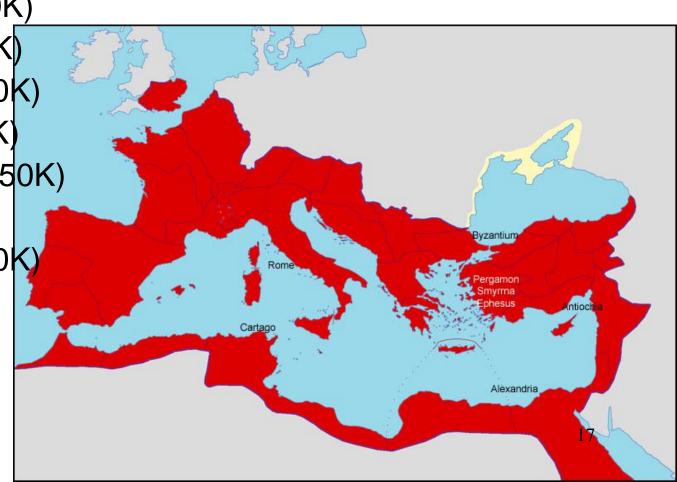
- Society of the early Republic
  - A very moral state
    - Wealthier citizens are expected to sacrifice more for the common good
    - Senators (aristocrats) are more likely to die in battle than the proletarii
    - Praise for spartan habits of the aristocracy
    - Modest, frugal, law-abiding citizens
    - "Qui, non quid efficere posset in re publica, cogitavit, sed quid facere ipse deberet" (Cicero: "ask not what your country can do for you but what you can do for your country")

- Society of the late Republic
  - Slaves
    - The "nobiles" acquire land and their slaves farm it
    - Economy dependent on slavery: all of the nation's food supply and most of the industry
    - 30% of population (1st c BC)
    - Gladiators: professional slave fighters for amusement

- Early empire (27 BC 180 AD)
  - Two centuries of peace
  - All ancient (Western) civilizations under one emperor
  - Network of roads built originally for the legions but then used by traders
  - Globalized free trade
    - Traders do not need to cross a frontier
    - Same laws, same language, same coins
    - Safety of roads, rivers and sea
  - Boom of commerce and industry

#### Cities

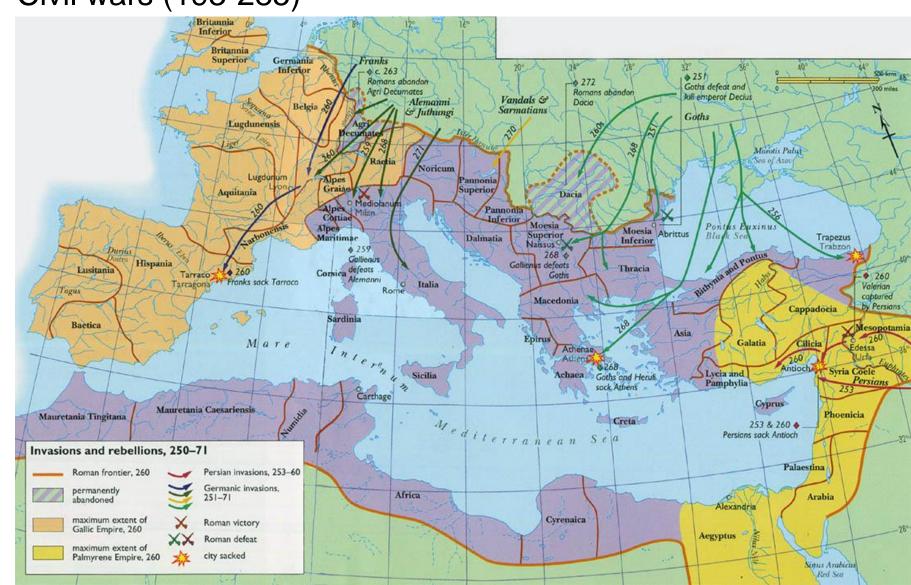
- Roma (600,000 in 1 AD, 1million in 100AD)
- Alexandria (500,000 in 100AD)
- Ephesus (400K)
- Cartago (350K)
- Antiochia (350K)
- Smyrna (250K)
- Pergamum (150K)
- **–** ...
- Byzantium (30K)
- **–** ...
- Athens



- West vs East
  - West: Roma
  - East: Alexandria, Ephesus, Antiochia,
     Smyrna, Pergamum, Byzantium, Athens
  - West: poor, rural, new civilization, Latin
  - East: rich, urban, old civilizations, Greek

- Imperialism
  - Borders
  - Divide et Impera
  - Desire by the client states and satellites to become Roman (law, stability, wealth)
  - Myth of one universal civilization under one universal emperor

Civil wars (193-285)



- Popularity of Oriental cults during the empire
  - Cybele
  - Isis
  - Sol Invictus
  - Mithra (urban lower classes)
  - Christianity (urban lower classes)



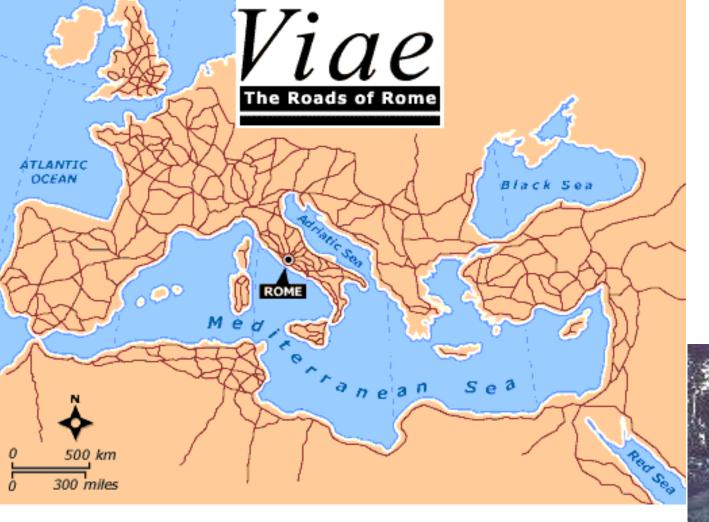
Mithra (Weisbaden Museum, 2nd c AD)



Isis Procession (Weisbaden Museum, 1st c AD)

Sculpture of Isis
(Villa Adriana, 2nd c AD)

- Science
  - Plinius' "Historia Naturalis" (77 AD)
    - "The Natural History is a lasting monument to Roman ignorance" (William Durant)
  - Galen (b 129AD)
    - Dissection of animals (dissection of humans prohibited by Roman law)
    - The brain is the center of control (not the heart as Aristotle believed)
    - Galen's medicine remained the dogma for 1300 years





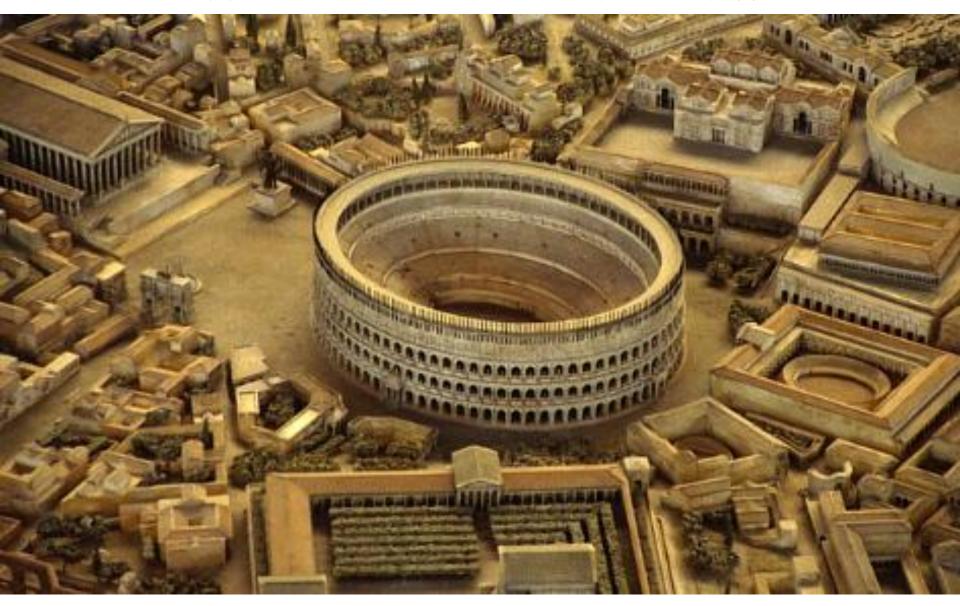
- Engineering
  - Roma's technological mastery of the environment
    - Roads: 70,000 kms
    - City walls
    - Sewer (cloaca) and aqueduct
    - Multi-story buildings
- But...

#### Engineering

- Vertical waterwheel (1st c BC) used for grinding flour but no need to use it for "industrial" works because of surplus of free slave labor
- No horses for agriculture
- Little irrigation, relying on the sea for fishing and its colonies for agriculture
- Rivers not fully exploited for transportation and travel because it is safe and rapid to travel by road and by sea
- The great rivers (Danube and Rhine) provide the border, not a waterway

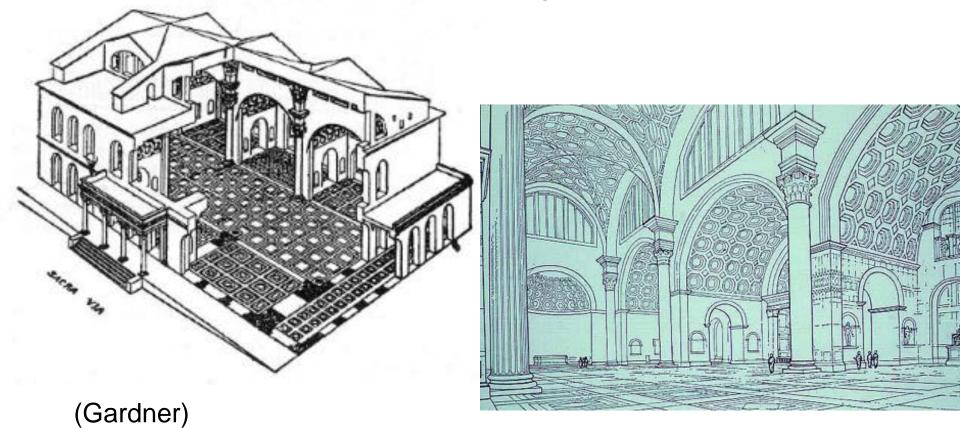
#### Engineering

- Technology of the curve: arch, vault, dome
   (a 360 degree extension of the arch)
- The invention of concrete (3rd c BC)
- Sewers and aqueducts enabled larger cities
- Multi-story buildings
- Greek architecture, that was mainly religious, was applied by the Romans to political (palace), public (theaters, baths, basilicas) and domestic (villa) architecture

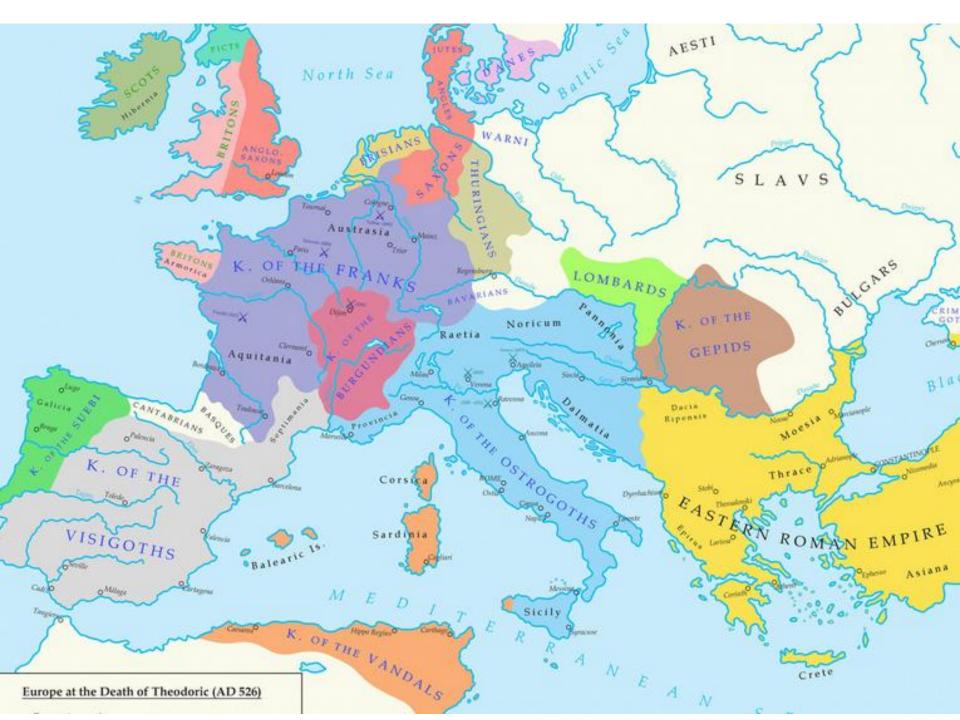


(Museo della Civiltà Romana, Roma)

- Basilica
  - Nave + aisles + apse
  - Covered market or exchange or court of law



- Western and Eastern empire (324 AD)
  - State bureaucracy moves to Constantinople/ Byzantium
  - The Church remains in Rome
  - De-facto separation of Church and State
  - The Church inherits the bureaucratic structure of the State (emperor=pope, senate=cardinals, etc)
  - Western Europe is Latin, Eastern Europe is Greek



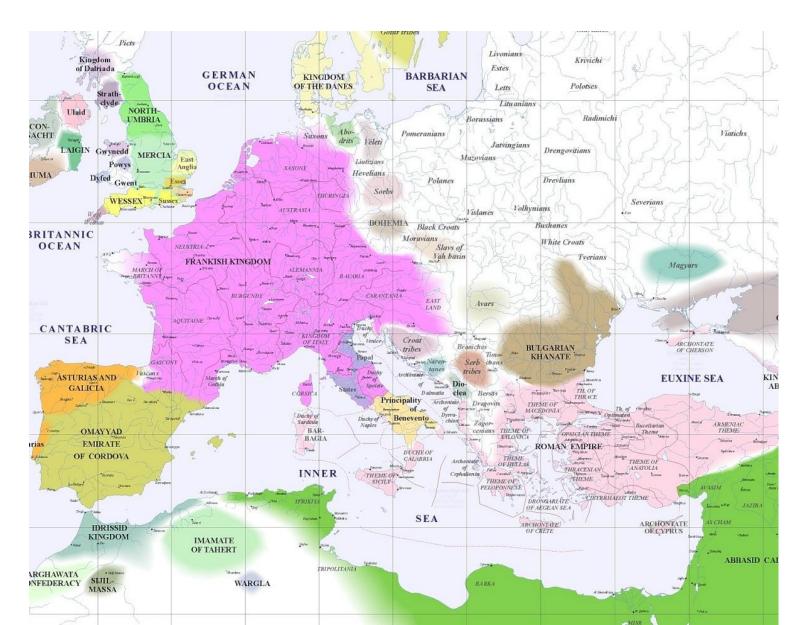
# Why the Roman Empire Fell

- Did not fall, merely evolved
- It had already been falling for two centuries
- No succession rule
- Geopolitics
  - The Roman empire indirectly trained, funded and armed the Barbarian kingdoms until they became a superior military force
  - Pressure of Asiatic people on the Germanic people (exodus of Gothic tribes)
  - Persian wars
  - Too big, long borders

#### What the Barbarians Knew

- Political unity of the Mediterranean Sea
  - Barbarian kings were Romanized
  - Barbarians spoke Latin
  - They adopted the Roman code of law
  - They were all Christians

# Holy Roman Empire 800



## What the Jews knew

"I am who I am" (God to Moses)

Jesus: "I came into the world to bear witness to the truth"
Pilate: "What is truth?"
(John 18:3438)

## Judaism

- The Jewish nation
  - 1500 BC 1250 BC: Hebrews move from Arabia to Egypt, Mesopotamia and Palestine
  - 1025 BC 922 BC: Hebrew monarchy
  - 922 BC 722 BC: Kingdoms of Israel (north) and Judea (south)
  - 722 BC 538 BC: Assyrian and Babylonian domination
  - 538 BC 332 BC: Persian domination
  - 332 BC 63 BC: Hellenistic domination
  - 63 BC 636 AD: Roman domination
  - 636 1076: Arab domination
  - 1076 1920: Turkish domination

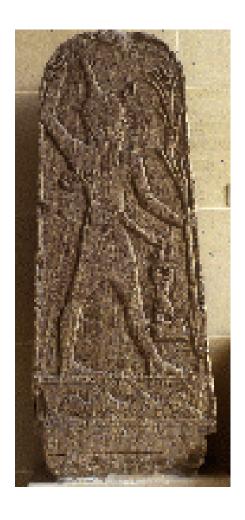
#### What the Jews Knew

- El/ Yahweh (YHWH)
  - God of the Jews
  - Nomadic God (not tied to a sanctuary but "god of the father")
  - God talks
  - God of punishment and wrath
  - Religion is obedience to God
- Indifference towards unbelievers

- Elohim (plural) "created the heavens and the earth" (Genesis 1:1)
  - Elohim is found 2570 times in the Bible, El 226 times
  - Remnants of an early polytheism/polydemonism
  - The ancient Semites believed that the world is surrounded, permeated and ruled by the Elohim, myriads of nameless supernatural beings (spirits) inseparable from one another

- Evolution of God:
  - EI (3500 BC): The Semitic word for "god"
  - Hittites (1500): El and his wife Ashera,
     mother of Baal
  - Canaanites (1500): El the supreme god
  - The god of Abraham, Isaac, and Jacob ("the god of the father") is identified with the Canaanite god El
  - Yahweh originally a bedouin war god of the desert (before Moses)

## El



Canaanite El (from Ugarit, Turkey)



"Jahweh and his asherah" (from Kuntillet, Sinai, 800 BC)

- Evolution of God:
  - Moses (1,275 BC): Egyptian-born founder of Israel (exodus) and Judaism (Pentateuch) adopts Yahweh
    - Not transcendent: a bodily god
    - Not infinitely good: capable of both good and evil
    - Not infallible: makes mistakes
    - Not omnipotent: his power is limited to the land occupied by the Jews
    - Not spiritual: the reward is material reward for this life, not for the afterlife

- Evolution of God:
  - Elijah (875 BC): father of Jewish nationalism, destroyer of the cult of Baal
    - There are many gods, but El is the only god of Israel ("El Elohe Yisrael", Gen. 33:20)
  - Assyrian influence: El and Yahweh become synonymous
  - Babylonian influence: Yahweh is an inscrutable god
  - Deuteronomy (650 BC): Yahweh is the ONLY god
  - Amos, Hosea, Isaiah, Micah (8th/6th c BC)
    - Monotheism (the gods of the other nations do not exist)
    - Omnipotent god
    - Just god

- Tanakh/ Hebrew Bible
  - Torah/Pentateuch: five books (Genesis, Exodus, Leviticus, Numbers, Deuteronomy)
  - Nevi'im/Prophets: eight books
  - Ketuvim/Writings: eleven books
- Christian "Old Testament": six additional books (deuterocanonical books) and different division in books

- Torah
  - Traditionally attributed to Moses
    - A multitude of different writing styles
    - Two different versions of the creation of the world
    - Two different versions of the covenant

- Tanakh
  - History of the Jews
  - Echoes of Sumerian creation stories
- Difference between the Tanakh and similar legends of Mesopotamia: each event is due to a divine design and bears a moral meaning
- Covenant between God and Abraham (Genesis 15:12-21): God grants the land of Palestine to Abraham's descendants in return for obedience
- Tables of the Law (Exodus 31:18)
- Negative god ("thou shalt not")
- The Messiah ("christos" or anointed): the deliverer and king of the Jews
- Dynamic world

- Zoroastrian influence
  - Apocalyptic (End of the world)
  - Eschatological (Resurrection of the Dead)
  - Messianic (the Messiah)
  - Dualistic (Satan)

#### Prophets

- Ancient Mesopotamia: divination, sorcery, augury, soothsaying
- Biblical prophets: divine messengers
  - Advocate a higher form of morality and justice
  - Addressing the "people" of Israel
  - Addressing "all nations"
  - Obsessed with rejecting idolatry

- The problem of suffering:
  - Why do sinful Gentiles prosper and conquer the world, while pious Jews languish in captivity?
  - The Jews will be rewarded in the kingdom that is coming
  - The Messiah will come
- The problem of evil:
  - Why does evil exist if God is omnipotent?
  - Because we disobeyed him

- A violent god
  - Yahweh throughout the Old Testament orders more than 100 murders and many are mass murders
  - Joshua exterminates the Canaanites simply because they don't believe in Yahweh (and it is Yahweh himself who orders the slaughter)
  - Homosexuality is an abomination (Leviticus 18:22)
  - It is ok to sell your daughter into slavery (Exodus 21:7)
  - It is ok to own slaves (Leviticus 25:44)
  - People who work on the Sabbath should be killed (Exodus 31:15)

### Jesus

- Jesus was born in the Roman Empire during the rule of Augustus, the first emperor
- Jesus died under emperor Tiberius

27 BC: Octavius appoints himself "augustus" (the first emperor)

20 BC: A treaty between Roma and Persia (Parthians) fixes the

boundary between the two empires along the Euphrates river

12 BC: Augustus becomes pontifex maximus

6 BC: Jesus is born in Palestine

1 AD: Roma has about one million people

2 AD: Augustus, whose sons have died, chooses Tiberius as his adopted son

14 AD: Augustus dies and Tiberius becomes emperor

14 AD: Five million people live in the Roman empire

33 AD: Jesus is crucified

37 AD: Tiberius is murdered and the mad Caligula succeeds him

## Christianity

- 40 AD: Saul/Paul, a Jew from the city of Tarsus in Asia Minor, declares Christianity a universal religion
- 60 AD: the earliest gospels are composed
- 62-64 AD: Paul, James and Peter are executed
- 66 AD: Jews revolt against Rome in Palestine
- 70 AD: Roman general Titus defeats the Jews, captures Jerusalem, destroys the temple and expels the Jews, who spread to Armenia, Iraq, Iran, Arabia, Egypt, Italy, Spain and Greece
- 136: Hadrian definitely crushes the Jewish resistance, forbids Jews from ever entering Jerusalem

## Christianity

- The Christianity that we know today is what the Roman empire decided/approved
  - 313: Constantine ends the persecution of the Christians (edict of Milano)
  - 324: Constantine founds a new city, Constantinople (Byzantium)
  - 325: The council of Nicaea
- Christianity is "relocated" from Palestine to Rome
- Rome decides to start counting with Peter and his descendants, the popes
- Rome assembles the "New Testament"

# Christianity

- Paul (Saul)
  - Paul was not one of the twelve and admits that he never met Jesus
  - Paul was a literate scholar, not an illiterate fisherman (like the apostles)
  - Paul was a Roman citizen and proud of it
  - Paul, unlike James, wanted Christianity for both Jews and non-Jews
  - Paul's letters date from about the year 50, while the earliest gospel is from 60-70
  - A positive god ("thou shall") instead of the negative god of Judaism ("thou shall not")

- Egalitarian and universal (catholic) religion
  - Equality and universality: "there is neither Jew nor Greek... neither male nor female for you are all one in Jesus" (Gal 3:28)
  - Appealing for slaves (first religion with Mithraism to grant slaves full rights of participation)
  - Appealing for women (first religion to grant women full rights of participation)

- Resurrection for all
  - Immortality comes through resurrection
  - Paul's letters: resurrection not of the body, but of the soul (Platonic), and it's coming soon
  - The gospels' resurrection: the body and it's coming soon
  - The church's resurrection:
    - sacrifice your body (martyrdom) to save your soul
    - the martyr is granted early access to heaven (saints)
    - resurrection is not coming soon

- Christian morality
  - The culmination of a tradition of mysteries for the salvation of the individual, of religion for the ordinary man and woman, even for the slaves
  - Good deeds towards other human beings, not towards the gods
  - Grass-roots, low-class (not patrician/intellectual)
  - Ideal of universality and equality
  - Ideal of love, charity

- Spreading of Christianity via the assets of the Roman Empire:
  - Road and shipping networks
  - Cities
  - Latin and Greek as the universal languages

- The Christian dogma and the decline of the Greek ideal
  - Rationality replaced by superstition
  - Virtue replaced by faith (the only virtue)
  - Justice in this world replaced with justice in the next world
  - Free exercise of reason replaced with obedience to Christian dogma
  - Greek tolerance for foreign faiths replaced by Christian intolerance

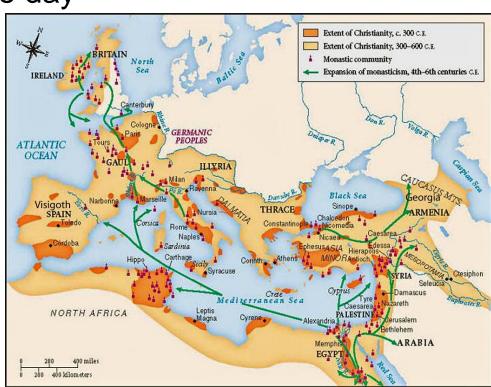
#### Augustine

- The Christian church is universal ("catholic") not limited to the pious
- The church is the instrument of the Holy Spirit to reform the world (implication: missionary work, especially among the Barbarians)

#### Augustine

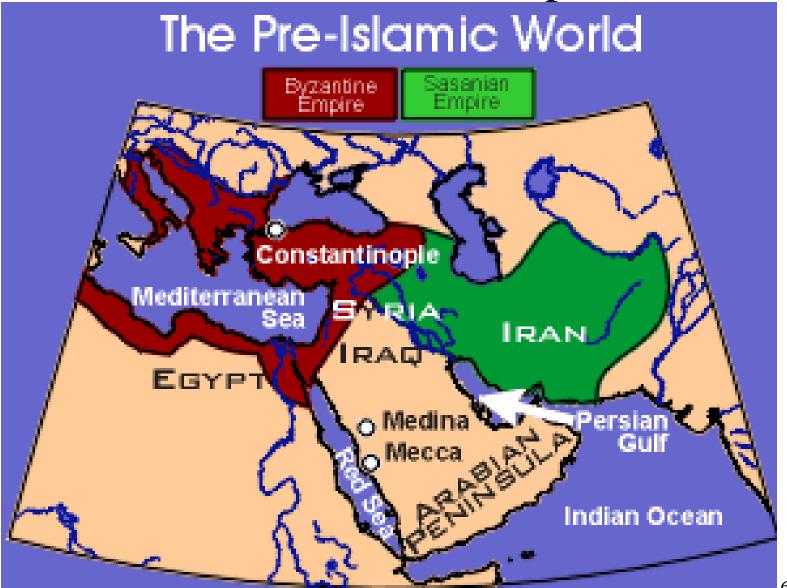
- Linear progression of time (instead of cycles)
- History is not cyclic (Jesus died only once)
- Second coming of Jesus as end of history
- What is time (Confessions 6.14.17)

- Monasticism
  - Pachomius (318)
  - Basil (358)
  - Ireland (445)
  - Benedetto (529): sing the praise of God in unison at every hour of the day
  - Columbanus (563)



- Evolution of the Church
  - Christian bureaucracy modeled after Roman bureaucracy
    - Pope = Emperor
    - Cardinals = Senate
    - Archbishops = Governors
    - Priests = Bureaucrats
    - Dioceses

The Roman and Persian empires in 600



http://www.ucalgary.ca/applied\_history/tutor/islam/beginnings/

### Timeline of the Islamic world

- 622-660: Early expansion
- 661-748: Umayyads
- 749-1258: Abbasids
- 868-962: Islamic kingdoms
- 992-1194: Seljuqs (Iran, Turkey)
- 1096-1291: Crusades (Palestine)
- 1212-1492: Christian reconquista (Spain)
- 1263-1335: Ilkhanate (Iran)
- 1301-1846: Ottoman era
- 1847-1956: European colonization

#### Jews

- Jews expelled from Palestine by the Romans after the 70 and 132 insurrections
- Yathrib (Medina) originally settled by Jews
- Jewish merchants
- Jewish bedouins
- Jewish farmers
- Jewish poets
- Jewish warriors

- Pre-Islam Arabia
  - Eastern Roman Empire (Byzantium):
     Christian
  - Sassanid Empire (Persia): Zoroastrian
  - Yemen: Jewish
  - Ethiopia: Christian
  - Arabia is the only place where the three monotheistic religions coexist

- Mecca
  - Sanctuary for many gods
  - A model of religious tolerance
  - Allah: lord of the Kaaba, built by Ibrahim
  - Three daughters of Allah: Manat, Allat,
     Aiuzza

- The legacy of Judaism
  - Mohammed prayed towards Jerusalem (until 624)
  - Mohammed worshipped the temple built by a Jew, Ibrahim, in Mecca
  - Mohammed founded Islam on the Tanakh
  - Most ancient mosques oriented towards
     Jerusalem, not Mecca

- Mohammed (622AD)
  - Human (not divine) prophet
  - True monotheism (no Christian trinity)
  - Adopts the Roman and Sassanid experiments of a monotheistic state religion
  - Little or no reference to the New Testament but Jesus accepted as a prophet
  - System of reward based on faith and deeds
  - Brotherhood

- Mohammed (622AD)
  - The commune in Medina
    - Egalitarian society, redistribution of wealth
      - Usury banned
      - Mandatory charity (zakat)

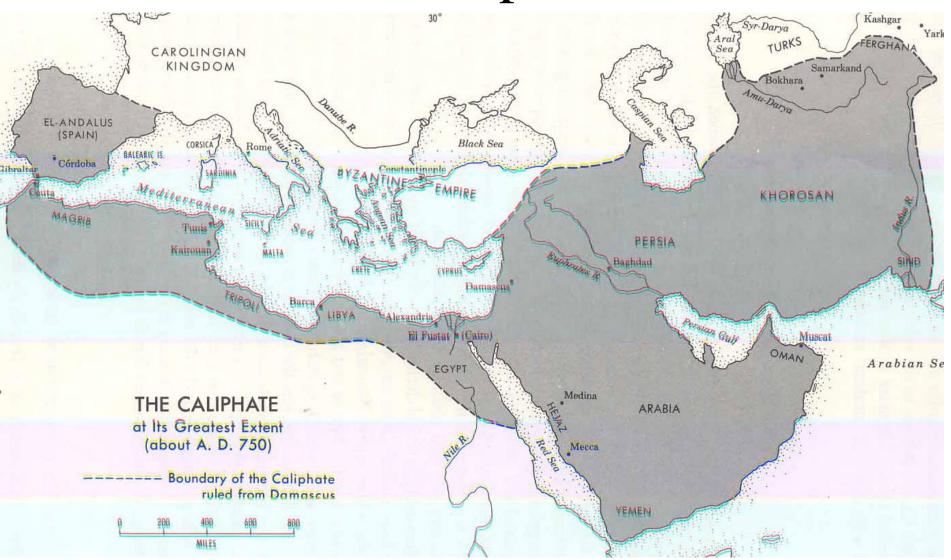
Founders of major religions



- Mohammed (622AD)
  - The succession
    - No succession rule for the leader of the ummah
    - The Quraysh still rule in Mecca
    - Abu Bakr is the compromise choice
    - Main goal of Abu Bakr's caliphate: fighting the "false prophets" (i.e., anyone who tried to rebel) and declaring war on Byzantium and Persia
    - Umar conquers most of Byzantium and all of Sassanid empire

- Mohammed (622AD)
  - The succession
    - Uthman fully restores Quraysh power
    - Ali's followers see it as a coup
    - Uprisings against Uthman Uthman murdered
    - Mu'awiya starts a dynasty (son succeeds father), the Umayyads, with capital in Damascus (not Arabia)
    - Mu'awiya's son murders Mohammed's family, notably his grandson Husayn in Karbala (680 AD)
    - People who mourn Husayn in Karbala: Shiites

# The Arab empire in 750



- Reasons for the Arab success
  - Persia and Byzantium are weakened by both wars against each other and internal succession wars
  - North-African and Middle-Eastern populations alienated by Byzantine and Persian bureaucracies
  - Egyptian and Syrian opposition to orthodox
     Byzantine Church
  - North-African discontent with orthodox Catholic dogmas

- The ummah
  - Islam's brotherhood creates a higher level of asabiya and a larger tribe of all tribes, the umma
  - Religion had been a way to tell a tribe from another, but now becomes a unifying factor
  - Empire of faith: first religious empire

- How Islam spread
  - Mediterranean and Middle East: war (7th c)
  - Central Asia and Africa: slavery
  - Far East: trade brotherhood of traders
  - Europe and USA: immigration (20th c)

- Rise of Islamic civilization
  - Economy: the Arab invasions created a huge intergrated economy extending from Spain to India
  - Culture: the Arab invasions de facto united four of the great ancient civilizations (Greek, Jewish, Persian, Indian)
  - Muslims are a minority

#### Books of Islam

- Quran or "Recitation" (655): God's revelation as received by Mohammed
- Hadith: actions and utterances of Mohammed (different for Sunnis and Shiites)
- Tanakh and New Testament

#### Quran

- An "uncreated" book, revealed to Mohammed
- It exists regardless in the heavens
- Arabic is the sacred vehicle for the Quran (no translation of the Quran "is" the Quran)
- The Arabic language is defined by the Quran
- The Quran is to Islam what Jesus is to Christianity: the embodiment of the divine
- Mohammed is Islam's St Paul
- The protagonist is Abraham/Ibrahim: he is more than just a prophet

#### The Islamic state

- The caliphs run the state
- The ulama interpret the Quran and assemble the "hadith" (that represent the "sunna")
  - Different hadiths in different regions (e.g., Syrian hadits claim that the Mahdi will be a member of the Quraysh tribe)
- The ulama work out a set of rules for creating an Islamic society ("shariah")

#### Islam

- Egalitarian religion: no superiority of one (free male) believer over another based on nobility, wealth, race, nationality
- Appealed to the poor
- No priestly mediation between believer and God
- No equivalent of the Church

- Islam: a realistic religion
  - No holy spirit
  - No miracles
  - No saints with supernatural powers
  - No implausible events (such as the resurrection of Jesus or the immaculate conception)
  - Not a kingdom in heaven but on Earth
  - The future history of the human race on Earth

#### Islam

- Eschatological (like Christianity): there is an end of the world
- The apocalypse will be preceded by the coming of the anti-Christ, al-Dajjal, who will appear East of Arabia, will establish 40 years of terror and will be defeated by the Mahdi, also identified or joined with Jesus reborn

- Sunni and Shiite Islam
  - Sunni
    - The Caliphs ("successors") are the legitimate successors to Mohammed
    - Arab world, Indian subcontinent
  - Shia
    - Ali is the legitimate successor to Mohammed, and was succeeded by 11 more "imam" (of the Ali-Fatima lineage)
    - The twelfth imam disappeared and will return as the Mahdi
    - Ayatollahs interpret the Sharia
    - Iran, Iraq, Lebanon, Pakistan, India

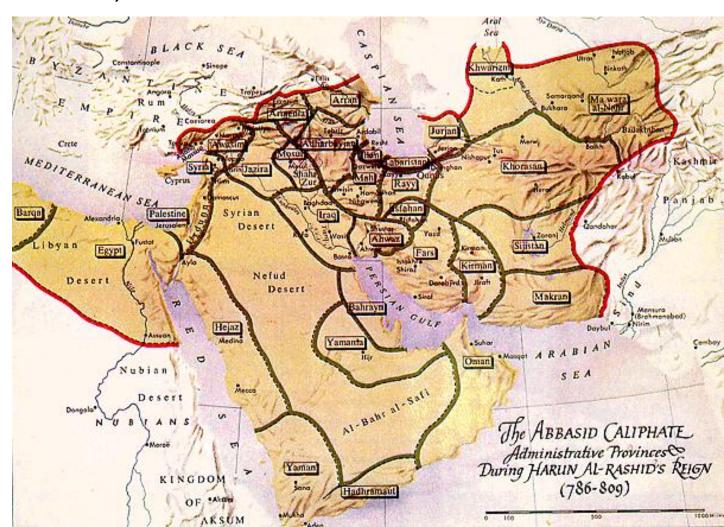
#### Sufism

- Love is a projection of the divine essence
- Union of the nafs (the self) with the ruh (equivalent to the brahman of the Hindus or the qi of the Taoists)
- Pantheism: God is the universe (God's reality is not external to the world's reality), everything is God (e.g., a mouse is God)
- More Greek philosophy than Quran
- More Indian philosophy than Quran

- No continuity with previous civilizations
  - A new religion (Islam)
  - A new language (Arabic)
  - A new state (Quran/Hadith)

- Islamic society
  - First universal civilization in history
    - Mediterranean Sea
    - Middle East
    - Central Asia
    - India
    - East Indies
    - Sub-Saharan Africa

Abbasids (750-945)



- Abbasids (750-945)
  - Baghdad
  - Persian culture
  - Tolerance for non-Muslims (all Abbasid rulers were sons of non-Arab slaves)
  - Cultural boom: Baghdad as the new Alexandria
  - Age of Translations: 786-825, in Baghdad
  - Arabian peninsula largely under control of tribal warlords and religious fanatics

- Astronomy
  - Baghdad observatory (833)
  - Abd al-Rahman al-Sufi (964): the galaxies
- Mathematics
  - Al-Khwarizmi (780): algebra
  - Habash al-Hasib (825): sine, cosine, tangent
  - Al-Kindi (830): the Indian Numerals
  - Umar al-Khayyam (1048): algebraic equations
  - Sharaf al-Din al-Tusi (1135): algebraic geometry
- Medicine
  - Ibn Sina (Persia, 981)
- Biology
  - Ahmad Ibn Muhammad Miskawayh (932): theory <sub>90</sub>
     of evolution

- Disintegration of the Arab empire
  - Umayyads (Sunni) in Spain (756-1031)
    - Cordoba the cultural capital of the western Arab empire (912-976): palaces, libraries, universities
  - Fatimids (Shiite) in Egypt (969-1169)
  - Buyids (Shiite) in Mesopotamia (945-1055)
  - Ghaznavids (Sunni) in Persia and Central Asia (962-1030)
  - Tribal warfare in Saudi Arabia (9th c-18th c)

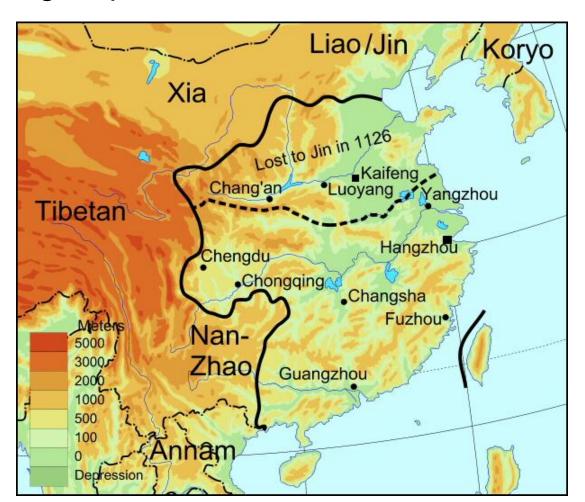
- Abu Ali al-Husain ibn Abdallah ibn Sina/ Avicenna (Persia, b1023)
  - Reconciling Islam, Aristotle and Plato
- Abu al-Walid Muhammad ibn Ahmad ibn Muhammad ibn Rushd/ Averroes (Spain, b1126)
  - Commentaries on Aristoteles
  - Latin translations (often via Hebrew) from 1217 spread throughout Europe and launch the vogue of Aristotelian philosophy

- Abu al-Walid Muhammad ibn Ahmad ibn Muhammad ibn Rushd/ Averroes (Spain, b1126)
  - Only one truth that appears as two truths: religion for the uneducated masses and philosophy (falsafa) for the educated elite
  - There is no conflict between reason and revelation: whenever there is a conflict between philosophy and the scriptures, the scriptures must be interpreted as allegories

- Reunification of the Middle East
  - Seljuqs (Sunni) in Mesopotamia, Persia and Anatolia (1055-1243)
    - Turks
    - Large standing army of Turkish and Christian slaves and mercenaries to dominate nomads and Christians
    - Invade Anatolia and destroy the balance of power between Islam and Byzantium

- Reunification of the Middle East
  - Mongols destroy the Seljuqs (1243) and sack Baghdad (1258)
  - Ilkhans (Shiite) in Persia and Mesopotamia (1265-1335)

Song empire



# Chinese dynasties

Song (960-1264)

Yuan 1264-1368

1115: The Jurchen (Manchu) invade from the north and establish the Jin/Chin dynasty with capital in Beijing, leaving only the south to the Song 1264: the Mongols invade China and Kublai Khan founds the Yuan dynasty with capital in Beijing 1266: the Polo brothers travel from Venezia to China

Ming Dynasty 1368-1644 Manchu Qing 1644-1911

- Song (960-1279)
  - Transition from the highly aristocratic society of pre-Tang China to the egalitarian society of Song China via the Tang meritocracy
  - Scholar-officials become the dominant class in Chinese society
  - Autocratic meritocracy (chin-shih degree in letters indispensable for government career)
  - Exceptional competence by government officials
  - Eunuchs and the family of the empress are stripped of political influence

• Song (960-1279)

- Han: Daoist

Tang: Buddhist

Song: Confucian



- Song (960-1279)
  - Population boom (from 60 million in 1050 to almost 100 million in 1100), particularly in the south (northern Barbarians)
  - China is the world's most populous,
     prosperous and cultured nation in the world
  - Highest standard of living in the world

#### Song (960-1279)

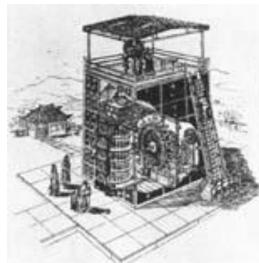
- Boom of commerce
  - Paper money is introduced by the government (1024) to help merchants who need to carry a lot of money over long distances
  - International commerce

#### Song (960-1279)

- Boom of technology
  - 1000: Cast iron from coke blast furnaces using coal instead of charcoal
  - 1012: the Sung import Champa rice from Vietnam, and yields multiply, causing population boom in the south which overtakes the north for the first time (75 million vs 45 million in 1200)
  - 1119: The mariners' compass enables longdistance sea travel that always eluded the Chinese
  - Water-powered textile machines

#### Song (960-1279)

- Boom of technology
  - Chang Ssu-Hsun's astronomical clock (976)
  - Su Song's astronomical water-driven clock-tower at Kaifeng (1092, destroyed in 1126): a heavenly clockwork for the emperor (the "son of Heaven") designed as a five-story pagoda
  - Mechanical clocks are only for the royalty, and mainly viewed as cute novelties (in Europe clocks are built to regulate the life of the townfolks)



- Song (960-1279)
  - Rapid diffusion of printing
    - First printed book: a Buddhist text (868)
    - Publication of the entire Buddhist canon, the Tripitaka, for a total of 130,000 pages (983)
    - Flourishing industry (both government and private printers)
  - Rapid increase in literacy
  - Private academies (shu-yuan)
  - Greatly expanded urban literate class

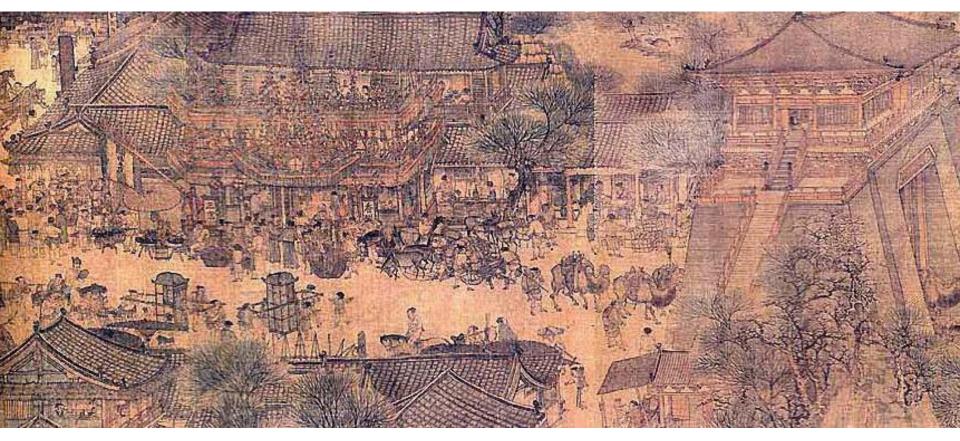
- Song (960-1279)
  - Science
    - The scientist works for the emperor
    - This reduces the motivation for competition among scientists and the motivation to upset preexisting theories
    - The scientist's main job is astronomy (the calendar)
    - While Western scientists argue about everything, Chinese scientists are bureaucrats at the service of the emperor

- Song (960-1279)
  - Most advanced agriculture, technology and trade in the world... but no industrial revolution





Zhang Zeduan (b 1085): "The Spring Festival Along the River"



### What the Chinese Knew

- Song (960-1279)
  - Arts
    - Rise of the scholar-official-artist (poet, painter): educated gentlemen are expected to be both statesmen and artists
    - Golden age of art and literature: ideal of the universal man, combining the qualities of scholar, poet, painter, statesman

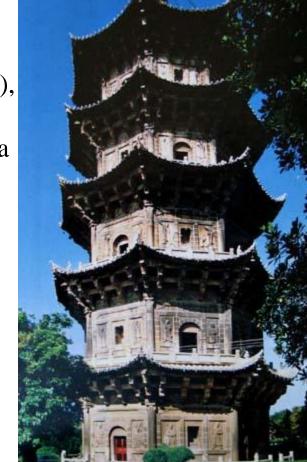
### What the Chinese Knew

Iron Tower of

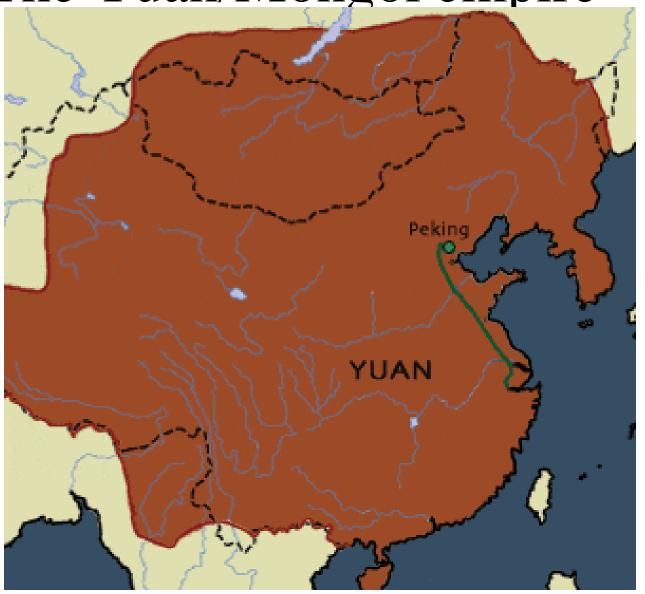
Iron Tower of Kaifeng (1049)

Dingzhou City: Kaiyuan temple pagoda (1055 AD), tallest of all extant ancient buildings Quanzhou: one of the twin pagodas of Kaiyuan temple

Yingxian: Pagoda (11th c), oldest extant wooden pagoda



The Yuan/Mongol empire



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### What the Chinese Knew

- Mongols/Yuan (1279-1368)
  - Move the capital from Karakorum to Beijing
  - Ruthless Mongol oppression
  - Bleakest era in Chinese history
  - Chinese exploited by Mongol elite and their foreign clique (Jurchen, Chitan, Uighurs, Persians, Russians, Arabs and western Europeans)
  - Population decrease (60 million)

### What the Chinese Knew

- Mongols/Yuan (1279-1368)
  - Increase in foreign trade
    - Silk Road across Central Asia terminating in Beijing
    - Indian Ocean route terminating in Guangzhou and Huangzhou

### What the Chinese did not know

- Most civilizations liked to explore new worlds. The Chinese almost never did, even if they had the technology.
  - The Polo brothers went to China, but no Chinese went to Venice.
  - The Portuguese and English explored the coast of China, but the Chinese rarely explored other coasts, not even Japan's
  - Indian monks traveled to China, but Chinese monks or philosophers did not usually travel to India

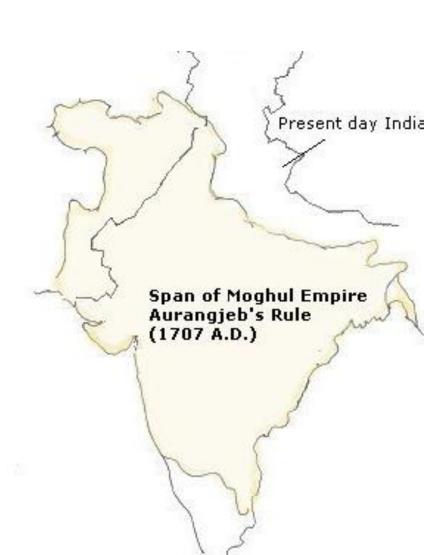
### India

Muslim invasions:

- 1192-1526: Delhi sultanate

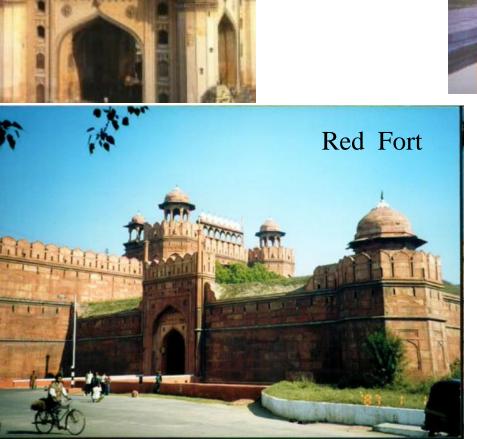
- 1526-1707: Moghul

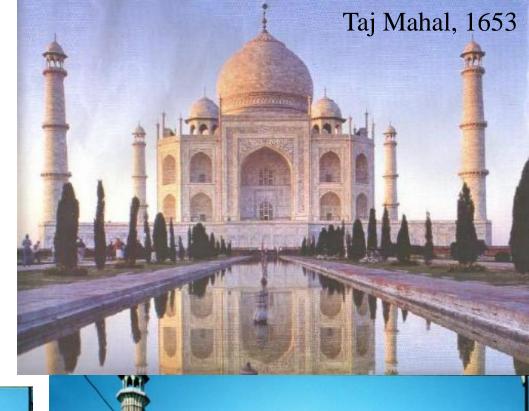


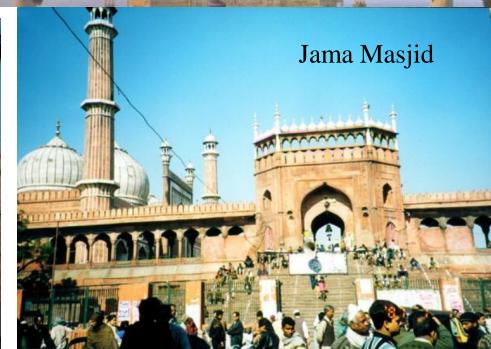




Hyderabad (1589)









Madurai: Thirumalai Naick palace (1636)

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- Political revolution (feudalism)
- Commercial revolution (communes)
- Agricultural revolution (manors)
- Educational revolution (monasteries, universities)
- Technological revolution (machines)
- Military revolution (gunpowder)
- Engineering/artistic revolution (cathedrals)

#### Religion

- Christian conversion of pagans (300-1000)
- Arab invasion (711-1492)
- Monasticism (318-1347)
- Holy Roman Empire (800)
- Architectural boom (1000)
- Separation of Eastern and Western Christianity (1054)

- Benedectine monastery
  - The organization of Time
  - Monastic chores and liturgical chores organized on hourly basis
  - Origin of scheduling and of... punctuality
  - Public signaling of the hour

- Benedectine monastery:
  - Each monastery is a completely autonomous community (all crafts are included, from metalwork to farming)
  - A miniature town in the age of urban decline (a safe alternative to towns ransacked by warfare)
  - The center of culture also moves from the town to the monastery

#### Monasticism

- Monasticism recreates the unity of Christianity through a Europe-wide network of interconnected monasteries
- A network of small units can mobilize resources on a large scale

- Monasticism
  - Cluny's religious revolution
    - Economic power: monasteries become the venture capitalists of agricultural Europe
  - The industry of monasteries (agriculture, masonry, handicraft) lays the foundations for the economic boom of the 12th c
  - The monastery becomes a financial, industrial, educational and even political entity

- The Roman Church
  - Gregory (pope in 590)
    - extends the rule of the Roman Church over Africa, Spain (converts the Visigoths), northern Italy (converts the Lombards) and Britain (converts the English)
    - gives the Papacy an economic foundation (administration of the lands donated by pious Christians)
    - transforms the bishop of Roma into a monarch with his own kingdom (Central Italy)
    - claims that the Church is above the state
  - The papacy becomes a European power

#### Byzantium

- Wealthiest Christian city until 1000
- Official language: Greek
- Views the Western Europeans as barbarians
- Gold currency that remains the standard for almost 1000 centuries
- Enemies: Persians (till 7th c), Arabs (from 7th c), Bulgars (from 7th c), Holy Roman Empire (after Frederick Barbarossa 1190), Venezia, Serbia (12th c)

- Arab invasion (8th c)
  - Breakdown of the economic and political unity of the Mediterranean Sea
  - International trade shrinks
  - Jews keep alive commerce only economic link between Islam and Christianity (slaves, gold, spices)
  - Venezia/Venice only economic link between Holy and Eastern Roman Empires (slaves, gold, spices)

- Decline of trade causes:
  - Decline of urban life (except Venezia/Venice)
    - People abandon commerce and return to the fields
    - Big cities are vulnerable, small towns are easier to defend
    - An agricultural world under constant threat does not need a town: it needs a castle/fort

- Feudalism
  - Causes
    - Break-down of the Carolingian empire
    - Endemic warfare
  - Western Europe is a land of large estates run by lords who have absolute power and who obtain their lands in return for the military service that they can provide thanks to their land's revenues (horse, armor, weapons are too expensive for the peasants)
  - Each estate becomes a self-sufficient business unit (artisans, coins, soldiers)

#### Feudalism

- Military aristocracy
- The lord of the manor is a member of the military aristocracy
- The king is simply the lord of all lords
- There is no state: no national army, no national law, no national money, no national tax...
- The king has no jurisdiction over the majority of his citizens
- Private wars (among vassals of the king) are frequent

- Age of castles
  - Originally a command post for the "castelan" (Carolingian official)
  - Disintegration of Charlemagne empire causes chaos
  - Timber + earth ("motte and bailey")

Quick and cheap to build

Easy to defend



- Age of the manor
  - Main economic unit of the feudal system
  - Arable land divided into three sections (spring, autumn and fallow)
  - A self-contained economic unit
  - Lord provides security and justice, besides a mill and an oven
  - Peasants are tenants who pay in produce and labor (and a fee to use the mill and the oven)

- Agricultural revolution
  - Heavy plow
  - Manor
  - Three-field system of crop rotation (possible only in the richer soils of northern Europe – greater agricultural prosperity in northern Europe)
  - Horses slowly replace oxen

- Commercial revolution
  - Trade fairs of 7th-9th c
    - Decline of permanent trade fosters periodic trade
    - The decline of sea trade fosters land trade
    - Champagne, Flanders, northern Germany

- Western cities over 100,000 inhabitants in
  - 526: Alexandria, Antioch, Byzantium, Rome
  - 737: Byzantium
  - 1000: Baghdad, Byzantium, Cordoba

- Closing of the Medieval mind
  - Illiteracy widespread even among rulers
  - Christians, obsessed with heretics and battling pagans, close libraries and burn books
  - The only roads are still the old Roman roads
  - Very little traffic of people or goods because the roads and seas are not secure
  - People live and die where they are born (dialects develop)

- Scholasticism (11th c)
  - Before the Scholastics: the Bible is infallible, therefore there is no need for scientific investigation or for the laws of logic
- Scholasticism
  - Reason can prove the Christian revelation
  - Philosophy and science of Aristotle
- Averroes: two truths, one the approximation of the other
- Scholastics: only one truth

#### Universities

- Original mission: training not research (train doctors and theologians), not creation of new knowledge but transmission of canonical knowledge
- Needs of 11th century Europe: medicine (no guild for doctors) and law (investiture controversy)
- Lack of central state control turns them into places for debate, not training (unlike China and Islam)
- Monasteries lose the monopoly on spiritual perfection

- Universities
  - Medical school: Salerno (11th c)
  - Law school: Bologna (1088)
  - University
    - Paris (1150)
    - Oxford (1167)
  - A university confers degrees that include the right to teach in any Christian country
  - International body of students and teacher
  - Latin is the lingua franca of education
  - Universities create an expanding market for books

#### Universities

- Cambridge (England, 1209)
- Salamanca (Spain, 1218)
- Padova (Italy, 1222)
- Napoli (Italy, 1224), first university created by the emperor
- Toulouse (France, 1229), first papal university
- Siena (Italy, 1240)
- Sorbonne, Paris (France, 1257)
- Montpellier (France, 1289)
- Coimbra (Portugal, 1290)
- Pisa (Italy, 1343)
- Prague (Czech, 1347), first northern university
- Krakow (Poland, 1364)
- Wien/ Vienna (Austria, 1365)

### What the Christians Knew

- Thomas Aquinas (1264)
  - 631 topics for discussion and 10,000 objections and counterobjections
  - Attributes of God can be proven logically
  - God is the mover that does not move (the first cause)
  - God is omniscient, omnipotent and perfect
  - In God, essence and existence are the same ("the essence of God is his existence", "existence is the substance of God", "God is in all things")
  - God is the ultimate process of self-realization

### What the Christians Knew

- Roger Bacon (1269)
  - Encyclopedia of logic, mathematics, physics, ethics, etc
  - Logic and observation allow an understanding of nature
  - Science to be founded on logic and observation
  - The Earth is round

- William Occam/Ockham (1320, England)
  - Empiricism: sensations are the source of knowledge
  - Metaphysics
    - Knowledge of God is possible only through revelation
    - The existence of God, the immortality of the soul, etc cannot be deduced logically but requires a profession of faith
  - Separation of Logic and Metaphysics (separation of Science and Church)

- A more political Church
  - The Pope and not the Emperor is the leader of Christianity
  - The Church as the unifying element of Europe
  - The Church controls education
  - The Church controls the arts
  - Latin is "the" language of the Christian world

- Crusades (1099-1270)
  - Goal:
    - Defend Christian pilgrimage routes to Jerusalem
    - Retake Jerusalem from the Seljuk Turks
    - Unite a fragmented Christian world
    - Not a goal: invade the whole of the Islamic world
    - Not a goal: convert the Muslims

- Crusades (1099-1270)
  - Crusade I: A popular movement with no leader
  - Crusade II: Two national armies
  - Crusade III: An alliance of the western powers
  - Crusade IV: Venezia/Venice loots Constantinople

- Problems of the Church
  - 1000: The world does not end
  - Cities nurture new social classes (lawyers, teachers, clerks) that compete with priests and monks

- 13th century = Golden Century
  - Improved communications between Europe and Asia thanks to the Mongol Empire
  - Improved business techniques thanks to the Italian merchant colonies of the Crusader states
  - Silver, copper and gold mines of Bohemia,
     Carpathians and Transylvania
  - Improved sea trade in the Northern Sea thanks to supremacy of the Hanseatic League

- Age of machines
  - Harnessing energy from water and wind
  - Building a large-scale economy not on human power (slaves, peasants) but on natural energy
  - Roman Empire relied on free labor (slaves);
     medieval society starts relying on machines to reduce the dependence on labor
  - A fragmented political landscape encouraged experimentation in multiple regions

- Age of machines
  - Monasteries pioneer waterpower and windpower technology (esp Cistercians) predating the industrial revolution (eg to propel iron foundries)
  - The first water-powered iron mills were Cistercian (Italy, Germany, England)
  - William the Conqueror's "Domesday Book" (1086) lists 5,624 windmills
  - Paper-mill (1255 Genoa)



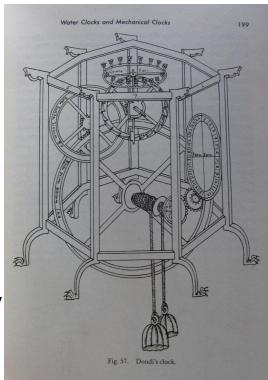


- Age of machines
  - Water powers papermaking, textile industry and iron forging
    - Mass production of paper stimulates book publishing, first in monasteries then in towns
    - Textile industry improved by spinning wheel (first instance of belt transmission of power)
    - Textile industry is an international trade that links sellers of raw materials and buyers of finished goods in different countries
    - Demand for church bells, nails and later firearms creates demand for smelt iron which leads to the "invention" of the blast furnace
    - Iron making is one of the first mass production 150 industries

- Age of machines
  - 12th c. AD: trebuchet (catapult)
  - 13th c. AD: mechanical clock and planetarium
  - 1285: spectacles (Italy)

#### Clocks

- Escapement (end of 13th c)
- Mechanical clock (13th c 14th c)
- First machine made entirely of metal
- Initially to serve the need of astrologers (astronomical clocks) and made by blacksmiths
- First household clocks: end of 13th c, made by goldsmiths/silversmiths, not by blacksmiths



Dondi's clock (14th c)

#### Clocks

- Pope Urban V's "portable clock" of 1365: first portable clock, but requires a "clock carrier"
- Domestic clocks begin to spread in the 15th century from around Nuremberg
- 24 hours in a day, including the night, and the duration of an hour is the same in every place and in every season

#### Clocks

- The clocktower "secularizes" time (the first clocks were used in monasteries)
- Ordinary lay people also acquire a schedule, just like monks had a schedule in monasteries
- Regulation of working time (Cologne, 1374), town-hall meetings, markets, schools, preaching

- Age of machines
  - China had already invented most of the European inventions, but they did not spread throughout China the way they spread throughout Europe

- Revival of trade/ Wool 1200-1300
  - Flanders & England to...
  - Firenze (200 companies, workday of 16 hours, workweek of 6 days) to...
  - other Italian cities (manufacturing, resale) to...
  - customers around the world
  - 1277: Genoa opens a direct sea link with the Flanders

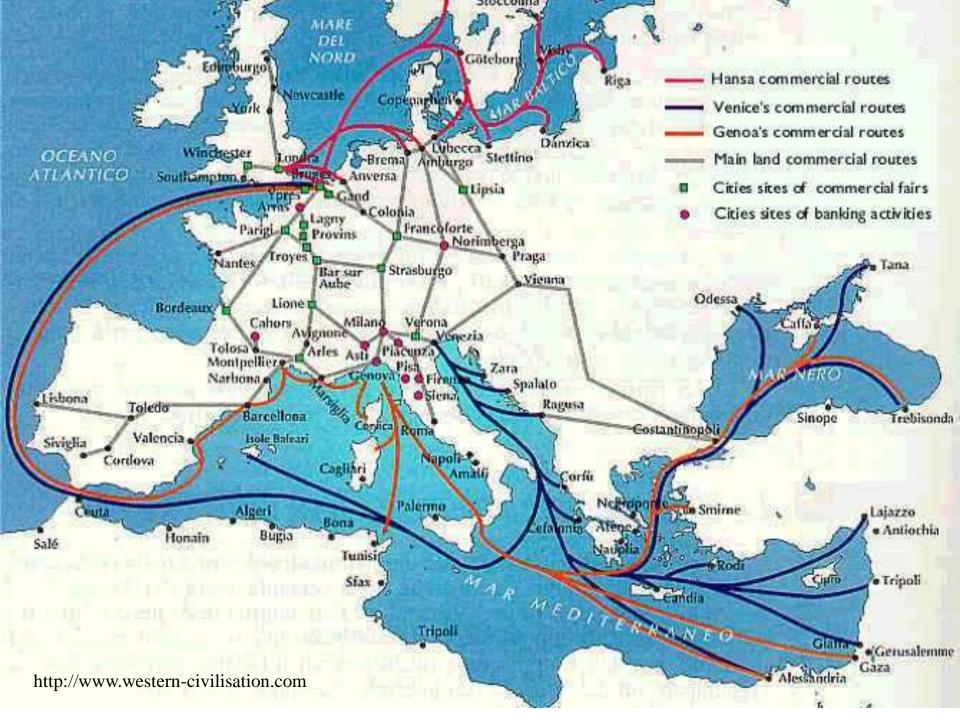
- Revival of sea trade
  - Jews: most extensive trade network in the Mediterranean
  - Italian republics: triangular trade Byzantium-Arabs-Italy (the marketplace of three civilizations)
  - Arabs: only within the Muslim world

- Revival of sea trade
  - City-states, and mostly republics, like ancient
     Greece and Sumeria
  - Ruled by wealthy families and despots but defended by mercenary troops
  - Cultural leadership moves from France to Italy (Dante, Petrarca, Giotto)

- Revival of sea trade/ Italy
  - Population boom and rapid urbanization (by 1500 seven of the ten largest cities in western Europe are in Italy)
  - Emigration of Greek intellectuals to Italian citystates from Byzantium after 1354 when the Ottomans first cross into Europe (prodromes of humanism)

- Revival of sea trade/ Italy
  - Venezia/Venice
    - A republic, not a dynastic monarchy
    - A distributed sea-based economic empire like Athens
    - Dominates the eastern Mediterranean trade via Costantinople
    - Establishes a Latin Empire (1204–1261) on Costantinople (succeeds in invading the city that the Muslims had failed to invade for centuries)

- Revival of sea trade/ Italy
  - Firenze's new morality
    - Medieval society glorified the knight and the monk. Capitalist society glorifies the merchant and the banker.
    - Florentine merchant = Greek hero (titanic struggle/competition to excel, status symbol, eternal glory)
    - No code of behavior for merchants and bankers like there was for knights and monks
    - New definition of "virtue"



- 13th century = Golden Century
  - Population boom
    - European population almost doubles between 1000 and 1300 (38 million to 74 million)

- Western cities over 100,000 inhabitants in
  - 1000: Baghdad, Byzantium, Cordoba
  - 1212: Baghdad, Cairo, Byzantium, Cordoba,
     Palermo, Paris, Venezia, Firenze, Milano
  - 1346: Cairo, Byzantium, Cordoba,
     Venezia/Venice, Firenze/Florence, Genova,
     Milano, Ghent, Paris, Tabriz

- 14th century = A Century of Disasters
  - Bankruptcies of Italian banks
  - Famine (1315-17) caused by overpopulation
  - Hundred-Year War (1337)
  - Black Death (1348)

- The Black Death/ Plague (1348)
  - Caused by the urban revolution of the 11th-13th centuries
  - Caused by the revival of international trade (the "pax mongolica" indirectly facilitates the spread of pandemics)
  - It caused a social and economic transformation in the 14th-16th centuries

- The Black Death/ Plague (1348)
  - Lower population led to
    - Increased land per person led to
      - Higher living standards
    - Lower prices for agricultural goods led to
      - Lower profits for the estates of the nobles (higher wages and lower revenues)
      - Decline of the power of the landholding nobility

- The Black Death/ Plague (1348)
  - Lower supply of labor led to
    - Higher urban and agricultural wages led to
      - Higher prices for manufactured goods
      - Higher living standards in cities
      - Higher social status of workers and peasants
      - Investing in technological innovation
    - Decline of nobility led to
      - Stronger central power of the king

- The Black Death/ Plague (1348)
  - More bequests from wealthy people led to
    - Creation of national universities which led to
      - Demand for books which led to
        - » Printing press
  - Scarcity of educated people led to
    - Adoption of vernacular languages instead of Latin in the universities

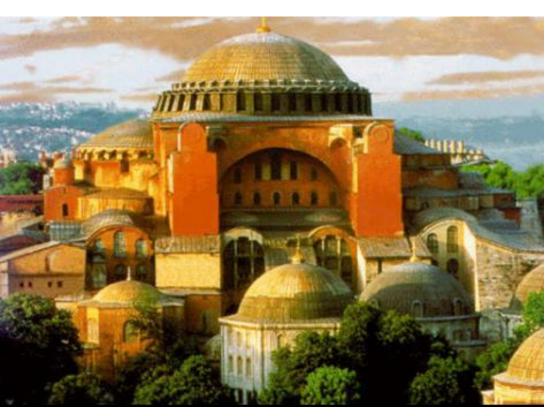
#### Christian basilicas

- S. Pietro, Roma
- S. Giovanni in Laterano, Roma
- S. Maria Maggiore, Roma
- Nativity, Bethlehem
- Holy Sepulchre, Jerusalem



Old St Peter reconstruction

Hagia Sophia, Constantinople (537)

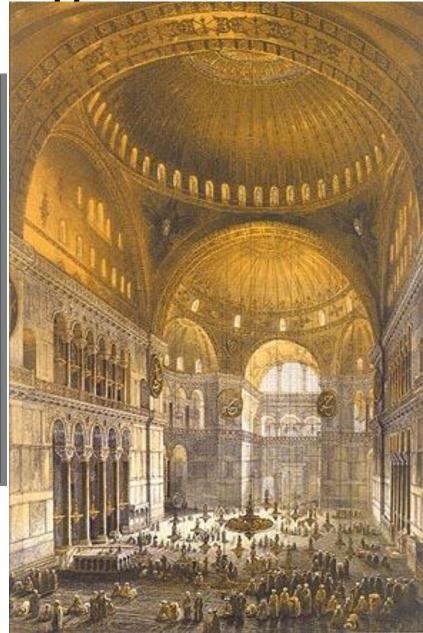




(Rowland Mainstone)

Hagia Sophia, Constantinople





- Cathedrals
  - Total art
    - architecture
    - sculpture
    - painting
    - carpentry
    - glasswork
    - •
  - Birth of a new profession: the architect (not just master builder)

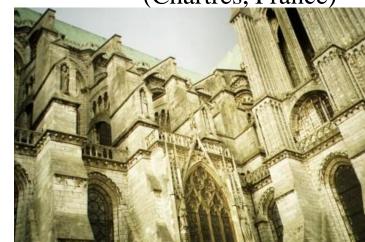
- Cathedrals
  - Building cathedrals: a large enterprise
    - Master mason
    - hundreds of masons
    - thousands of laborers
    - hundreds of quarrymen
    - smiths and carpenters
    - carts, wagons, boats

Gothic architecture

(St Denis, Paris)

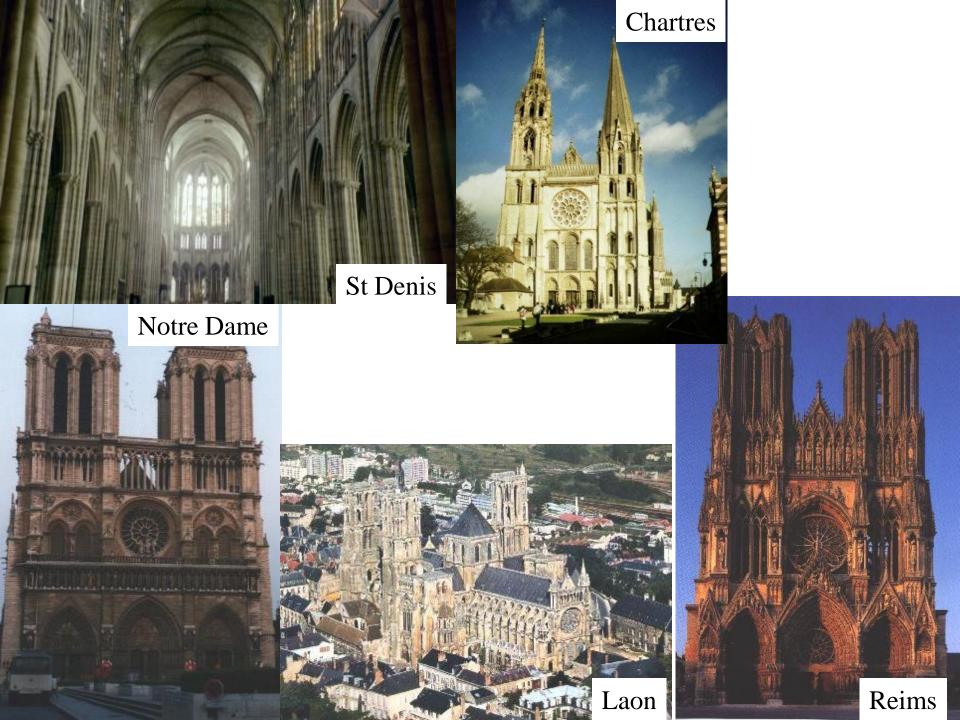


(Chartres, France)





(Suger's choir, St Denis, Paris)



#### Epics

- Beowulf" (900, Britain)
- "Edda" (1100, Scandinavia)
- "Cantar del Cid" (Spain, 1140)
- Chretien de Troyes: "Perceval" (1175, France)
- "Slovo o Ploku Igoreve" (1185, Russia)
- "Nibelungen" (1205, Germany)
- "Chanson de Roland" (120#, France)
- Gottfried von Strassburg: "Tristan" (1209, Germany)
- Wolfram Von Eschenbach: "Parzival" (1210)

- Amour courtois
  - Love for God turned into love for the woman
  - Love as the main force of the world
  - Love as the meaning of life
  - Note: most often love between knight and mistress, but not between husband and wife

- Vernacular literature
  - Guillaume de Lorris: "Roman de la Rose" (123#)
  - Dante's "Divine Comedy" (1320)
  - Addressed to everybody, not only the Church
  - Compendia of knowledge
  - Narrative

- Dante (1300)
  - An odyssey of the poet's soul
  - Nel mezzo del cammin di nostra vita mi ritrovai per una selva oscura, ché la diritta via era smarrita... (Inferno, I)
  - ...l'amor che move il sole e l'altre stelle (Paradise, XXXIII)

Giotto (1267, Italy): "Cappella degli Scrovegni" (1305)





- Flemish Art
  - Reflects the new scientific world view
  - Emphasis on realistic representation of human life
  - Emphasis on the middle class
  - Loss of the Italian sense of unity and order: reality is just a mass of objects, each made of infinite details



Jan Van Eyck (1390, Holland):

The Virgin of the Chancellor Rolin. (1436) The Arnolfini Marriage (1434)

- From feudalism to nation state
  - Louis IX of France (1226)
    - France becomes the wealthiest nation in the Christian world, the hegemonic power of Europe
    - Paris is the cultural center of Europe
    - Population explosion (from 6m in 1100 to 20m in 1300)
  - Philippe IV of France (1285)
    - France becomes an efficient centralized state
    - Anti-papal campaign



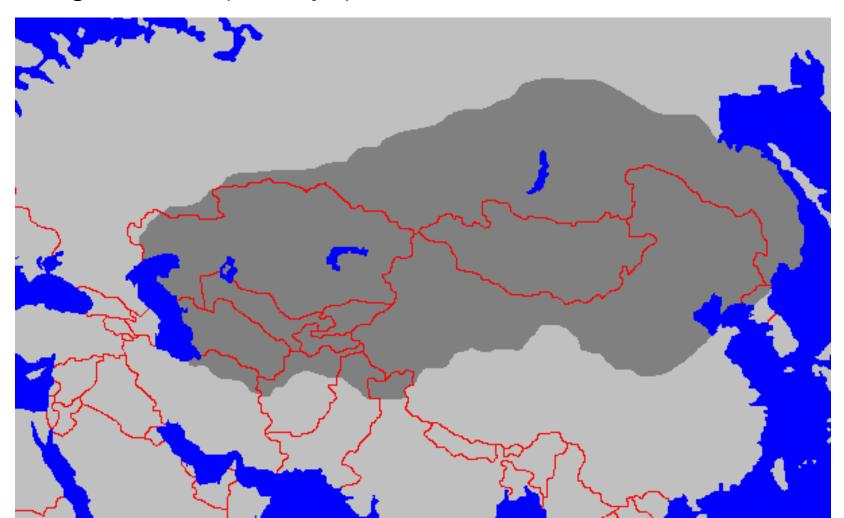
- From feudalism to nation state
  - 1066: William the Conqueror ends the Anglo-Saxon rule of England
  - 1153: Henry II creates a French-English empire
  - England has the opposite problem of France: not a monarchy that tries to wrest power from its vassals but vassals who try to wrest power from the monarchy



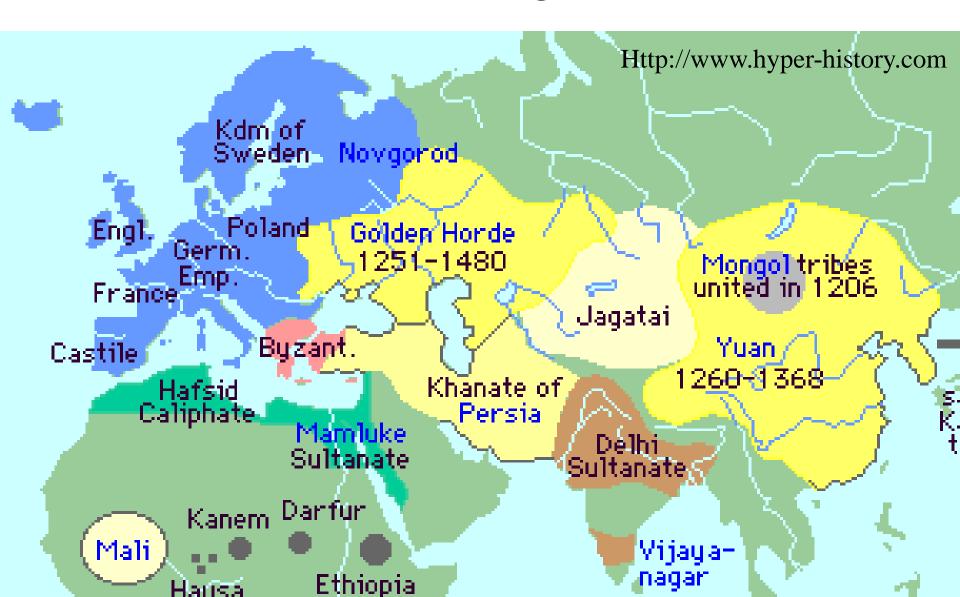
- From feudalism to nation state
  - Germany drifting towards anarchy while France and England are united
  - 1125: Heinrich V dies, the power of the German empire dissolves and the German emperor becomes a figurehead
  - Imperial power de facto spread among many princes



Genghis Khan (Temüjin)



- Genghis Khan (Temüjin)
  - Ruled over 50 nations (Muslims, Christians, Buddhists, Shamanists)
  - Muslim architects, Persian engineers, the Chinese administrator Yeh-lu Chu'tsai and the Taoist monk Qiu Chuji
  - First major empire to tolerate all monotheistic religions
  - Simple lifestyle of the steppe nomads (tent, 500 wives/concubines, horses, buried under a tree with no mausoleum)



VENICE

ACRE

SUDAK

BAGHDAD

HORMUZ

**GUJARAT** 

KHANBALIK

YANGZHO

**PEGU** 

- Pax Tatarica
  - For the first time, safe travel is possible from the Mediterranean to China (e.g., Polo brothers)
  - The merchants of Venice who sell exotic commodities have never been in India or China themselves until the Mongols create a free trade area from the Middle East to China
  - 1271: Marco Polo at Kublai Khan's court
  - 1295: the Pope's emissary
     Montecorvino visits the Chinese emperor in Beijing

#### The world in 1400

